Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems

Release 0
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Terms and Numeric Information</td>
<td>1-1</td>
</tr>
<tr>
<td>1.1.1</td>
<td>Terms</td>
<td>1-1</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Numeric Information</td>
<td>1-21</td>
</tr>
<tr>
<td>1.1.2.1</td>
<td>Reserved</td>
<td>1-22</td>
</tr>
<tr>
<td>1.1.2.2</td>
<td>CDMA Numeric Information</td>
<td>1-22</td>
</tr>
<tr>
<td>1.2</td>
<td>Signaling Architecture</td>
<td>1-40</td>
</tr>
<tr>
<td>1.3</td>
<td>Signaling and Functionality</td>
<td>1-40</td>
</tr>
<tr>
<td>1.3.1</td>
<td>Control Plane and Data Plane</td>
<td>1-40</td>
</tr>
<tr>
<td>1.3.2</td>
<td>Interface to Layer 2</td>
<td>1-41</td>
</tr>
<tr>
<td>1.3.2.1</td>
<td>Message Control and Status Block (MCSB)</td>
<td>1-41</td>
</tr>
<tr>
<td>1.3.2.2</td>
<td>Interface Primitives</td>
<td>1-42</td>
</tr>
<tr>
<td>1.3.3</td>
<td>Reserved</td>
<td>1-44</td>
</tr>
<tr>
<td>1.3.4</td>
<td>Functional Description</td>
<td>1-44</td>
</tr>
<tr>
<td>1.3.5</td>
<td>PDU Transmission and Reception</td>
<td>1-44</td>
</tr>
<tr>
<td>2.1</td>
<td>Reserved</td>
<td>2-1</td>
</tr>
<tr>
<td>2.3</td>
<td>Security and Identification</td>
<td>2-1</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Mobile Station Identification Number</td>
<td>2-1</td>
</tr>
<tr>
<td>2.3.1.1</td>
<td>Encoding of IMSI_M_S and IMSI_T_S</td>
<td>2-3</td>
</tr>
<tr>
<td>2.3.1.2</td>
<td>Encoding of IMSI_M_11_12 and IMSI_T_11_12</td>
<td>2-5</td>
</tr>
<tr>
<td>2.3.1.3</td>
<td>Encoding of the MCC_M and MCC_T</td>
<td>2-5</td>
</tr>
<tr>
<td>2.3.1.4</td>
<td>Mobile Directory Number</td>
<td>2-5</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Electronic Serial Number</td>
<td>2-5</td>
</tr>
<tr>
<td>2.3.3</td>
<td>Station Class Mark</td>
<td>2-6</td>
</tr>
<tr>
<td>2.3.4</td>
<td>Registration Memory</td>
<td>2-6</td>
</tr>
<tr>
<td>2.3.5</td>
<td>Access Overload Class</td>
<td>2-7</td>
</tr>
<tr>
<td>2.3.6</td>
<td>Reserved</td>
<td>2-8</td>
</tr>
<tr>
<td>2.3.7</td>
<td>Reserved</td>
<td>2-8</td>
</tr>
<tr>
<td>2.3.8</td>
<td>Home System and Network Identification</td>
<td>2-8</td>
</tr>
</tbody>
</table>
CONTENTS

2.3.9 Local Control Option ................................................................. 2-9
2.3.10 Preferred Operation Selection ................................................ 2-9
  2.3.10.1 Preferred System .............................................................. 2-9
  2.3.10.2 Preferred CDMA or Analog .............................................. 2-9
2.3.11 Discontinuous Reception ....................................................... 2-9
2.3.12 Authentication, Encryption of Signaling Information/User Data and Voice Privacy ........................................ 2-9
  2.3.12.1 Authentication ................................................................. 2-9
    2.3.12.1.1 Shared Secret Data (SSD) ............................................. 2-10
    2.3.12.1.2 Random Challenge Memory (RAND) .............................. 2-10
    2.3.12.1.3 Call History Parameter (COUNT_s-p) ................................ 2-10
    2.3.12.1.4 Unique Challenge-Response Procedure ........................... 2-10
    2.3.12.1.5 Updating the Shared Secret Data (SSD) ............................. 2-11
  2.3.12.2 Signaling Message Encryption ........................................... 2-15
    2.3.12.2.1 Encrypted Messages on the f-dsch ................................ 2-16
    2.3.12.2.2 Encrypted Messages on the r-dsch ................................ 2-18
  2.3.12.3 Voice Privacy ................................................................. 2-21
2.3.13 Lock and Maintenance Required Orders .................................. 2-21
2.3.14 Mobile Station Revision Identification .................................... 2-22
  2.3.15 Temporary Mobile Station Identity ....................................... 2-22
    2.3.15.1 Overview ................................................................. 2-22
    2.3.15.2 TMSI Assignment Memory ............................................ 2-23
2.4 Accumulated Statistics ............................................................... 2-24
  2.4.1 Monitored Quantities and Statistics ....................................... 2-24
  2.4.2 Accumulated Paging Channel Statistics .................................... 2-24
2.5 Reserved ...................................................................................... 2-25
2.6 Call Processing ........................................................................... 2-27
  2.6.1 Mobile Station Initialization State ......................................... 2-29
    2.6.1.1 System Determination Substate ........................................ 2-31
      2.6.1.1.1 Custom System Selection Process ................................. 2-36
      2.6.1.1.2 System Selection Using Current Redirection Criteria ........ 2-37
      2.6.1.1.3 System Selection Using System Reselection Criteria .......... 2-38
### CONTENTS

1. 2.6.1.1.4 Acquiring the Selected System .......................................................... 2-39
2. 2.6.1.2 Pilot Channel Acquisition Substate ...................................................... 2-39
3. 2.6.1.3 Sync Channel Acquisition Substate .................................................... 2-39
4. 2.6.1.4 Timing Change Substate ............................................................... 2-41
5. 2.6.2 Mobile Station Idle State .................................................................. 2-43
6. 2.6.2.1 Idle Procedures ........................................................................ 2-44
7. 2.6.2.1.1 Paging Channel Monitoring Procedures ........................................... 2-44
   8. 2.6.2.1.1.1 General Overview ............................................................... 2-44
   9. 2.6.2.1.1.1.1 General Overview for Individually Addressed Messages ........ 2-45
10. 2.6.2.1.1.1.2 General Overview for Broadcast Messages ............................ 2-47
11. 2.6.2.1.1.1.2.1 Method 1: Multi-Slot Broadcast Message Transmission ....... 2-48
12. 2.6.2.1.1.1.2.2 Method 2: Periodic Broadcast Paging ............................... 2-48
13. 2.6.2.1.1.2 Non-Slotted Mode Requirements ............................................ 2-49
14. 2.6.2.1.1.3 Slotted Mode Requirements .................................................. 2-49
   15. 2.6.2.1.1.3.1 Monitoring Assigned Slots ............................................... 2-50
   16. 2.6.2.1.1.3.2 Determination of the Slot Cycle Index ............................... 2-51
   17. 2.6.2.1.1.3.3 Slot Cycles for Broadcast Paging ..................................... 2-51
   18. 2.6.2.1.1.3.4 Monitoring Paging Channel Broadcasts ............................ 2-51
   19. 2.6.2.1.1.3.5 Support of Broadcast Delivery Options ............................... 2-52
20. 2.6.2.1.1.4 Paging Channel Supervision ................................................. 2-52
21. 2.6.2.1.2 Quick Paging Channel Monitoring Procedures ............................ 2-52
22. 2.6.2.1.2.1 Overview .............................................................................. 2-52
23. 2.6.2.1.2.2 Requirements ........................................................................ 2-55
24. 2.6.2.1.3 Registration ............................................................................... 2-56
25. 2.6.2.1.4 Idle Handoff ........................................................................... 2-56
   26. 2.6.2.1.4.1 Pilot Search ............................................................................ 2-56
   27. 2.6.2.1.4.2 Idle Handoff Procedures ..................................................... 2-58
28. 2.6.2.1.5 Reserved .................................................................................... 2-63
29. 2.6.2.1.6 System Reselection Procedures .................................................. 2-63
30. 2.6.2.1.7 Slotted Timer Expiration .......................................................... 2-64
31. 2.6.2.2 Response to Overhead Information Operation ............................... 2-64
CONTENTS

2.6.2.2.1 System Parameters Message .............................................................. 2-67
2.6.2.2.1.1 Stored Parameters ....................................................................... 2-67
2.6.2.2.1.2 Paging Channel Assignment Change ............................................. 2-70
2.6.2.2.1.3 RESCAN Parameter ..................................................................... 2-71
2.6.2.2.1.4 Roaming Status ........................................................................... 2-71
2.6.2.2.1.5 Registration ................................................................................. 2-71
2.6.2.2.1.6 Slot Cycle Index ........................................................................... 2-71
2.6.2.2.1.7 PACA Disable for SID Change ....................................................... 2-71
2.6.2.2.1.8 Retry Delay Disable for Packet Zone ID or SID/NID Change .......... 2-71
2.6.2.2.2 Access Parameters Message ............................................................... 2-72
2.6.2.2.3 Neighbor List Message ....................................................................... 2-73
2.6.2.2.4 CDMA Channel List Message .............................................................. 2-74
2.6.2.2.5 Extended System Parameters Message ............................................... 2-75
2.6.2.2.6 Global Service Redirection Message .................................................... 2-79
2.6.2.2.7 Extended Neighbor List Message ....................................................... 2-80
2.6.2.2.8 General Neighbor List Message ........................................................... 2-82
2.6.2.2.9 User Zone Identification Message ....................................................... 2-85
2.6.2.2.10 Private Neighbor List Message .......................................................... 2-85
2.6.2.2.11 Extended Global Service Redirection Message ................................... 2-86
2.6.2.2.12 Extended CDMA Channel List Message ............................................. 2-87
2.6.3 Mobile Station Page Match Operation ....................................................... 2-89
2.6.4 Mobile Station Order and Message Processing Operation ......................... 2-90
2.6.5 Mobile Station Origination Operation ....................................................... 2-98
2.6.6 Mobile Station Message Transmission Operation ....................................... 2-99
2.6.7 Mobile Station Power-Down Operation ..................................................... 2-99
2.6.8 Mobile Station PACA Cancel Operation .................................................... 2-99
2.6.3 System Access State....................................................................................2-100
2.6.3.1 Access Procedures ................................................................................2-100
2.6.3.1.1 Access Attempts ...............................................................................2-100
2.6.3.1.2 Reserved...........................................................................................2-101
2.6.3.1.3 Handoffs...........................................................................................2-101
CONTENTS

2.6.3.1.3.1 Pilot Search ................................................................. 2-102
2.6.3.1.3.2 Access Handoff .......................................................... 2-102
2.6.3.1.3.3 Access Probe Handoff .................................................. 2-103
2.6.3.1.4 System Access State Exit Procedures .............................. 2-105
2.6.3.1.5 Reserved ........................................................................ 2-105
2.6.3.1.6 Full-TMSI Timer ............................................................. 2-105
2.6.3.1.7 Monitoring Pilots ............................................................ 2-105
  2.6.3.1.7.1 Generation of the Initial Access Handoff List ............... 2-106
  2.6.3.1.7.2 Update of the Access Handoff List ............................. 2-106
  2.6.3.1.7.3 Generation of the Other Reported List ....................... 2-107
  2.6.3.1.7.4 Update of OTHER_REPORTED_LIST .......................... 2-107
2.6.3.1.8 Paging Channel Monitoring ............................................. 2-107
2.6.3.2 Update Overhead Information Substate ......................... 2-108
2.6.3.3 Page Response Substate ..................................................... 2-111
2.6.3.4 Mobile Station Order/Message Response Substate .............. 2-133
2.6.3.5 Mobile Station Origination Attempt Substate .................... 2-137
2.6.3.6 Registration Access Substate ............................................. 2-162
2.6.3.7 Mobile Station Message Transmission Substate ................. 2-167
2.6.3.8 PACA Cancel Substate ..................................................... 2-172
2.6.4 Mobile Station Control on the Traffic Channel State .......... 2-175
  2.6.4.1 Special Functions and Actions ........................................... 2-177
    2.6.4.1.1 Forward Traffic Channel Power Control ..................... 2-177
    2.6.4.1.1.1 Forward Traffic Channel Power Control Initialization ... 2-180
    2.6.4.1.1.2 Processing the Power Control Parameters Message .... 2-180
    2.6.4.1.1.3 Processing the Power Control Message .................. 2-181
    2.6.4.1.2 Service Configuration and Negotiation .................... 2-182
    2.6.4.1.2.1 Use of Variables ................................................. 2-182
    2.6.4.1.2.1.1 Maintaining the Service Request Sequence Number .... 2-187
    2.6.4.1.2.1.2 Maintaining the Service Negotiation Indicator Variable ... 2-188
    2.6.4.1.2.1.3 Maintaining the Service Option Request Number .... 2-188
    2.6.4.1.2.2 Service Subfunctions ........................................... 2-188
CONTENTS

2.6.4.1.2.2.1 Normal Service Subfunction ..................................................2-191
2.6.4.1.2.2.2 Waiting for Service Request Message Subfunction ..................2-192
2.6.4.1.2.2.3 Waiting for Service Response Message Subfunction ..............2-194
2.6.4.1.2.2.4 Waiting for Service Connect Message Subfunction ...............2-197
2.6.4.1.2.2.5 Waiting for Service Action Time Subfunction .......................2-199
2.6.4.1.2.2.6 SO Negotiation Subfunction...................................................2-201
2.6.4.1.3 Ordering of Messages........................................................................2-203
2.6.4.1.4 Processing the In-Traffic System Parameters Message....................2-203
2.6.4.1.5 Message Action Times .....................................................................2-204
2.6.4.1.6 Long Code Transition Request Processing........................................2-205
2.6.4.1.7 Power Up Function (PUF).................................................................2-205
2.6.4.1.7.1 Processing the Power Up Function Message .................................2-206
2.6.4.1.7.2 Power Up Function Procedures ....................................................2-207
2.6.4.1.7.2.1 PUF Probe On Serving Frequency ...........................................2-208
2.6.4.1.7.2.2 PUF Probe On PUF Target Frequency .....................................2-208
2.6.4.1.7.3 Processing the Power Up Function Completion Message ...............2-209
2.6.4.1.8 Forward Traffic Channel Supervision...............................................2-210
2.6.4.1.9 Processing the Extended Release Message and the Extended Release
    Mini Message .................................................................................2-210
2.6.4.1.10 Processing the Resource Allocation Message and Resource
    Allocation Mini Message..................................................................2-211
2.6.4.1.11 Reserved.......................................................................................2-212
2.6.4.1.12 Processing the Service Configuration Record.................................2-212
2.6.4.1.13 Processing the Non-Negotiable Service Configuration Record .........2-214
2.6.4.2 Traffic Channel Initialization Substate ....................................................2-217
2.6.4.3 Alerting .............................................................................................2-226
2.6.4.3.1 Waiting for Order Substate ..............................................................2-226
2.6.4.3.2 Waiting for Mobile Station Answer Substate ....................................2-233
2.6.4.4 Conversation Substate .......................................................................2-240
2.6.4.5 Release Substate ...............................................................................2-252
2.6.5 Registration ...........................................................................................2-258
2.6.5.1 Forms of Registration .......................................................................2-258
CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6.5.4.2 Timer Maintenance</td>
<td>2-274</td>
</tr>
<tr>
<td>2.6.5.4.3 Processing the Mobile Station Registered Message</td>
<td>2-274</td>
</tr>
<tr>
<td>2.6.5.4.4 Power Off</td>
<td>2-276</td>
</tr>
<tr>
<td>2.6.6 Handoff Procedures</td>
<td>2-276</td>
</tr>
<tr>
<td>2.6.6.1 Overview</td>
<td>2-276</td>
</tr>
<tr>
<td>2.6.6.1.1 Types of Handoff</td>
<td>2-276</td>
</tr>
<tr>
<td>2.6.6.1.2 Pilot Sets</td>
<td>2-277</td>
</tr>
<tr>
<td>2.6.6.2 Requirements</td>
<td>2-278</td>
</tr>
<tr>
<td>2.6.6.2.1 Pilot Search</td>
<td>2-278</td>
</tr>
<tr>
<td>2.6.6.2.2 Pilot Strength Measurements</td>
<td>2-280</td>
</tr>
<tr>
<td>2.6.6.2.3 Handoff Drop Timer</td>
<td>2-280</td>
</tr>
<tr>
<td>2.6.6.2.4 Pilot PN Phase</td>
<td>2-282</td>
</tr>
<tr>
<td>2.6.6.2.5 Handoff Messages</td>
<td>2-282</td>
</tr>
<tr>
<td>2.6.6.2.5.1 Processing of Forward Traffic Channel Handoff Messages</td>
<td>2-282</td>
</tr>
<tr>
<td>2.6.6.2.5.1.1 Processing of the Forward Supplemental Burst Assignment</td>
<td>2-332</td>
</tr>
<tr>
<td>2.6.6.2.5.1.2 Processing of the Reverse Supplemental Burst Assignment</td>
<td>2-334</td>
</tr>
<tr>
<td>2.6.6.2.5.2 Processing of Reverse Traffic Channel Handoff Messages</td>
<td>2-336</td>
</tr>
<tr>
<td>2.6.6.2.6 Set Maintenance</td>
<td>2-339</td>
</tr>
<tr>
<td>2.6.6.2.6.1 Maintenance of the Active Set</td>
<td>2-339</td>
</tr>
<tr>
<td>2.6.6.2.6.2 Maintenance of the Candidate Set</td>
<td>2-340</td>
</tr>
<tr>
<td>2.6.6.2.6.3 Maintenance of the Neighbor Set</td>
<td>2-340</td>
</tr>
<tr>
<td>2.6.6.2.7 Soft Handoff</td>
<td>2-342</td>
</tr>
<tr>
<td>2.6.6.2.7.1 Forward Traffic Channel Processing</td>
<td>2-342</td>
</tr>
<tr>
<td>2.6.6.2.7.2 Reverse Traffic Channel Power Control During Soft Handoff</td>
<td>2-342</td>
</tr>
<tr>
<td>2.6.6.2.7.3 Starting Periodic Search following Soft Handoff</td>
<td>2-342</td>
</tr>
<tr>
<td>2.6.6.2.8 CDMA-to-CDMA Hard Handoff</td>
<td>2-343</td>
</tr>
<tr>
<td>2.6.6.2.8.1 Hard Handoff without Return on Failure</td>
<td>2-343</td>
</tr>
<tr>
<td>2.6.6.2.8.2 Hard Handoff with Return on Failure</td>
<td>2-344</td>
</tr>
<tr>
<td>2.6.6.2.8.2.1 Restoring the Configuration</td>
<td>2-348</td>
</tr>
<tr>
<td>2.6.6.2.8.3 Search of Pilots on the CDMA Candidate Frequency</td>
<td>2-351</td>
</tr>
<tr>
<td>2.6.6.2.8.3.1 CDMA Candidate Frequency Single Search</td>
<td>2-351</td>
</tr>
</tbody>
</table>
## 2.6.6.2.8.3.2 Candidate Frequency Periodic Search ........................................ 2-353
2.6.6.2.8.3.3 Candidate Frequency Pilot Measurements ............................. 2-357
2.6.6.2.8.3.4 Aborting CDMA Candidate Frequency Periodic Search ........... 2-359
2.6.6.2.9 CDMA-to-Analog Handoff ............................................................... 2-360
2.6.6.2.10 Search of Analog Frequencies ......................................................... 2-360
2.6.6.2.10.1 Analog Frequencies Single Search ............................................. 2-360
2.6.6.2.10.2 Analog Frequencies Periodic Search .......................................... 2-362
2.6.6.2.10.3 Analog Frequency Measurements.............................................. 2-365
2.6.6.2.10.4 Aborting Analog Frequencies Periodic Search ............................ 2-367
2.6.6.2.11 Processing of Reverse Supplemental Code Channels and Reverse Supplemental Channels ................................................................. 2-367
2.6.6.2.12 Periodic Serving Frequency Pilot Report Procedure .......................... 2-368
2.6.6.3 Examples .............................................................................................. 2-369
2.6.7 Hash Functions and Randomization............................................................. 2-375
2.6.7.1 Hash Function....................................................................................... 2-375
2.6.7.2 Pseudorandom Number Generator ......................................................... 2-376
2.6.8 CODE_CHAN_LISTs Maintenance................................................................. 2-377
2.6.9 CDMA Tiered Services.................................................................................. 2-378
2.6.9.1 Overview ............................................................................................... 2-379
2.6.9.1.1 Definition......................................................................................... 2-379
2.6.9.1.2 Types of User Zones ......................................................................... 2-379
2.6.9.2 Requirements ........................................................................................ 2-380
2.6.9.2.1 User Zone Operation in the Mobile Station Idle State........................ 2-380
2.6.9.2.2 User Zone Operation in the Mobile Station Control on the Traffic Channel State ................................................................................ 2-381
2.7 PDU Formats for Mobile Stations....................................................................... 2-391
2.7.1.1 Reserved............................................................................................... 2-392
2.7.1.2 Reserved............................................................................................... 2-392
2.7.1.3 PDU Formats on r-csch ................................................................. 2-392
2.7.1.3.1 Reserved....................................................................................... 2-392
2.7.1.3.2 PDU Contents ................................................................................ 2-392
2.7.1.3.2.1 Registration Message.................................................................. 2-393
## CONTENTS

2.7.2.3.2.17 TMSI Assignment Completion Message ............................................. 2-448  
2.7.2.3.2.18 Supplemental Channel Request Message ............................................. 2-449  
2.7.2.3.2.19 Candidate Frequency Search Response Message .................................. 2-452  
2.7.2.3.2.20 Candidate Frequency Search Report Message ...................................... 2-455  
2.7.2.3.2.21 Periodic Pilot Strength Measurement Message ................................... 2-460  
2.7.2.3.2.22 Outer Loop Report Message .............................................................. 2-462  
2.7.2.3.2.23 Resource Request Message .............................................................. 2-464  
2.7.2.3.2.24 Resource Request Mini Message ....................................................... 2-465  
2.7.2.3.2.25 Extended Release Response Message ............................................... 2-466  
2.7.2.3.2.26 Extended Release Response Mini Message ......................................... 2-467  
2.7.2.3.2.27 Pilot Strength Measurement Mini Message ......................................... 2-468  
2.7.2.3.2.28 Supplemental Channel Request Mini Message ................................. 2-469  
2.7.2.3.2.29 Resource Release Request Message .................................................. 2-470  
2.7.2.3.2.30 Resource Release Request Mini Message .......................................... 2-471  
2.7.2.3.2.31 User Zone Update Request Message .............................................. 2-472  

2.7.3 Orders ........................................................................................................... 2-472  
2.7.3.1 Base Station Challenge Order ................................................................. 2-477  
2.7.3.2 Service Option Request Order ................................................................. 2-478  
2.7.3.3 Service Option Response Order ............................................................... 2-479  
2.7.3.4 Mobile Station Reject Order ................................................................. 2-480  

2.7.4 Information Records ..................................................................................... 2-483  
2.7.4.1 Reserved2.7.4.2 Keypad Facility .............................................................. 2-485  
2.7.4.2 Keypad Facility ......................................................................................... 2-486  
2.7.4.3 Called Party Number .............................................................................. 2-487  
2.7.4.4 Calling Party Number ............................................................................. 2-488  
2.7.4.5 Reserved ................................................................................................ 2-490  
2.7.4.6 Call Mode ............................................................................................... 2-491  
2.7.4.7 Terminal Information ............................................................................. 2-492  
2.7.4.8 Roaming Information ............................................................................. 2-494  
2.7.4.9 Security Status ....................................................................................... 2-496  
2.7.4.10 Connected Number ............................................................................. 2-497
## CONTENTS

1. 2.7.4.11 IMSI ............................................................................................................................ 2-498
2. 2.7.4.12 ESN ............................................................................................................................ 2-499
3. 2.7.4.13 Band Class Information ............................................................................................ 2-500
4. 2.7.4.14 Power Class Information .......................................................................................... 2-502
5. 2.7.4.15 Operating Mode Information ..................................................................................... 2-503
6. 2.7.4.16 Service Option Information ....................................................................................... 2-505
7. 2.7.4.17 Multiplex Option Information ................................................................................... 2-506
8. 2.7.4.18 Service Configuration ............................................................................................... 2-508
9. 2.7.4.19 Called Party Subaddress .......................................................................................... 2-511
10. 2.7.4.20 Calling Party Subaddress ......................................................................................... 2-523
11. 2.7.4.21 Connected Subaddress ............................................................................................ 2-525
12. 2.7.4.22 Power Control Information ....................................................................................... 2-527
13. 2.7.4.23 IMSI_M ....................................................................................................................... 2-528
14. 2.7.4.24 IMSI_T ....................................................................................................................... 2-529
15. 2.7.4.25 Capability Information ............................................................................................. 2-530
16. 2.7.4.26 Extended Record Type - International ................................................................. 2-534
17. 2.7.4.27 Channel Configuration Capability Information .................................................... 2-535
18. 2.7.4.27.1 FCH Type-specific Fields ....................................................................................... 2-536
19. 2.7.4.27.2 DCCH Type-Specific Fields ................................................................................... 2-540
20. 2.7.4.27.3 FOR_SCH Type-Specific Fields ........................................................................... 2-542
21. 2.7.4.27.4 REV_SCH Type-Specific Fields ........................................................................... 2-545
22. 2.7.4.28 Extended Multiplex Option Information ............................................................... 2-547
23. 2.7.4.29 Geo-Location Information ......................................................................................... 2-555
24. 2.7.4.30 Band Subclass Information ....................................................................................... 2-556
25. 3.1 Reserved .......................................................................................................................... 3-1
26. 3.2 Reserved .......................................................................................................................... 3-1
27. 3.3 Security and Identification ............................................................................................... 3-1
28. 3.3.1 Authentication ............................................................................................................... 3-1
29. 3.3.2 Encryption ..................................................................................................................... 3-1
30. 3.3.3 Voice Privacy ................................................................................................................. 3-1
31. 3.4 Supervision ....................................................................................................................... 3-1
CONTENTS

1 3.4.1 Access Channel ................................................................. 3-1
2 3.4.2 Reverse Traffic Channel ..................................................... 3-1
3 3.5 Reserved .............................................................................. 3-2
4 3.6 Call Processing ..................................................................... 3-2
5 3.6.1 Pilot and Sync Channel Processing ...................................... 3-2
6 3.6.1.1 Preferred Set of CDMA Channels .................................... 3-2
7 3.6.1.2 Pilot Channel Operation ............................................... 3-2
8 3.6.1.3 Sync Channel Operation ............................................. 3-3
9 3.6.2 Paging Channel and Quick Paging Channel Processing .... 3-3
10 3.6.2.1 Paging Channel Procedures ......................................... 3-3
11 3.6.2.1.1 CDMA Channel Determination ................................. 3-3
12 3.6.2.1.2 Paging Channel Determination ............................... 3-4
13 3.6.2.1.3 Paging Slot Determination ..................................... 3-4
14 3.6.2.1.4 Message Transmission and Acknowledgment Procedures ........................................ 3-4
15 3.6.2.2 Overhead Information .................................................. 3-4
16 3.6.2.3 Mobile Station Directed Messages ............................... 3-6
17 3.6.2.4 Broadcast Messages .................................................... 3-8
18 3.6.2.4.1 Broadcast Procedures for Slotted Mode ................. 3-8
19 3.6.2.4.1.1 General Overview .............................................. 3-8
20 3.6.2.4.1.2 Requirements for Sending Broadcast Messages .......... 3-9
21 3.6.2.4.1.2.1 Broadcast Delivery Options .............................. 3-9
22 3.6.2.4.1.2.1.1 Method 1: Multi-Slot Broadcast Message Transmission ........................................ 3-9
23 3.6.2.4.1.2.1.2 Method 2: Periodic Broadcast Paging .............. 3-9
24 3.6.2.4.1.2.2 Duplicate Broadcast Message Transmission .......... 3-10
25 3.6.2.4.1.2.3 Periodic Broadcast Paging ................................. 3-10
26 3.6.2.4.1.2.4 Broadcast Message Slot Determination ............... 3-10
27 3.6.2.5 Quick Paging Channel Processing ................................. 3-11
28 3.6.2.5.1 Quick Paging Channel Determination ...................... 3-11
29 3.6.2.5.2 Quick Paging Channel Slot Determination ............... 3-12
30 3.6.2.5.3 Paging Indicator Position Determination .................. 3-12
31 3.6.2.5.4 Configuration Change Indicator Position Determination ........................................ 3-12
CONTENTS

3.6.2.5.5  Reserved Indicator Positions ............................................................. 3-12
3.6.3  Access Channel Processing............................................................................ 3-13
  3.6.3.1  Reserved ................................................................................................. 3-13
  3.6.3.2  Reserved ................................................................................................. 3-13
  3.6.3.3  Response to Page Response Message........................................................ 3-13
  3.6.3.4  Response to Orders ................................................................................. 3-14
  3.6.3.5  Response to Origination Message............................................................. 3-14
  3.6.3.6  Response to Registration Message............................................................ 3-14
  3.6.3.7  Response to Data Burst Message ............................................................. 3-15
  3.6.3.8  Reserved ................................................................................................. 3-15
  3.6.3.9  Reserved ................................................................................................. 3-15
  3.6.3.10  Service Redirection ............................................................................... 3-15
3.6.4  Traffic Channel Processing ............................................................................ 3-15
  3.6.4.1  Special Functions and Actions ................................................................. 3-15
    3.6.4.1.1  Forward Traffic Channel Power Control .............................................. 3-15
    3.6.4.1.2  Service Configuration and Negotiation ............................................. 3-16
      3.6.4.1.2.1  Use of Variables ........................................................................... 3-21
        3.6.4.1.2.1.1  Maintaining the Service Request Sequence Number .......... 3-21
        3.6.4.1.2.1.2  Maintaining the Service Connect Sequence Number .......... 3-21
        3.6.4.1.2.1.3  Assigning Service Option Connection References .......... 3-21
        3.6.4.1.2.1.4  Maintaining the Service Negotiation Indicator Variable .... 3-21
        3.6.4.1.2.1.5  Maintaining the Service Option Request Number ............ 3-22
      3.6.4.1.2.2  Service Subfunctions .................................................................. 3-22
        3.6.4.1.2.2.1  Normal Service Subfunction ................................................... 3-25
        3.6.4.1.2.2.2  Waiting for Service Request Message Subfunction ............ 3-26
        3.6.4.1.2.2.3  Waiting for Service Response Message Subfunction .......... 3-28
        3.6.4.1.2.2.4  Waiting for Service Action Time Subfunction .................... 3-29
        3.6.4.1.2.2.5  Waiting for Service Connect Completion Message Subfunction. 3-31
      3.6.4.1.2.6  SO Negotiation Subfunction .......................................................... 3-32
    3.6.4.1.3  Ordering of Messages ....................................................................... 3-34
  3.6.4.1.4  Message Action Times ....................................................................... 3-34
CONTENTS

3.6.4.1.5 Long Code Transition Request Processing ........................................... 3-34
3.6.4.1.6 Processing Resource Request Messages............................................... 3-35
3.6.4.1.7 Reserved ............................................................................................ 3-35
3.6.4.1.8 Processing Resource Release Request Message and Resource Release
     Request Mini Message ........................................................................ 3-35
3.6.4.2 Traffic Channel Initialization Substate...................................................... 3-35
3.6.4.3 Alerting ................................................................................................... 3-37
3.6.4.3.1 Waiting for Order Substate................................................................. 3-37
3.6.4.3.2 Waiting for Answer Substate............................................................... 3-42
3.6.4.4 Conversation Substate ............................................................................. 3-47
3.6.4.5 Release Substate ..................................................................................... 3-53
3.6.5 Registration ................................................................................................... 3-57
3.6.5.1 Registration on the Paging and Access Channels ...................................... 3-58
3.6.5.2 Registration on the Traffic Channels ........................................................ 3-58
3.6.6 Handoff Procedures ....................................................................................... 3-58
3.6.6.1 Overview ................................................................................................. 3-58
3.6.6.1.1 Types of Handoff ................................................................................ 3-58
3.6.6.1.2 Active Set........................................................................................... 3-59
3.6.6.2 Requirements .......................................................................................... 3-59
3.6.6.2.1 Overhead Information ........................................................................ 3-59
3.6.6.2.1.1 System Parameters....................................................................... 3-59
3.6.6.2.1.2 Neighbor List................................................................................ 3-60
3.6.6.2.1.3 Candidate Frequency Neighbor List............................................... 3-60
3.6.6.2.1.4 Candidate Frequency Search List.................................................. 3-60
3.6.6.2.2 Call Processing During Handoff .......................................................... 3-60
3.6.6.2.2.1 Processing the Pilot Strength Measurement Message ..................... 3-60
3.6.6.2.2.2 Processing the Extended Handoff Direction Message...................... 3-61
3.6.6.2.2.3 Processing the Candidate Frequency Search Request Message....... 3-62
3.6.6.2.2.4 Processing the Candidate Frequency Search Response Message.... 3-62
3.6.6.2.2.5 Processing the Candidate Frequency Search Control Message....... 3-63
3.6.6.2.2.6 Processing the Candidate Frequency Search Report Message....... 3-63
3.6.6.2.2.7 Transmitting During Handoff........................................................ 3-63
CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6.6.2.2.8 Ordering Pilot Measurements From the Mobile Station</td>
<td>3-64</td>
</tr>
<tr>
<td>3.6.6.2.2.9 Processing the Supplemental Channel Assignment Message</td>
<td>3-64</td>
</tr>
<tr>
<td>3.6.6.2.2.10 Processing the General Handoff Direction Message</td>
<td>3-67</td>
</tr>
<tr>
<td>3.6.6.2.2.11 Processing the Universal Handoff Direction Message</td>
<td>3-72</td>
</tr>
<tr>
<td>3.6.6.2.2.12 Processing of Extended Supplemental Channel Assignment</td>
<td>3-75</td>
</tr>
<tr>
<td>Message</td>
<td></td>
</tr>
<tr>
<td>3.6.6.2.2.13 Processing of Forward Supplemental Channel Assignment Mini</td>
<td>3-77</td>
</tr>
<tr>
<td>Message</td>
<td></td>
</tr>
<tr>
<td>3.6.6.2.2.14 Processing of Reverse Supplemental Channel Assignment Mini</td>
<td>3-78</td>
</tr>
<tr>
<td>Message</td>
<td></td>
</tr>
<tr>
<td>3.6.6.2.2.15 Processing of the Mobile Assisted Burst Operation Parameters</td>
<td>3-78</td>
</tr>
<tr>
<td>3.6.6.2.3 Active Set Maintenance</td>
<td>3-80</td>
</tr>
<tr>
<td>3.6.6.2.4 Soft Handoff</td>
<td>3-80</td>
</tr>
<tr>
<td>Receiving During Soft Handoff</td>
<td>3-80</td>
</tr>
<tr>
<td>Transmitting During Soft Handoff</td>
<td>3-80</td>
</tr>
<tr>
<td>3.6.7 CDMA Tiered Services</td>
<td>3-81</td>
</tr>
<tr>
<td>3.6.7.1 Overview</td>
<td>3-81</td>
</tr>
<tr>
<td>Definition</td>
<td>3-81</td>
</tr>
<tr>
<td>3.6.7.2 Requirements</td>
<td>3-81</td>
</tr>
<tr>
<td>User Zone Identification Message</td>
<td>3-82</td>
</tr>
<tr>
<td>Private Neighbor List Message</td>
<td>3-82</td>
</tr>
<tr>
<td>User Zone Update Message and User Zone Reject Message on f-dsch</td>
<td>3-82</td>
</tr>
<tr>
<td>User Zone Reject Message on f-csch</td>
<td>3-82</td>
</tr>
<tr>
<td>3.7 PDU Formats for Messages</td>
<td>3-83</td>
</tr>
<tr>
<td>3.7.1 Reserved</td>
<td>3-83</td>
</tr>
<tr>
<td>3.7.2 f-csch</td>
<td>3-83</td>
</tr>
<tr>
<td>Reserved</td>
<td>3-83</td>
</tr>
<tr>
<td>Reserved</td>
<td>3-83</td>
</tr>
<tr>
<td>Reserved</td>
<td>3-83</td>
</tr>
<tr>
<td>3.7.2.3 PDU Formats for Messages on the f-csch</td>
<td>3-84</td>
</tr>
<tr>
<td>Reserved</td>
<td>3-86</td>
</tr>
<tr>
<td>Message Body Contents</td>
<td>3-86</td>
</tr>
<tr>
<td>1</td>
<td>3.7.2.3.2.1 System Parameters Message ........................................................ 3-87</td>
</tr>
<tr>
<td>2</td>
<td>3.7.2.3.2.2 Access Parameters Message ........................................................... 3-95</td>
</tr>
<tr>
<td>3</td>
<td>3.7.2.3.2.3 Neighbor List Message ..................................................................... 3-100</td>
</tr>
<tr>
<td>4</td>
<td>3.7.2.3.2.4 CDMA Channel List Message .......................................................... 3-103</td>
</tr>
<tr>
<td>5</td>
<td>3.7.2.3.2.5 Reserved ..................................................................................... 3-104</td>
</tr>
<tr>
<td>6</td>
<td>3.7.2.3.2.6 Reserved ..................................................................................... 3-105</td>
</tr>
<tr>
<td>7</td>
<td>3.7.2.3.2.7 Order Message ............................................................................. 3-106</td>
</tr>
<tr>
<td>8</td>
<td>3.7.2.3.2.8 Channel Assignment Message ....................................................... 3-107</td>
</tr>
<tr>
<td>9</td>
<td>3.7.2.3.2.9 Data Burst Message ...................................................................... 3-118</td>
</tr>
<tr>
<td>10</td>
<td>3.7.2.3.2.10 Authentication Challenge Message ............................................... 3-120</td>
</tr>
<tr>
<td>11</td>
<td>3.7.2.3.2.11 SSD Update Message .................................................................... 3-121</td>
</tr>
<tr>
<td>12</td>
<td>3.7.2.3.2.12 Feature Notification Message ....................................................... 3-122</td>
</tr>
<tr>
<td>13</td>
<td>3.7.2.3.2.13 Extended System Parameters Message ........................................... 3-123</td>
</tr>
<tr>
<td>14</td>
<td>3.7.2.3.2.14 Extended Neighbor List Message .................................................... 3-133</td>
</tr>
<tr>
<td>15</td>
<td>3.7.2.3.2.15 Status Request Message .................................................................. 3-137</td>
</tr>
<tr>
<td>16</td>
<td>3.7.2.3.2.16 Service Redirection Message .......................................................... 3-141</td>
</tr>
<tr>
<td>17</td>
<td>3.7.2.3.2.17 General Page Message .................................................................. 3-146</td>
</tr>
<tr>
<td>18</td>
<td>3.7.2.3.2.18 Global Service Redirection Message ............................................... 3-149</td>
</tr>
<tr>
<td>19</td>
<td>3.7.2.3.2.19 TMSI Assignment Message ............................................................. 3-154</td>
</tr>
<tr>
<td>20</td>
<td>3.7.2.3.2.20 PACA Message .......................................................................... 3-155</td>
</tr>
<tr>
<td>21</td>
<td>3.7.2.3.2.21 Extended Channel Assignment Message ......................................... 3-157</td>
</tr>
<tr>
<td>22</td>
<td>3.7.2.3.2.22 General Neighbor List Message ...................................................... 3-184</td>
</tr>
<tr>
<td>23</td>
<td>3.7.2.3.2.23 User Zone Identification Message ................................................... 3-194</td>
</tr>
<tr>
<td>24</td>
<td>3.7.2.3.2.24 Private Neighbor List Message ...................................................... 3-195</td>
</tr>
<tr>
<td>25</td>
<td>3.7.2.3.2.25 Reserved ..................................................................................... 3-199</td>
</tr>
<tr>
<td>26</td>
<td>3.7.2.3.2.26 Sync Channel Message .................................................................. 3-200</td>
</tr>
<tr>
<td>27</td>
<td>3.7.2.3.2.27 Extended Global Service Redirection Message .................................. 3-203</td>
</tr>
<tr>
<td>28</td>
<td>3.7.2.3.2.28 Extended CDMA Channel List Message ............................................ 3-207</td>
</tr>
<tr>
<td>29</td>
<td>3.7.2.3.2.29 User Zone Reject Message ............................................................. 3-208</td>
</tr>
<tr>
<td>30</td>
<td>3.7.3 f-dsch .................................................................................................. 3-210</td>
</tr>
<tr>
<td>31</td>
<td>3.7.3.1 Reserved ......................................................................................... 3-210</td>
</tr>
</tbody>
</table>
CONTENTS

3.7.3.2 Reserved ................................................................................................3-210
3.7.3.3 PDU Formats on the f-dsch ....................................................................3-211
  3.7.3.3.1 Reserved .........................................................................................3-212
  3.7.3.3.2 Message Body Contents ....................................................................3-212
    3.7.3.3.2.1 Order Message ...........................................................................3-213
    3.7.3.3.2.2 Authentication Challenge Message ..............................................3-214
    3.7.3.3.2.3 Alert With Information Message ...................................................3-215
    3.7.3.3.2.4 Data Burst Message ....................................................................3-216
    3.7.3.3.2.5 Reserved .....................................................................................3-218
    3.7.3.3.2.6 Analog Handoff Direction Message ...............................................3-219
    3.7.3.3.2.7 In-Traffic System Parameters Message .........................................3-221
    3.7.3.3.2.8 Neighbor List Update Message .....................................................3-225
    3.7.3.3.2.9 Send Burst DTMF Message .........................................................3-226
    3.7.3.3.2.10 Power Control Parameters Message ............................................3-227
    3.7.3.3.2.11 Retrieve Parameters Message .....................................................3-229
    3.7.3.3.2.12 Set Parameters Message ............................................................3-230
    3.7.3.3.2.13 SSD Update Message ................................................................3-231
    3.7.3.3.2.14 Flash With Information Message ................................................3-232
    3.7.3.3.2.15 Mobile Station Registered Message ............................................3-233
    3.7.3.3.2.16 Status Request Message ............................................................3-235
    3.7.3.3.2.17 Extended Handoff Direction Message .........................................3-237
    3.7.3.3.2.18 Service Request Message ...........................................................3-244
    3.7.3.3.2.19 Service Response Message .........................................................3-246
    3.7.3.3.2.20 Service Connect Message ..........................................................3-248
    3.7.3.3.2.21 Service Option Control Message ...............................................3-250
    3.7.3.3.2.22 TMSI Assignment Message .........................................................3-251
    3.7.3.3.2.23 Service Redirection Message .......................................................3-252
    3.7.3.3.2.24 Supplemental Channel Assignment Message ..............................3-255
    3.7.3.3.2.25 Power Control Message ..............................................................3-264
    3.7.3.3.2.26 Extended Neighbor List Update Message ....................................3-286
    3.7.3.3.2.27 Candidate Frequency Search Request Message ..........................3-292
3.7.3.3.2.28 Candidate Frequency Search Control Message ........................... 3-303
3.7.3.3.2.29 Power Up Function Message ..................................................... 3-305
3.7.3.3.2.30 Power Up Function Completion Message ................................. 3-307
3.7.3.3.2.31 General Handoff Direction Message ........................................... 3-309
3.7.3.3.2.32 Resource Allocation Message ..................................................... 3-327
3.7.3.3.2.33 Resource Allocation Mini Message ............................................. 3-328
3.7.3.3.2.34 Extended Release Message ....................................................... 3-328
3.7.3.3.2.35 Extended Release Mini Message ............................................... 3-331
3.7.3.3.2.36 Universal Handoff Direction Message ....................................... 3-332
3.7.3.3.2.37 Extended Supplemental Channel Assignment Message .............. 3-363
3.7.3.3.2.38 Forward Supplemental Channel Assignment Mini Message ........ 3-376
3.7.3.3.2.39 Reverse Supplemental Channel Assignment Mini Message .......... 3-378
3.7.3.3.2.40 Mobile Assisted Burst Operation Parameters Message ............... 3-380
3.7.3.3.2.41 User Zone Reject Message ......................................................... 3-383
3.7.3.3.2.42 User Zone Update Message ....................................................... 3-384
3.7.4 Orders ............................................................................................................... 3-385
3.7.4.1 Base Station Challenge Confirmation Order ............................................ 3-389
3.7.4.2 Service Option Request Order .............................................................. 3-390
3.7.4.3 Service Option Response Order ............................................................ 3-391
3.7.4.4 Status Request Order .......................................................... 3-392
3.7.4.5 Registration Accepted Order .............................................................. 3-393
3.7.4.6 Periodic Pilot Measurement Request Order ............................................. 3-394
3.7.4.7 Retry Order .......................................................... 3-395
3.7.5 Information Records .................................................................................... 3-398
3.7.5.1 Display .............................................................................................. 3-402
3.7.5.2 Called Party Number ........................................................................ 3-403
3.7.5.3 Calling Party Number ........................................................................ 3-404
3.7.5.4 Connected Number ............................................................................ 3-406
3.7.5.5 Signal ................................................................................................. 3-408
3.7.5.6 Message Waiting ................................................................................. 3-413
3.7.5.7 Service Configuration ........................................................................... 3-414
CONTENTS

3.7.5.7.1 Channel Configuration for the Supplemental Channel Type-specific Field.................................................................3-425
3.7.5.8 Called Party Subaddress.................................................................3-426
3.7.5.9 Calling Party Subaddress .................................................................3-427
3.7.5.10 Connected Subaddress .................................................................3-428
3.7.5.11 Redirecting Number.................................................................3-429
3.7.5.12 Redirecting Subaddress .................................................................3-432
3.7.5.13 Meter Pulses ...............................................................................3-433
3.7.5.14 Parametric Alerting .................................................................3-434
3.7.5.15 Line Control ...............................................................................3-436
3.7.5.16 Extended Display ........................................................................3-437
3.7.5.17 Extended Record Type - International ........................................3-440
3.7.5.18 Reserved ...................................................................................3-441
3.7.5.19 Reserved ...................................................................................3-442
3.7.5.20 Non-Negotiable Service Configuration .......................................3-443

ANNEX A RESERED ................................................................. 1
ANNEX B RESERED ................................................................. 2
ANNEX C RESERED ................................................................. 1
ANNEX D CDMA CONSTANTS .......................................................... 1
ANNEX E CDMA RETRIEVABLE AND SETTABLE PARAMETERS ................. 1
ANNEX F MOBILE STATION DATABASE ........................................... 1

F.1 Introduction ...................................................................................... 1
F.2 Mobile Station Indicators ................................................................. 2
  F.2.1 Permanent Mobile Station Indicators ............................................. 2
  F.2.2 Semi-permanent Mobile Station Indicators ................................... 3
F.3 NAM Indicators ............................................................................... 4
FIGURES

1. Figure 1.3.1-1. IS-2000 Signaling – General Architecture
2. Figure 2.3.1-1. IMSI Structure
3. Figure 2.3.1-2. IMSI_S Binary Mapping
4. Figure 2.3.12.1.1-1. Partitioning of SSD
5. Figure 2.3.12.1.5-1. SSD Update Message Flow
6. Figure 2.3.12.1.5-2. Computation of Shared Secret Data (SSD)
7. Figure 2.3.12.1.5-3. Computation of AUTHBS
8. Figure 2.3.15-1. TMSI Zone Example
9. Figure 2.6-1. Mobile Station Call Processing States
10. Figure 2.6.1-1. Mobile Station Initialization State
11. Figure 2.6.1.4-1. Mobile Station Internal Timing
12. Figure 2.6.2.1.1.1-1. Mobile Station Idle Slotted Mode Structure Example
13. Figure 2.6.2.1.1.1.2.1-1. Multi-Slot Broadcast Message Transmission Example
14. Figure 2.6.2.1.1.1.2.2-1. Periodic Broadcast Paging Example
15. Figure 2.6.2.1.2.1-1. Quick Paging Channel Timeline
16. Figure 2.6.3-1. System Access State
17. Figure 2.6.4-1. Mobile Station Control on the Traffic Channel State
18. Figure 2.6.4.1.2.2-1. Mobile Station Service Subfunctions
19. Figure 2.6.4.1.7-1. Structure of PUF Attempt
20. Figure 2.6.4.4-1. Mobile Station Modes
21. Figure 2.6.5.2-1. Systems and Networks Example
22. Figure 2.6.6.2.5.1.1-1. New Supplemental Channel Assignment Received while a Previous Supplemental Channel Assignment is in Progress
23. Figure 2.6.6.2.5.1.1-2. New Supplemental Channel Assignment Received before a Previous Supplemental Channel Assignment starts
24. Figure 2.6.6.3-1. Handoff Threshold Example if P_REV_IN_USES is Less Than or Equal to Three, or SOFT_SLOPEs is Equal to ‘000000’
25. Figure 2.6.6.3-2. Handoff Threshold Example if P_REV_IN_USES is Greater Than Three, and SOFT_SLOPEs is Not Equal to ‘000000’
26. Figure 2.6.6.3-3. Pilot Strength Measurements Triggered by a Candidate Pilot if P_REV_IN_USES = 3 or SOFT_SLOPEs = ‘000000’
27. Figure 2.6.6.3-4. Pilot Strength Measurements Triggered by a Candidate Pilot if P_REV_IN_USES > 3 and SOFT_SLOPEs is Not Equal to ‘000000’
| Figure B-1A. Simple Call Flow, Mobile Station Origination Example Using Service Option Negotiation with Service Option 1 | B-2 |
| Figure B-1B. Simple Call Flow, Mobile Station Origination Example Using Service | B-3 |
| Figure B-2A. Simple Call Flow, Mobile Station Termination Example Using Service Option Negotiation with Service Option 1 | B-4 |
| Figure B-2B. Simple Call Flow, Mobile Station Termination Example Using Service | B-5 |
| Figure B-3. Simple Call Flow, Mobile Station Initiated Call Disconnect Example | B-6 |
| Figure B-4. Simple Call Flow, Base Station Initiated Call Disconnect Example | B-6 |
| Figure B-5. Simple Call Flow, Three-Party Calling Example | B-7 |
| Figure B-6. Simple Call Flow, Call-Waiting Example | B-8 |
| Figure B-7. Call Processing During Soft Handoff | B-9 |
| Figure B-8. Call Processing During Sequential Soft Handoff (Part 1 of 2) | B-10 |
| Figure B-8. Call Processing During Sequential Soft Handoff (Part 2 of 2) | B-11 |
| Figure B-9. PACA Call Processing (Part 1 of 2) | B-12 |
| Figure B-9. PACA Call Processing (Part 2 of 2) | B-13 |
| Figure B-10. Call Flow for Same Frequency Hard Handoff Failure Recovery | B-14 |
| Figure B-11. Call Flow for Inter-Frequency Hard Handoff Failure Recovery without Search | B-15 |
| Figure B-12. Call Flow for Inter-Frequency Handoff (Single Search Using Candidate Frequency Search Control Message) (Part 1 of 2) | B-16 |
| Figure B-12. Call Flow for Inter-Frequency Handoff (Single Search Using Candidate Frequency Search Control Message) (Part 2 of 2) | B-17 |
| Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 1 of 3) | B-18 |
| Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 2 of 3) | B-19 |
| Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 3 of 3) | B-20 |
| Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 1 of 3) | B-21 |
| Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 2 of 3) | B-22 |
| Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 3 of 3) | B-23 |
FIGURES

Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 1 of 4) ...................................................B-24

Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 2 of 4) ...................................................B-25

Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 3 of 4) ...................................................B-26

Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 4 of 4) ...................................................B-27

Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 1 of 3) ..................B-28

Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 2 of 3) ..................B-29

Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 3 of 3) ..................B-30

Figure B-17. Call Flow for Periodic Search on F2 from F1, Successful Handoff to F3, Continued Periodic Search on F2 from F3 (Part 1 of 2) .................B-31

Figure B-17. Call Flow for Periodic Search on F2 from F1, Successful Handoff to F3, Continued Periodic Search on F2 from F3 (Part 2 of 2) .................B-32

Figure B-18. Simple Call Flow Mobile Station Origination Example with Transmission on Forward Supplemental Code Channels (Part 1 of 2) .....................B-33

Figure B-18. Simple Call Flow Mobile Station Origination Example with Transmission on Forward Supplemental Code Channels (Part 2 of 2) .....................B-34

Figure B-19. Simple Call Flow Mobile Station Origination Example with Transmission on Reverse Supplemental Code Channels (Part 1 of 2) .......................B-35

Figure B-19. Simple Call Flow Mobile Station Origination Example with Transmission on Reverse Supplemental Code Channels (Part 2 of 2) .......................B-36

Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 1 of 3) .....................B-37

Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 2 of 3) .....................B-38

Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 3 of 3) .....................B-39

Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 1 of 3) ......................B-40

Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 2 of 3) ......................B-41

Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 3 of 3) ......................B-42
FIGURES

1 Reverse Supplemental Code Channel(s) (Part 3 of 3) ....................... B-42
2 Figure B-22. Active/Control Hold to Idle State Transition (BS Initiated) ............... B-43
3 Figure B-23. Active/Control Hold to Idle State Transition (MS Initiated) ............... B-43
4 Figure B-24. Active to Control Hold Mode Transition (BS Initiated) ...................... B-44
5 Figure B-25. Active to Control Hold Mode Transition (MS Initiated) ...................... B-44
6 Figure B-26. Control Hold to Active Mode Transition (BS Initiated) ...................... B-45
7 Figure B-27. Control Hold to Active Mode Transition (MS Initiated) ...................... B-46
TABLES

1. Table 2.3.1.1-1. Decimal to Binary Conversion Table ..................................................... 2-3
2. Table 2.3.1.1-2. BCD Mapping ...................................................................................... 2-4
3. Table 2.3.3-1. Station Class Mark ................................................................................. 2-6
4. Table 2.3.5-1. ACCOLCp Mapping for ACCOLC 0 through ACCOLC 9 ...................... 2-8
5. Table 2.3.5-2. ACCOLCp Mapping for ACCOLC 10 through ACCOLC 15 ................. 2-8
6. Table 2.3.12.1-1. Auth_Signature Input Parameters..................................................... 2-10
7. Table 2.4.1-1. Monitored Quantities and Statistics .................................................... 2-24
8. Table 2.4.2-1. Accumulated PCH Channel Statistics ................................................ 2-24
9. Table 2.6.6.2.1-1. Searcher Window Sizes .................................................................. 2-278
10. Table 2.6.6.2.1-2. Search Window Offset ................................................................. 2-279
11. Table 2.6.6.2.3-1. Handoff Drop Timer Expiration Values ........................................ 2-281
12. Table 2.6.6.2.5.1-1. Search Parameter Settings ......................................................... 2-290
13. Table 2.6.6.2.8.3.2-1. Search Period Values ............................................................... 2-355
14. Table 2.7.1.3-1. Messages on r-csch .......................................................................... 2-392
15. Table 2.7.1.3.2.1-1. REG_TYPE Codes .................................................................... 2-393
16. Table 2.7.1.3.2.1-2. RETURN_CAUSE Codes ............................................................ 2-394
17. Table 2.7.1.3.2.4-1. REQUEST_MODE Codes ............................................................ 2-401
18. Table 2.7.1.3.2.4-2. Number Types ............................................................................ 2-402
19. Table 2.7.1.3.2.4-3. Numbering Plan Identification .................................................... 2-402
20. Table 2.7.1.3.2.4-4. Representation of DTMF Digits ................................................... 2-403
21. Table 2.7.1.3.2.4-5. Encryption Algorithms Supported ............................................. 2-404
22. Table 2.7.1.3.2.4-6. Channel Indicator ...................................................................... 2-405
23. Table 2.7.1.3.2.5-1. Channel indicator ...................................................................... 2-411
24. Table 2.7.2.3-1. Messages on r-dsch .......................................................................... 2-421
25. Table 2.7.2.3.2.7-1. Recommended DTMF Pulse Width ........................................... 2-434
26. Table 2.7.2.3.2.7-2. Recommended Minimum Inter-digit Interval .............................. 2-435
27. Table 2.7.2.3.12.1. REQ_PURPOSE Codes ............................................................... 2-441
28. Table 2.7.2.3.13-1. RESP_PURPOSE Codes ............................................................. 2-443
29. Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch  (Part 1 of 4) .......................................................... 2-473
TABLES

Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 2 of 4) ........................................................................................................... 2-474

Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 3 of 4) ........................................................................................................... 2-475

Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 4 of 4) ........................................................................................................... 2-476

Table 2.7.3.4-1. REJECTED_PDU_TYPE codes ...................................................... 2-481

Table 2.7.4-1. Information Record Types (Part 1 of 2) ........................................... 2-483

Table 2.7.4-1. Information Record Types (Part 2 of 2) ........................................... 2-484

Table 2.7.4.4-1. Presentation Indicators ................................................................. 2-488

Table 2.7.4.4-2. Screening Indicators ..................................................................... 2-489

Table 2.7.4.15-1. OP_MODE for P_REV_IN_USEs Less Than or Equal to Three...... 2-503

Table 2.7.4.15-2. OP_MODE for P_REV_IN_USEs Greater Than Three ............... 2-504

Table 2.7.4.17-1. Forward Fundamental Traffic Channel Transmission Rates for Forward
Multiplex Option 1 .............................................................................................. 2-508

Table 2.7.4.17-2. Forward Fundamental Traffic Channel Transmission Rates for Forward
Multiplex Option 2 .............................................................................................. 2-508

Table 2.7.4.17-3. Reverse Fundamental Traffic Channel Transmission Rates for Reverse
Multiplex Option 1 .............................................................................................. 2-509

Table 2.7.4.17-4. Reverse Fundamental Traffic Channel Transmission Rates for Reverse
Multiplex Option 2 .............................................................................................. 2-510

Table 2.7.4.18-1. FOR_TRAFFIC Codes ............................................................... 2-515

Table 2.7.4.18-2. REV_TRAFFIC Codes ............................................................. 2-516

Table 2.7.4.18-3. User information Encryption Modes ......................................... 2-516

Table 2.7.3.18-4. SCH Identifier .......................................................................... 2-521

Table 2.7.4.19-1. Subaddress Types ..................................................................... 2-523

Table 2.7.4.19-2. Odd/Even Indicator ................................................................. 2-524

Table 2.7.4.25-1. Set of supported Reverse Pilot Gating Rates ............................ 2-532

Table 2.7.4.25-2. RLP Capability Information Block ........................................... 2-533

Table 2.7.4.27.1-1. Forward Channel Radio Configurations Supported.............. 2-538

Table 2.7.4.27.1-2. Reverse Channel Radio Configurations Supported ............. 2-539

Table 2.7.4.27.2-1. DCCH Frame Size Supported .............................................. 2-540

Table 2.7.4.27.3-1. Block Size ............................................................................. 2-543
Tables

1. Table 2.7.4.28-1. Forward Fundamental Channel Transmission Rates for MO_FOR_FCH equal to 1 ................................................................. 2-550
2. Table 2.7.4.28-2. Forward Fundamental Channel Transmission Rates for MO_FOR_FCH equal to 2 ................................................................. 2-550
3. Table 2.7.4.28-3. Reverse Fundamental Channel Transmission Rates for MO_REV_FCH equal to 1 ................................................................. 2-551
4. Table 2.7.4.28-4. Reverse Fundamental Channel Transmission Rates for MO_REV_FCH equal to 2 ................................................................. 2-552
5. Table 2.7.4.34-1. Geo-location Codes ......................................................................... 2-555
6. Table 3.7.2.3-1. f-csch Messages ................................................................................. 3-85
7. Table 3.7.2.3.2.1-1. Value of Zone Timer ..................................................................... 3-89
8. Table 3.7.2.3.2.3-1. Neighbor Configuration Field ...................................................... 3-101
9. Table 3.7.2.3.2.8-1. Assignment Mode ..................................................................... 3-110
10. Table 3.7.2.3.2.8-2. Message Encryption Modes ........................................................ 3-111
11. Table 3.7.2.3.2.8-3. Default Configuration ................................................................. 3-114
12. Table 3.7.2.3.13-1. Preferred MSID Types ................................................................ 3-125
13. Table 3.7.2.3.13-2. QPCH Indicator Data Rate ........................................................... 3-131
14. Table 3.7.2.3.13-3 Quick Paging Channel Transmit Power Level ............................... 3-131
15. Table 3.7.2.3.14-1. Neighbor Configuration Field .................................................... 3-134
16. Table 3.7.2.3.14-2. Search Priority Field .................................................................... 3-136
17. Table 3.7.2.3.15-1. Qualification Information Type .................................................... 3-137
18. Table 3.7.2.3.15-2. Status Information Record Types ................................................ 3-138
19. Table 3.7.2.3.15-3. Operating Mode for MOB_P_REV Less Than or Equal to Three ... 3-140
20. Table 3.7.2.3.15-4. Operating Mode for MOB_P_REV Greater Than Three ............... 3-140
21. Table 3.7.2.3.16-1. Redirection Types ..................................................................... 3-141
22. Table 3.7.2.3.16-2. Redirection Record Types .......................................................... 3-142
23. Table 3.7.2.3.16-3. SYS_ORDERING ....................................................................... 3-144
24. Table 3.7.2.3.20-1. Purpose of PACA Message ........................................................ 3-155
25. Table 3.7.2.3.20-2. Value of PACA State Timer ........................................................ 3-156
26. Table 3.7.2.3.21-1. Assignment Mode ..................................................................... 3-163
27. Table 3.7.2.3.21-2. Default Configuration ................................................................. 3-164
28. Table 3.7.2.3.21-3. Radio Configurations ................................................................. 3-167
29. Table 3.7.2.3.21-4. Channel Indicator ..................................................................... 3-174
# TABLES

1. Table 3.7.2.3.2.21-5. Pilot Record Types .................................................. 3-176
2. Table 3.7.2.3.2.21-6. OTD Transmit Power Level ....................................... 3-177
3. Table 3.7.2.3.2.22-1. Search Mode Field .................................................... 3-186
4. Table 3.7.2.3.2.22-2. Neighbor Configuration Field ..................................... 3-188
5. Table 3.7.2.3.2.22-3. Search Priority Field .................................................. 3-190
6. Table 3.7.2.3.2.22-4. Cellular System A/B .................................................... 3-192
7. Table 3.7.2.3.2.22-5. Neighbor Pilot Record Types ....................................... 3-192
8. Table 3.7.2.3.2.24-1. Radio Interface Type .................................................... 3-196
9. Table 3.7.2.3.2.26-1. Paging Channel Data Rate ......................................... 3-202
10. Table 3.7.2.3.2.29-1. Rejection Action Indicators ........................................ 3-209
11. Table 3.7.3.3-1. f-dsch Messages (Part 1 of 2) ........................................... 3-211
12. Table 3.7.3.3-1. f-dsch Messages (Part 2 of 2) ........................................... 3-212
13. Table 3.7.3.3.2.6-1. Analog Channel Type .................................................. 3-220
14. Table 3.7.3.3.2.17-1. Traffic Channel Preamble Length ................................ 3-242
15. Table 3.7.3.3.2.18-1. REQ_P PURPOSE Codes ......................................... 3-244
16. Table 3.7.3.3.2.19-1. RESP_P PURPOSE Codes ......................................... 3-246
17. Table 3.7.3.3.2.25-1. Closed Loop Power Control Step Size ....................... 3-265
18. Table 3.7.3.3.2.25-2. Target Frame Error Rate .......................................... 3-267
19. Table 3.7.3.3.2.25-3. RPC_ADJ_REC_TYPE and RPC_ADJ_REC_LEN fields .. 3-270
20. Table 3.7.3.3.2.25-4. Type Specific Fields for RECORD_TYPE = '0000' .... 3-271
21. Table 3.7.3.3.2.25-5. Type Specific Fields for RECORD_TYPE = '0001' .... 3-273
22. Table 3.7.3.3.2.25-6. Type Specific Fields for RECORD_TYPE = '0010' .... 3-278
23. Table 3.7.3.3.2.26-1. NGHBR_SRCH_MODE Field ...................................... 3-287
24. Table 3.7.3.3.2.26-2. SEARCH_PRIORITY Field ........................................ 3-289
25. Table 3.7.3.3.2.27-1. SEARCH_TYPE Codes ............................................ 3-293
26. Table 3.7.3.3.2.27-2. SEARCH_MODE Types ............................................ 3-293
27. Table 3.7.3.3.2.27-3. CF_NGHB SRCH_MODE Field .................................... 3-298
28. Table 3.7.3.3.2.34-1. Channel Indicator .................................................... 3-329
29. Table 3.7.3.3.2.34-2 Actual Reverse Pilot Gating rate ............................... 3-330
30. Table 3.7.3.3.2.36-1. Channel Indicator .................................................... 3-350
31. Table 3.7.3.3.2.37-2. REV_WALSH_ID Field ............................................ 3-367
<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7.3.3.2.37-1</td>
<td>SCH Data Rate</td>
<td>3-368</td>
</tr>
<tr>
<td>3.7.3.3.2.37-3</td>
<td>FOR_SCH_DURATION and REV_SCH_DURATION Fields</td>
<td>3-369</td>
</tr>
<tr>
<td>3.7.4-1</td>
<td>Order and Order Qualification Codes Used on the f-csch and the f-dsch (Part 1 of 3)</td>
<td>3-386</td>
</tr>
<tr>
<td>3.7.4-1</td>
<td>Order and Order Qualification Codes Used on the f-csch and the f-dsch (Part 2 of 3)</td>
<td>3-387</td>
</tr>
<tr>
<td>3.7.4-1</td>
<td>Order and Order Qualification Codes Used on the f-csch and the f-dsch (Part 3 of 3)</td>
<td>3-388</td>
</tr>
<tr>
<td>3.7.4.4-1</td>
<td>Status Request ORDQ Values</td>
<td>3-392</td>
</tr>
<tr>
<td>3.7.4.7-1</td>
<td>Retry Delay Type</td>
<td>3-395</td>
</tr>
<tr>
<td>3.7.4.7-1</td>
<td>Retry Delay for RETRY_TYPE '001'</td>
<td>3-396</td>
</tr>
<tr>
<td>3.7.5-1</td>
<td>Information Record Types (Part 1 of 3)</td>
<td>3-399</td>
</tr>
<tr>
<td>3.7.5-1</td>
<td>Information Record Types (Part 2 of 3)</td>
<td>3-400</td>
</tr>
<tr>
<td>3.7.5-1</td>
<td>Information Record Types (Part 3 of 3)</td>
<td>3-401</td>
</tr>
<tr>
<td>3.7.5.5-1</td>
<td>Signal Type</td>
<td>3-408</td>
</tr>
<tr>
<td>3.7.5.5-2</td>
<td>Alert Pitch</td>
<td>3-409</td>
</tr>
<tr>
<td>3.7.5.5-3</td>
<td>Tone Signals (SIGNAL_TYPE = '00')</td>
<td>3-410</td>
</tr>
<tr>
<td>3.7.5.5-4</td>
<td>ISDN Alerting (SIGNAL_TYPE = '01')</td>
<td>3-411</td>
</tr>
<tr>
<td>3.7.5.5-5</td>
<td>IS-54B Alerting (SIGNAL_TYPE = '10')</td>
<td>3-412</td>
</tr>
<tr>
<td>3.7.5.7-1</td>
<td>FOR_TRAFFIC Codes</td>
<td>3-418</td>
</tr>
<tr>
<td>3.7.5.7-2</td>
<td>REV_TRAFFIC Codes</td>
<td>3-419</td>
</tr>
<tr>
<td>3.7.5.7-3</td>
<td>DCCH Frame Size</td>
<td>3-422</td>
</tr>
<tr>
<td>3.7.5.11-1</td>
<td>Redirection Reason</td>
<td>3-431</td>
</tr>
<tr>
<td>3.7.5.16-1</td>
<td>Display Type</td>
<td>3-437</td>
</tr>
<tr>
<td>3.7.5.16-2</td>
<td>Mandatory Control Tags and Display Text Tags</td>
<td>3-438</td>
</tr>
<tr>
<td>3.7.5.20-1</td>
<td>Reverse Pilot Gating rate</td>
<td>3-446</td>
</tr>
<tr>
<td>3.7.5.20-2</td>
<td>Logical to Physical Mapping indicator</td>
<td>3-446</td>
</tr>
<tr>
<td>3.7.5.20-3</td>
<td>Logical Resource Identifier</td>
<td>3-447</td>
</tr>
<tr>
<td>3.7.5.20-4</td>
<td>Physical Resource Identifier</td>
<td>3-447</td>
</tr>
<tr>
<td>D-1</td>
<td>Time Limits (Part 1 of 4)</td>
<td>D-1</td>
</tr>
<tr>
<td>D-1</td>
<td>Time Limits (Part 2 of 4)</td>
<td>D-2</td>
</tr>
<tr>
<td>D-1</td>
<td>Time Limits (Part 3 of 4)</td>
<td>D-3</td>
</tr>
</tbody>
</table>
TABLES

1. Table D-1. Time Limits (Part 4 of 4) ................................................................. D-4
2. Table D-2. Other Constants .................................................................................. D-5
3. Table E-1. Retrievable and Settable Parameters (Part 1 of 10) .......................... E-3
4. Table E-1. Retrievable and Settable Parameters (Part 2 of 10) ......................... E-5
5. Table E-1. Retrievable and Settable Parameters (Part 3 of 10) ......................... E-7
6. Table E-1. Retrievable and Settable Parameters (Part 4 of 10) ......................... E-9
7. Table E-1. Retrievable and Settable Parameters (Part 5 of 10) ......................... E-11
8. Table E-1. Retrievable and Settable Parameters (Part 6 of 10) ......................... E-13
9. Table E-1. Retrievable and Settable Parameters (Part 7 of 10) ......................... E-16
10. Table E-1. Retrievable and Settable Parameters (Part 8 of 10) ......................... E-18
11. Table E-1. Retrievable and Settable Parameters (Part 9 of 10) ......................... E-20
12. Table E-1. Retrievable and Settable Parameters (Part 10 of 10) ....................... E-23
13. Table F.2.1-1. Permanent Mobile Station Indicators ........................................ F-2
14. Table F.2.2-1. CDMA Semi-permanent Mobile Station Indicators ................. F-3
15. Table F.3-1. NAM Indicators (Part 1 of 2) ....................................................... F-4
16. Table F.3-1. NAM Indicators (Part 2 of 2) ....................................................... F-5
FOREWORD

1. General. This section defines the terms and numeric indications used in this document. This section also describes the time reference used in the CDMA system and the tolerances used throughout the document general signaling architecture.

2. Requirements for Mobile Station CDMA Operation. This section describes the requirements for CDMA-analog dual-mode mobile stations operating in the CDMA mode. A mobile station complying with these requirements will be able to operate with CDMA base stations complying with this document.

3. Requirements for Base Station CDMA Operation. This section describes the requirements for CDMA base stations. A base station complying with these requirements will be able to operate in the CDMA mode with mobile stations complying with this document.

Annex A. Reserved.

Annex B. CDMA Call Flow Examples. This informative annex provides examples of simple call flows in the CDMA system.

Annex C. Reserved.

Annex D. CDMA Constants. This normative annex contains tables that give specific values for the constant identifiers found in Section 2 and Section 3.

Annex E. CDMA Retrievable and Settable Parameters. This normative annex describes the mobile station parameters that the base station can set and retrieve.

Annex F. Mobile Station Database. This informative annex describes a database model that can be used for dual-mode mobile stations complying with this document.
NOTES

1. Compatibility, as used in connection with cdma2000, is understood to mean: any cdma2000 mobile station is able to place and receive calls in cdma2000 and IS-95 systems. Conversely, any cdma2000 system is able to place and receive calls for cdma2000 and IS-95 mobile stations.

2. The term “dual-mode mobile station” indicates a mobile station capable of both analog (FM) and spread spectrum (CDMA) operation.

3. This compatibility specification is based upon spectrum allocations that have been defined by various governmental administrations.

4. Each mobile station is assigned a single unique 32-bit binary serial number (ESN) that cannot be changed by the subscriber without rendering the mobile station inoperative (see 2.3.2).

5. “Base station” refers to the functions performed in the fixed network. These functions typically distributed among cells, sectors, and mobile switching centers.

6. This standard uses the following verbal forms: “Shall” and “shall not” identify requirements strictly to be followed in order to conform with the standard and from which no deviation is permitted. “Should” and “should not” indicate that one of several possibilities is recommended as particularly suitable, without mentioning or excluding others; that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is discouraged but not prohibited. “May” and “need not” indicate a course of action permissible within the limits of the standard. “Can” and “cannot” are used for statements of possibility and capability, whether material, physical, or causal.

7. Footnotes appear at various points in this specification to elaborate and further clarify items discussed in the body of the specification.

8. Unless indicated otherwise, this document presents numbers in decimal form. Binary numbers are distinguished in the text by the use of single quotation marks.

9. The following operators define mathematical operations:

   \[ x \] indicates multiplication.

   \[ x \] indicates the largest integer less than or equal to \( x \): \[ 1.1 \] = 1, \[ 1.0 \] = 1.

   \[ x \] indicates the smallest integer greater or equal to \( x \): \[ 1.1 \] = 2, \[ 2.0 \] = 2.

   \[ x \] indicates the absolute value of \( x \): \[ -17 \] = 17, \[ 17 \] = 17.

   \[ x \] indicates exclusive OR (modulo-2 addition).

   \[ x \] indicates the minimum of \( x \) and \( y \).

   \[ x \] indicates the maximum of \( x \) and \( y \).

   \[ x \mod y \] indicates the remainder after dividing \( x \) by \( y \): \( x \mod y = x - (y \times \lceil x/y \rceil) \).

10. While communication between Layer 3 and Layer 2 is specified, there is no requirement to implement layering.
REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

1. Reserved.
5. Reserved.
7. ANSI/EIA/TIA-691, ANSI Enhanced Analog IS-691, date pending.
15. TIA/EIA-553-A, Core Analog Standard 800 MHz Mobile Station - Land Station Compatibility Specification with Authentication, date pending.
REFERENCES


17. C.S0015-0, Short Message Services for Spread Spectrum Cellular Systems.


REFERENCES


37. TSB50, User Interface for Authentication Key Entry, March 1993.

38. TSB58, Administration of Parameter Value Assignments for TIA/EIA Wideband Spread Spectrum Standards.


40. ANSI T1.625, Integrated Services Digital Network (ISDN) – Calling Line Identification Presentation and Restriction Supplementary Services.


42. CCITT X.25, Interface between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit, October 1996.

43. RCR STD-36, Analog Cellular Telecommunication System based on TACS method, October
1. GENERAL

1.1 Terms and Numeric Information

1.1.1 Terms

**Abbreviated Alert.** An abbreviated alert is used to remind the mobile station user that previously selected alternative routing features are still active.

**AC.** See Authentication Center.

**Access Attempt.** The entire process of sending one message and receiving (or failing to receive) an acknowledgment for that message, consisting of one or more access sub-attempts. See also Access Probe, Access Probe Sequence, and Access Sub-attempt.

**Access Channel.** A Reverse CDMA Channel used by mobile stations for communicating to the base station. The Access Channel is used for short signaling message exchanges such as call origination, responses to pages, and registrations. The Access Channel is a slotted random access channel.

**Access Channel Message.** The information part of an access probe consisting of the message body, length field, and CRC.

**Access Channel Message Capsule.** An Access Channel message plus the padding.

**Access Channel Preamble.** The preamble of an access probe consisting of a sequence of all-zero frames that are sent at the 4800 bps rate.

**Access Channel Request Message.** An Access Channel message that is autonomously generated by the mobile station. See also Access Channel Response Message.

**Access Channel Response Message.** A message on the Access Channel generated to reply to a message received from the base station.

**Access Channel Slot.** The assigned time interval for an access probe. An Access Channel slot consists of an integer number of frames. The transmission of an access probe is performed within the boundaries of an Access Channel slot.

**Access Entry Handoff.** The act of transferring reception of the Paging Channel from one base station to another, when the mobile station is transitioning from the **Mobile Station Idle State** to the **System Access State**.

**Access Handoff.** The act of transferring reception of the Paging Channel from one base station to another, when the mobile station is in the **System Access State** after an Access Attempt.

**Access Overload Class.** See Overload Class.

**Access Probe.** One Access Channel transmission consisting of a preamble and a message. The transmission is an integer number of frames in length and transmits one Access Channel message. See also Access Probe Sequence, Access Sub-attempt, and Access Attempt.
**Access Probe Handoff.** A handoff that occurs while the mobile station is performing an Access Attempt in the *System Access State*.

**Access Probe Sequence.** A sequence of one or more access probes on the Access Channel. Other than the reported pilot information, the same Access Channel message content is transmitted in every access probe of an access sub-attempt. See also Access Probe, Access Sub-attempt, and Access Attempt.

**Access Sub-attempt.** A sequence of one or more access probe sequences on the Access Channel transmitted to one pilot, containing the same message content other than the reported pilot information. See also Access Probe, Access Probe Sequence, and Access Attempt.

**Acknowledgment.** A Layer 2 response by the mobile station or the base station confirming that a signaling message was received correctly.

**Action Time.** The time at which the action implied by a message should take effect.

**Active Set.** The set of pilots associated with the CDMA Channels containing Forward Traffic Channels assigned to a particular mobile station.

**Active User Zone.** A user zone in which the mobile station makes its presence known via an explicit registration in order to activate tiered service features. See also CDMA Tiered Services, User Zone, and Passive User Zone.

**Aging.** A mechanism through which the mobile station maintains in its Neighbor Set the pilots that have been recently sent to it from the base station and the pilots whose handoff drop timers have recently expired.

**A-key.** A secret, 64-bit pattern stored in the mobile station and HLR/AC. It is used to generate/update the mobile station’s Shared Secret Data.

**Assured Mode.** Mode of delivery that guarantees that a PDU will be delivered to the peer. A PDU sent in assured mode is retransmitted by the LAC sublayer, up to a maximum number of retransmissions, until the LAC entity at the sender receives an acknowledgement for the PDU. See also Confirmation of Delivery.

**Authentication.** A procedure used by a base station to validate a mobile station’s identity.

**Authentication Center (AC).** An entity that manages the authentication information related to the mobile station.

**Authentication Response (AUTHR).** An 18-bit output of the authentication algorithm. It is used, for example, to validate mobile station registrations, originations and terminations.

**Autonomous Registration.** A method of registration in which the mobile station registers without an explicit command from the base station.

**Auxiliary Pilot Channel.** A non-data-bearing, direct-sequence spread spectrum signal optionally transmitted by a CDMA base station.

**Auxiliary Transmit Diversity Pilot Channel.** A pilot channel, counterpart to an Auxiliary Pilot Channel, that is transmitted by a CDMA base station from the non-primary antenna when orthogonal transmit diversity is employed.
Bad Frames. Frames classified as insufficient frame quality or as 9600 bps primary traffic only, with bit errors. See also Good Frames.

Band Class. A set of CDMA frequency assignments and a numbering scheme for these channels. See also CDMA Frequency Assignment.

Base Station. A fixed station used for communicating with mobile stations. Depending upon the context, the term base station may refer to a cell, a sector within a cell, an MSC, or other part of the cellular system. See also MSC.

Base Station Authentication Response (AUTHBS). An 18-bit pattern generated by the authentication algorithm. AUTHBS is used to confirm the validity of base station orders to update the Shared Secret Data.

Base Station Random Variable (RANDBS). A 32-bit random number generated by the mobile station for authenticating base station orders to update the Shared Secret Data.

Blank-and-Burst. The preemption of an entire Traffic Channel frame’s primary traffic by signaling traffic or secondary traffic. Blank-and-burst is performed on a frame-by-frame basis.

BLOB. Block of Bits.

bps. Bits per second.

Broadcast User Zone. A user zone that is identified to the mobile station by means of broadcast messages. It corresponds to the RF coverage area of a particular set of cells and sectors. See also CDMA Tiered Services and Mobile-Specific User Zone.

Call Disconnect. The process that releases the resources handling a particular call. The disconnect process begins either when the mobile station user indicates the end of the call by generating an on-hook condition or other call-release mechanism, or when the base station initiates a release.

Call History Parameter (COUNT). A modulo-64 event counter maintained by the mobile station and Authentication Center that is used for clone detection.

Candidate Frequency. The frequency, either analog or CDMA, for which the base station specifies a search set, using a Candidate Frequency Search Request Message.

Candidate Set. The set of pilots that have been received with sufficient strength by the mobile station to be successfully demodulated, but have not been placed in the Active Set by the base station. See also Active Set, Neighbor Set, and Remaining Set.

CDMA. See Code Division Multiple Access.

CDMA Candidate Frequency. The Candidate Frequency specified for a search of CDMA pilots.

CDMA Channel. The set of channels transmitted between the base station and the mobile stations within a given CDMA Frequency Assignment. See also Forward CDMA Channel and Reverse CDMA Channel.

CDMA Channel Number. An 11-bit number that identifies a CDMA Frequency Assignment.
CDMA Frequency Assignment. A particular choice of RF band center frequencies for the Forward CDMA Channel and Reverse CDMA Channel that comprise a CDMA Channel. CDMA Frequency Assignments are identified by CDMA Channel Numbers.

CDMA Preferred Set. The set of CDMA channel numbers in a CDMA system corresponding to Frequency Assignments that a mobile station will normally search to acquire a CDMA Pilot Channel. For CDMA cellular systems, the primary and secondary channels comprise the CDMA Preferred Set.

CDMA Tiered Services. System features and services that are based on location, potentially including private networks. User zones establish the availability of services. See also User Zone, Broadcast User Zone, Mobile-Specific User Zone, Active User Zone, and Passive User Zone.

Chip. See PN Chip.

Code Channel. A subchannel of a Forward CDMA Channel. A Forward CDMA Channel contains 64 code channels. Code channel zero is assigned to the Pilot Channel. Code channels 1 through 7 may be assigned to either the Paging Channels or the Traffic Channels. Code channel 32 may be assigned to either a Sync Channel or a Traffic Channel. The remaining code channels may be assigned to Traffic Channels.

Code Division Multiple Access (CDMA). A technique for spread-spectrum multiple-access digital communications that creates channels through the use of unique code sequences.

Code Symbol. The output of an error-correcting encoder. Information bits are input to the encoder and code symbols are output from the encoder. See Convolutional Code.

Configuration Change Indicator. A one-bit datum, sent on the Quick Paging Channel. Appearance of the Configuration Change Indicator in the Quick Paging Channel serves to alert a slotted mode mobile station, operating in the idle state, that, after performing an idle handoff, it should monitor the Paging Channel, in order to determine if it should update its stored parameters.

Confirmation of Delivery. A notification sent by the LAC sublayer to Layer 3 at the sender, when the LAC entity at the sender receives the acknowledgment for a specific PDU sent in assured mode.

Convolutional Code. A type of error-correcting code. A code symbol can be considered as modulo 2 the convolution of the input data sequence with the impulse response of a generator function.

CRC. See Cyclic Redundancy Code.

Cyclic Redundancy Code (CRC). A class of linear error detecting codes that generate parity check bits by finding the remainder of a polynomial division. See also Frame Quality Indicator.

dBC. The ratio (in dB) of the sideband power of a signal, measured in a given bandwidth at a given frequency offset from the center frequency of the same signal, to the total inband power of the signal.

dBm. A measure of power expressed in terms of its ratio (in dB) to one milliwatt.
dBm/Hz. A measure of power spectral density. The ratio, dBm/Hz, is the power in one Hertz of bandwidth, where power is expressed in units of dBm.

dBW. A measure of power expressed in terms of its ratio (in dB) to one Watt.

Dedicated Control Channel. A portion of a Traffic Channel (Forward or Reverse) that carries a combination of user data, signaling, and power control information.

Deinterleaving. The process of unpermuting the symbols that were permuted by the interleaver. Deinterleaving is performed on received symbols prior to decoding.

Discontinuous Transmission (DTX). A mode of operation in which a base station or a mobile station switches on and off its transmitter on a particular code channel autonomously. For the case of DTX operation on the Forward Dedicated Control Channel, the Forward Power Control Subchannel is still transmitted.

Distance-Based Registration. An autonomous registration method in which the mobile station registers whenever it enters a cell whose distance from the cell in which the mobile station last registered exceeds a given threshold.

DTMF. See Dual-Tone Multifrequency.

Dual-Tone Multifrequency (DTMF). Signaling by the simultaneous transmission of two tones, one from a group of low frequencies and another from a group of high frequencies. Each group of frequencies consists of four frequencies.

$E_b$. A measure of the energy in a signal, at some point in a communication system, per information bit conveyed by that signal, or an average value of such energies. Its relevance to system performance is most often expressed by its ratio to additive noise and interference, such as in $E_b/N_0$ or $E_b/I_0$. Such ratios are dimensionless, and are usually expressed in dB units.

$E_c/I_0$. A notation used to represent a dimensionless ratio of the average power of some code-distinguished CDMA signal channel, typically a pilot, to the total power comprised of signal plus interference, within the signal bandwidth. It is usually expressed in dB units.

Effective Radiated Power (ERP). The product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

EIRP. See Equivalent Isotropic Radiated Power.

Electronic Serial Number (ESN). A 32-bit number assigned by the mobile station manufacturer, uniquely identifying the mobile station equipment.

Encoder Tail Bits. A fixed sequence of bits added to the end of a block of data to reset the convolutional encoder to a known state.

Equivalent Isotropically Radiated Power (EIRP). The product of the power supplied to the antenna and the antenna gain in a direction relative to an isotropic antenna.

Erasure Indicator Bit. A bit used in the Rate Set 2 Reverse Traffic Channel frame structure to indicate an erased Forward Fundamental Code Channel or Forward Dedicated Control Channel frame.

ERP. See Effective Radiated Power.
**ESN.** See Electronic Serial Number.

**f-csch.** Forward common signaling logical channel.

**f-dsch.** Forward dedicated signaling logical channel.

**Fade Timer.** A timer kept by the mobile station as a measure of Forward Traffic Channel continuity. If the fade timer expires, the mobile station drops the call.

**Flash.** An indication sent on the Reverse CDMA Channel indicating that the user directed the mobile station to invoke special processing.

**Foreign NID Roamer.** A mobile station operating in the same system (SID) but in a different network (NID) from the one in which service was subscribed. See also Foreign SID Roamer and Roamer.

**Foreign SID Roamer.** A mobile station operating in a system (SID) other than the one from which service was subscribed. See also Foreign NID Roamer and Roamer.

**Forward CDMA Channel.** A CDMA Channel from a base station to mobile stations. The Forward CDMA Channel contains one or more code channels that are transmitted on a CDMA Frequency Assignment using a particular pilot PN offset. The code channels are associated with the Pilot Channel, Sync Channel, Paging Channels, and Traffic Channels. The Forward CDMA Channel always carries a Pilot Channel and may carry up to one Sync Channel, up to seven Paging Channels, and up to 63 Traffic Channels, as long as the total number of channels, including the Pilot Channel, is no greater than 64.

**Forward Dedicated Control Channel.** A Dedicated Control Channel that is transmitted on the Forward CDMA Channel.

**Forward Fundamental Channel.** A Fundamental Channel that is transmitted on the Forward CDMA Channel.

**Forward Pilot Channel.** A non-data-bearing direct-sequence spread spectrum signal transmitted continuously by each CDMA base station. The Forward Pilot Channel allows a mobile station to acquire the timing of the Forward CDMA Channel, provides a phase reference for coherent demodulation, and provides a means for signal strength comparisons between base stations for determining when to handoff. Different base stations are identified by different pilot PN sequence time phases. See also Pilot PN Sequence, Pilot PN Sequence Offset.

**Forward Supplemental Channel.** A Supplemental Channel that is transmitted on the Forward CDMA Channel.

**Forward Supplemental Code Channel.** A Supplemental Code Channel that is transmitted on the Forward CDMA Channel.

**Forward Traffic Channel.** One or more code channels used to transport user and signaling traffic from the base station to the mobile station. See Forward Fundamental Code Channel, Forward Dedicated Control Channel, Forward Fundamental Channel, Forward Supplemental, and Forward Supplemental Code Channel.

**Forward Transmit Diversity Pilot Channel.** A pilot channel transmitted by a CDMA base station from the non-primary antenna when orthogonal transmit diversity is employed.
**Frame.** A basic timing interval in the system. For the Access Channel, Paging Channel, Forward Supplemental Channel, Forward Supplemental Code Channel, Reverse Supplemental Channel, and Reverse Supplemental Code Channel, a frame is 20 ms long. For the Sync Channel, a frame is 26.666... ms long. For the Forward Fundamental Channel, Forward Dedicated Control Channel, Reverse Fundamental Channel, and Reverse Dedicated Control Channel, a frame is 5 or 20 ms long.

**Frame Category.** A classification of a received Traffic Channel frame based upon transmission data rate, the frame contents (primary traffic, secondary traffic, or signaling traffic), and whether there are detected errors in the frame.

**Frame Offset.** A time skewing of Traffic Channel frames from System Time in integer multiples of 1.25 ms. The maximum frame offset is 18.75 ms.

**Frame Quality Indicator.** The CRC check applied to 9.6 and 4.8 kbps Traffic Channel frames (for Rate Set 1) and 14.4, 7.2, 3.6 and 1.8 kbps Traffic Channel frames (for Rate Set 2).

**Full TMSI.** The combination of TMSI_ZONE and TMSI_CODE. The full TMSI is a globally unique address for the mobile station.

**Fundamental Channel.** A portion of a Traffic Channel that can carry a combination of primary data, secondary data, signaling, and power control information.

**Gating Rate Set.** This specifies the set of supported reverse pilot gating rates. The base station and the mobile station may support one or more gating rates.

**GHz.** Gigahertz ($10^9$ Hertz).

**Global Positioning System (GPS).** A US government satellite system that provides location and time information to users. See Navstar GPS Space Segment / Navigation User Interfaces ICD-GPS-200 for specifications.

**Good Frames.** Frames not classified as bad frames. See also Bad Frames.

**GPS.** See Global Positioning System.

**Handoff.** The act of transferring communication with a mobile station from one base station to another.

**Hard Handoff.** A handoff characterized by a temporary disconnection of the Traffic Channel. Hard handoffs occur when the mobile station is transferred between disjoint Active Sets, when the CDMA Frequency Assignment changes, when the frame offset changes, or when the mobile station is directed from a CDMA Traffic Channel to an analog voice channel. See also Soft Handoff.

**Hash Function.** A function used by the mobile station to select one out of N available resources. The hash function distributes the available resources uniformly among a random sample of mobile stations.

**HLR.** See Home Location Register.

**Home Location Register (HLR).** The location register to which a MIN/IMSI is assigned for record purposes such as subscriber information.
Home System. The cellular or PCS system in which the mobile station subscribes for service.

Hopping Pilot Beacon. A pilot beacon that changes CDMA Frequency periodically to simulate multiple base stations operating on different frequencies. The transmission of the hopping pilot beacon is discontinuous on any CDMA Channel.

Idle Handoff. The act of transferring reception of the Paging Channel from one base station to another, when the mobile station is in the Mobile Station Idle State.

Implicit Registration. A registration achieved by a successful transmission of an origination or page response on the Access Channel.

IMSI. See International Mobile Station Identity.

IMSI_M. MIN-based IMSI using the lower 10 digits to store the MIN.

IMSI_O. Operational value of IMSI used by the mobile station for operation with the base station.

IMSI_T. True IMSI not associated with MIN. This could be 15 digits or fewer.

Interleaving. The process of permuting a sequence of symbols.

International Mobile Station Identity (IMSI). A method of identifying stations in the land mobile service as specified in [21].

kHz. Kilohertz ($10^3$ Hertz).

ksps. Kilo-symbols per second ($10^3$ symbols per second).

Layering. A method of organization for communication protocols in which the transmitted or received information is transferred in pipeline fashion, within each station, in well-defined encapsulated data units between otherwise decoupled processing entities ("layers"). A layer is defined in terms of its communication protocol to a peer layer in another entity and the services it offers to the next higher layer in its own entity.

Layer 1. Layer 1 provides for the transmission and reception of radio signals between the base station and the mobile station. Also see Physical Layer.

Layer 2. Layer 2 provides for the correct transmission and reception of signaling messages, including partial duplicate detection. Layer 2 makes use of the services provided by Layer 1. See also Layering and Layer 3.

Layer 3. Layer 3 provides the control messaging for the cellular or PCS telephone system. Layer 3 originates and terminates signaling messages according to the semantics and timing of the communication protocol between the base station and the mobile station. Layer 3 makes use of the services provided by Layer 2. See also Layering and Layer 2.

Local Control. An optional mobile station feature used to perform manufacturer-specific functions.

Logical Channel. A communication path between the mobile station and the base station, described in terms of the intended use of, and access to, the transferred data, and direction of transfer. A logical channel can be “mapped” to and from one or more physical channels.
Logical-to-physical Mapping. The technique for forming associations between logical and physical channels.

Long Code. A PN sequence with period $2^{42} - 1$ that is used for scrambling on the Forward CDMA Channel and spreading on the Reverse CDMA Channel. The long code uniquely identifies a mobile station on both the Reverse Traffic Channel and the Forward Traffic Channel. The long code provides limited privacy. The long code also separates multiple Access Channels on the same CDMA Channel. See also Public Long Code and Private Long Code.


LSB. Least significant bit.

Maximal Length Sequence (m-Sequence). A binary sequence of period $2^n - 1$, $n$ being a positive integer, with no internal periodicities. A maximal length sequence can be generated by a tapped n-bit shift register with linear feedback.

MCC. See Mobile Country Code.

Mcps. Megachips per second ($10^6$ chips per second).

MC SB. See Message Control and Status Block.

Mean Input Power. The total received calorimetric power measured in a specified bandwidth at the antenna connector, including all internal and external signal and noise sources.

Mean Output Power. The total transmitted calorimetric power measured in a specified bandwidth at the antenna connector when the transmitter is active.

Message. A data structure that conveys control information or application information. A message consists of a length field (MSG_LENGTH), a message body (the part conveying the information), and a CRC.

Message Body. The part of the message contained between the length field (MSG_LENGTH) and the CRC field.

Message Capsule. A sequence of bits comprising a single message and padding. The padding always follows the message and may be of zero length.

Message Control and Status Block. In this document, a parameter block representing the PCI being transferred between Layer 3 and Layer 2.

Message CRC. The CRC check associated with a message. See also Cyclic Redundancy Code.

Message Field. A basic named element in a message. A message field may consist of zero or more bits.

Message Record. An entry in a message consisting of one or more fields that repeats in the message.
MHz. Megahertz ($10^6$ Hertz).

MIN. See Mobile Identification Number.

MNC. See Mobile Network Code.

**Mobile Country Code (MCC).** A part of the E.212 IMSI identifying the home country. See [21].

**Mobile Directory Number.** A dialable directory number that is not necessarily the same as the mobile station’s air interface identification, i.e., MIN, IMSI_M or IMSI_T.

**Mobile Identification Number (MIN).** The 34-bit number that is a digital representation of the 10-digit number assigned to a mobile station.

**Mobile Network Code (MNC).** A part of the E.212 IMSI identifying the home network within the home country. See [21].

**Mobile Protocol Capability Indicator (MPCI).** A 2-bit field used to indicate the mobile station’s capabilities.

**Mobile-Specific User Zone.** A user zone that is identified by the mobile station. The mobile station may consider parameters such as the identity of the serving system, cell, and sector, and the geographic location of that station in making the determination. See also CDMA Tiered Services, User Zone, Broadcast User Zone, Active User Zone, and Passive User Zone.

**Mobile Station.** A station in the Public Cellular Radio Telecommunications Service intended to be used while in motion or during halts at unspecified points. Mobile stations include portable units (e.g., hand-held personal units) and units installed in vehicles.

**Mobile Station Class.** A classification of mobile stations based on characteristics such as slotted operation and transmission power. See [15].

**Mobile Station Identification Number (MSIN).** A part of the E.212 IMSI identifying the mobile station within its home network. See [21].

**Mobile Station Originated Call.** A call originating from a mobile station.

**Mobile Station Terminated Call.** A call received by a mobile station (not to be confused with a disconnect or call release).

ms. Millisecond ($10^{-3}$ second).

MSB. Most significant bit.

MSC. See Mobile Switching Center.

MSIN. See Mobile Station Identification Number.

**Multiplex Option.** The ability of the multiplex sublayer and lower layers to be tailored to provide special capabilities. A multiplex option defines such characteristics as the frame format, the maximum number of Supplemental Code Channels supported, and the rate decision rules. See also Multiplex Sublayer.

**Multiplex Sublayer.** One of the conceptual layers of the system that multiplexes and demultiplexes primary traffic, secondary traffic, and signaling traffic.
**NAM.** See Number Assignment Module.

**National Mobile Station Identity (NMSI).** A part of the E.212 IMSI identifying the mobile station within its home country. The NMSI consists of the MNC and the MSIN. See [21].

**NDSS.** See Network Directed System Selection.

**Neighbor Set.** The set of pilots associated with the CDMA Channels that are probable candidates for handoff. Normally, the Neighbor Set consists of the pilots associated with CDMA Channels that cover geographical areas near the mobile station. See also Active Set, Candidate Set, Remaining Set, and Private Neighbor Set.

**Network.** A network is a subset of a cellular or PCS system, such as an area-wide cellular network, a private group of base stations, or a group of base stations set up to handle a special requirement. A network can be as small or as large as needed, as long as it is fully contained within a system. See also System.

**Network Directed System Selection (NDSS).** A feature that allows the mobile station to automatically register with a preferred system while roaming, or to be automatically directed by a service provider, typically the home service provider, to a suggested system, regardless of the frequency band class, cellular band, or PCS frequency block.

**Network Identification (NID).** A number that uniquely identifies a network within a cellular or PCS system. See also System Identification.

**NID.** See Network Identification.

**NMSI.** See National Mobile Station Identity.

**Non-Autonomous Registration.** A registration method in which the base station initiates registration. See also Autonomous Registration.

**Non-Slotted Mode.** An operation mode of the mobile station in which the mobile station continuously monitors the Paging Channel.

**ns.** Nanosecond (10^{-9} second).

**NULL.** Any value that is not in the specified range of a field.

**Null Traffic Channel Data.** One or more frames of a specified data sequence sent at the lowest agreed-upon rate of the negotiated rate set. Null Traffic Channel data may be sent when there is no primary, secondary, or signaling traffic available. Null Traffic Channel data serves to maintain the connectivity between the mobile station and the base station.

**Number Assignment Module (NAM).** A set of MIN/IMSI-related parameters stored in the mobile station.

**Numeric Information.** Numeric information consists of parameters that appear as numeric fields in messages exchanged by the base station and the mobile station and information used to describe the operation of the mobile station.

**Optional Field.** A field defined within a message structure that is optionally transmitted to the message recipient.
**Order.** A type of message that contains control codes for either the mobile station or the base station.

**Ordered Registration.** A registration method in which the base station orders the mobile station to send registration related parameters.

**Orthogonal Transmit Diversity (OTD).** An optional method of transmission of the Forward CDMA Channel that uses two antennas, each transmitting a fraction of the code symbols. It can be used to enhance performance in the presence of multipath fading radio propagation.

**OTD.** See Orthogonal Transmit Diversity

**Overhead Message.** A message sent by the base station on the Paging Channel to communicate base-station-specific and system-wide information to mobile stations.

**Overload Class (OLC).** The means used to control system access by mobile stations, typically in emergency or other overloaded conditions. Mobile stations are assigned one (or more) of sixteen overload classes. Access to the CDMA system can then be controlled on a per class basis by persistence values transmitted by the base station.

**PACA.** Priority Access and Channel Assignment. See PACA Call.

**PACA Call.** A priority mobile station originated call for which no traffic channel or voice channel was immediately available, and which has been queued for a priority access channel assignment.

**Packet.** The unit of information exchanged between the service option applications of the base station and the mobile station.

**Padding.** A sequence of bits used to fill from the end of a message to the end of a message capsule, typically to the end of the frame or half frame. All bits in the padding are ‘0’.

**Paging.** The act of seeking a mobile station when a call has been placed to that mobile station.

**Paging Channel.** A code channel in a Forward CDMA Channel used for transmission of control information and pages from a base station to a mobile station.

**Paging Channel Slot.** An 80 ms interval on the Paging Channel. Mobile stations operating in the slotted mode are assigned specific slots in which they monitor messages from the base station.

**Paging Indicator.** A one-bit datum, sent on the Quick Paging Channel. Quick paging indicators are associated with mobile stations, in pairs, via a hashing algorithm. Appearance of both of its indicators in its assigned Quick Paging Channel slot serves to alert a slotted mode mobile station, operating in the idle state, that it should monitor the Paging Channel starting in the next slot. See also Quick Paging Channel.

**Parameter-Change Registration.** A registration method in which the mobile station registers when certain of its stored parameters change.

**Parity Check Bits.** Bits added to a sequence of information bits to provide error detection, correction, or both.
Passive User Zone. A user zone in which the implicit registration that takes place at call setup is sufficient to trigger a change in tiered service features. See also CDMA Tiered Services, User Zone, and Active User Zone.

PCI. See Protocol Control Information.

PCS. See Personal Communications Services.

PCSC. See Personal Communications Switching Center.

PCS System. See Personal Communications Services System.

PDU. See Protocol Data Unit.

Personal Communications Services System. A configuration of equipment that provides PCS radiotelephone services.

Personal Communications Services (PCS). A family of mobile and portable radio communications services for individuals and businesses that may be integrated with a variety of competing networks. Broadcasting is prohibited and fixed operations are to be ancillary to mobile operations.

Personal Communications Switching Center (PCSC). See Mobile Switching Center (MSC).

Physical Channel. A communication path between stations, described in terms of the RF characteristics such as coding, power control policies, etc.

Physical Layer. The part of the communication protocol between the mobile station and the base station that is responsible for the transmission and reception of data. The physical layer in the transmitting station is presented a frame by the multiplex sublayer and transforms it into an over-the-air waveform. The physical layer in the receiving station transforms the waveform back into a frame and presents it to the multiplex sublayer above it.

Pilot Beacon. A transmit-only base station that broadcasts a Pilot Channel, a Sync Channel, optionally a Paging Channel, but no Forward Traffic Channels. The mobile station measures the pilot beacon to assist in CDMA hard handoffs and inter-frequency idle-mode handoffs.

Pilot Channel. A non-data-bearing signal transmitted by a CDMA station. See Forward Pilot Channel, Transmit Diversity Pilot Channel, Auxiliary Pilot Channel, Auxiliary Transmit Diversity Pilot Channel, and Reverse Pilot Channel.

Pilot PN Chip. One bit, or bit pair, of a pilot PN sequence, or the time interval corresponding thereto.

Pilot PN Sequence. A pair of modified maximal length PN sequences used to spread the quadrature components of a CDMA Channel.

Pilot PN Sequence Offset. The time offset of a Forward Pilot Channel from CDMA System time, as transmitted by the base station, expressed modulo the pilot period.

Pilot PN Sequence Offset Index. The pilot PN sequence offset in units of 64 PN chips of a Forward Pilot Channel, relative to the zero offset pilot PN sequence.
Pilot Strength. The ratio of pilot power to total power in the signal bandwidth of a CDMA Forward or Reverse Channel. See also $E_c/I_0$.

PN. Pseudonoise.

PN Chip. One bit in a PN sequence, or the time duration of such a bit. It corresponds to the smallest modulation interval in a CDMA system.

PN Sequence. Pseudonoise sequence. A deterministic, periodic binary sequence having limited statistical similarity to a Bernoulli (coin-tossing).

Power Control Bit. A bit sent on the Forward Power Control Subchannel or Reverse Power Control Subchannel to signal the mobile station or base station to increase or decrease its transmit power.

Power Control Group. A 1.25 ms interval on the Forward Traffic Channel and the Reverse Traffic Channel. See also Power Control Bit.

Power-Down Registration. An autonomous registration method in which the mobile station registers on power-down.

Power Up Function. A method by which the mobile station increases its output power to support location services.

Power-Up Registration. An autonomous registration method in which the mobile station registers on power-up.

PPM. Parts per million.

Preamble. See Access Channel Preamble and Traffic Channel Preamble.

Primary CDMA Channel. A pre-assigned channel in a CDMA Cellular System used by the mobile station for initial acquisition. See also Secondary CDMA Channel.

Primary Paging Channel (CDMA). The default code channel (code channel 1) assigned for paging on a CDMA Channel.

Primary Traffic. The main traffic stream carried between the mobile station and the base station on the Traffic Channel. See also Secondary Traffic and Signaling Traffic.

Primitive. An atomic, well-defined method of transferring data and control information between two adjacent layers and sublayers. Conventionally represented as a function invocation with the data and/or control information as parameters.

Private Long Code. The long code characterized by the private long code mask. See also Long Code.

Private Long Code Mask. The long code mask used to form the private long code. See also Public Long Code Mask and Long Code.

Private Neighbor Set. The set of pilots associated with the private system base stations that are probable candidates for idle handoff. See also Active Set, Neighbor Set, Remaining Set, and CDMA Tiered Services.
**Protocol Control Information (PCI).** Data passed between adjacent layers in the protocol stack, together with the SDU, to assist a layer to properly encapsulate/decapsulate the SDU. Examples of PCI in this document are the MCSB and the PCSB.

**Protocol Data Unit.** Encapsulated data communicated between peer layers on the mobile station and base station. Unless specified otherwise, in this document PDU refers to the Layer 3 protocol data unit transferred at the interface between layer 3 and layer 2.

**Protocol Stack.** Conceptual model of the layered architecture for communication protocols (see Layering) in which layers within a station are represented in the order of their numeric designation and requiring that transferred data be processed sequentially by each layer, in the order of their representation. Graphically, the “stack” is drawn vertically, with the layer having the lowest numeric designation at the base.

**Public Long Code.** The long code characterized by the public long code mask.

**Public Long Code Mask.** The long code mask used to form the public long code. The mask contains a permutation of the bits of the ESN, and also includes the channel number when used for a Supplemental Code Channel. See also Private Long Code Mask and Long Code.

**PUF.** See Power Up Function.

**PUF Attempt.** A sequence of PUF probes sent by the mobile station in response to a Power Up Function Message.

**PUF Probe.** One or more consecutive frames on the Reverse Traffic Channel within which the mobile station transmits the PUF pulse.

**PUF Pulse.** Portion of PUF probe that may be transmitted at elevated output power.

**PUF Target Frequency.** The CDMA frequency assignment to which the base station directs a mobile station for transmitting the PUF probe.

**Punctured Code.** An error-correcting code generated from another error-correcting code by deleting (i.e., puncturing) code symbols from the coder output.

**Quick Paging.** A feature that permits mobile stations to further conserve battery power beyond the savings achieved by slotted mode operation. See also Paging Indicator and Configuration Change Indicator.

**Quick Paging Channel.** An uncoded, on-off-keyed (OOK) spread spectrum signal sent by base stations to inform slotted mode mobile stations, operating in the idle state, whether to monitor the Paging Channel. See also Quick Paging, Paging Indicator, and Configuration Change Indicator.

**Quick Paging Channel Slot.** An 80 ms interval on the Quick Paging Channel. See also Paging Indicator and Configuration Change Indicator.

**Quick Repeats.** Additional transmissions of identical copies of a message within a short interval to increase the probability that the message is received correctly.

**r-csch.** Reverse common signaling logical channel.

**r-dsch.** Reverse dedicated signaling logical channel.
Radio Configuration. A set of Forward Traffic Channel and Reverse Traffic Channel transmission formats that are characterized by physical layer parameters such as transmission rates, modulation characteristics and spreading rate. See [2].

Radio Configuration Class. A group of Radio Configurations. All Radio Configurations, for the Forward Traffic Channel and the Reverse Traffic Channel, are divided into three classes by the types of pre-spreading symbols (BPSK and QPSK) and spreading rates. RC Class 1 consists of RC 1 and RC 2 for the Forward Traffic Channel and the Reverse Traffic Channel. RC Class 2 consists of RC 3 and RC 4 of the Reverse Traffic Channel, and RC 3, RC 4 and RC 5 of the Forward Traffic Channel. RC Class 3 consists of RC 5 and RC 6 of the Reverse Traffic Channel, and RC 6, RC 7, RC 8, and RC 9 of the Forward Traffic Channel.

Rate Set. A set of Traffic Channel transmission formats that are characterized by physical layer parameters such as transmission rates, modulation characteristics, and error correcting coding schemes.

RC. See Radio Configuration.

Registration. The process by which a mobile station identifies its location and parameters to a base station.

Registration Zone. A collection of one or more base stations treated as a unit when determining whether a mobile station should perform zone-based registration. See also User Zone, with which it should not be confused.

Release. A process that the mobile station and base station use to inform each other of call disconnect.

Remaining Set. The set of all allowable pilot offsets as determined by PILOT_INC, excluding the pilot offsets of the pilots in the Active Set, Candidate Set, and Neighbor Set. See also Active Set, Candidate Set, and Neighbor Set.

Request. A layer 3 message generated by either the mobile station or the base station to retrieve information, ask for service, or command an action.

Response. A layer 3 message generated as a result of another message, typically a request.

Reverse CDMA Channel. The CDMA Channel from the mobile station to the base station. From the base station’s perspective, the Reverse CDMA Channel is the sum of all mobile station transmissions on a CDMA Frequency Assignment.

Reverse Dedicated Control Channel. A Dedicated Control Channel that is transmitted on the Reverse CDMA Channel.

Reverse Fundamental Channel. A Fundamental Channel that is transmitted on the Reverse CDMA Channel.

Reverse Pilot Channel. A non-data-bearing direct-sequence spread spectrum signal transmitted by each CDMA mobile station whenever the Enhanced Access Channel, Reverse Common Control Channel, or Reverse Traffic Channel is enabled. The Reverse Pilot Channel allows a base station to acquire the timing of the Reverse CDMA Channel and provides a phase reference for coherent demodulation. The Reverse Pilot Channel may be transmitted either continuously or in gated mode.
**Reverse Supplemental Channel.** A Supplemental Channel that is transmitted on the Reverse CDMA Channel.

**Reverse Supplemental Code Channel.** A Supplemental Code Channel that is transmitted on the Reverse CDMA Channel.

**Reverse Traffic Channel.** A Traffic Channel on which data and signaling are transmitted from a mobile station to a base station. The Reverse Traffic Channel is composed zero or one Reverse Fundamental Channel, zero to seven Reverse Supplemental Code Channels, zero to two Reverse Supplemental Channels, and zero or one Reverse Dedicated Control Channel.

**Roamer.** A mobile station operating in a cellular system (or network) other than the one from which service was subscribed. See also Foreign NID Roamer and Foreign SID Roamer.

**SAP.** See Service Access Point.

**SCI.** See Synchronized Capsule Indicator Bit.

**SDU.** See Service Data Unit.

**Search Window.** The range of PN sequence offsets that a mobile station searches for a pilot.

**Search Window Offset.** PN sequence offset used by the mobile station to position the search window when searching for a pilot.

**Secondary CDMA Channel.** A pre-assigned channel in a CDMA Cellular System used by the mobile station for initial acquisition. See also Primary CDMA Channel.

**Secondary Traffic.** An additional traffic stream that can be carried between the mobile station and the base station on the Traffic Channel. See also Primary Traffic and Signaling Traffic.

**Service Access Point.** Conceptual point at the interface between two adjacent layers where services are provided to the upper layer and data and protocol information is exchanged between layers.

**Service Configuration.** The common attributes used by the mobile station and the base station to build and interpret Traffic Channel frames. Service configuration corresponds to the parameters contained in the Service Configuration information record and the Non-negotiable Service Configuration information record. Examples of such parameters include Forward and Reverse Traffic Channel multiplex options, Forward and Reverse Traffic Channel transmission rates, service option connections, and reverse pilot gating rate.

**Service Data Unit.** Data transferred between adjacent layers in the protocol stack. Unless specified otherwise in this document SDU refers to the Layer 3 service data unit being transferred to/from Layer 2.

**Service Negotiation.** The procedures used by the mobile station and base station to establish a service configuration. See also Service Option Negotiation.

**Service Option.** A service capability of the system. Service options may be applications such as voice, data, or facsimile. See [38].
**Service Option Connection.** A particular instance or session in which the service defined by a service option is used. Associated with a service option connection are a reference, which is used for uniquely identifying the service option connection, a service option, which specifies the particular type of service in use, a Forward Traffic Channel traffic type, which specifies what type of Forward Traffic Channel traffic is used to support the service option connection, and a Reverse Traffic Channel traffic type, which specifies what type of Reverse Traffic Channel traffic is used by the service option connection.

**Service Option Connection Reference.** A designator used by the base station and mobile station to uniquely identify a particular service option connection.

**Service Option Negotiation.** The procedures used by the mobile station and base station to establish a service configuration. Service option negotiation is similar to service negotiation, but allows less flexibility for specifying the attributes of the service configuration. See also Service Negotiation.

**Service Redirection.** The process by which the base station alters the system selection made by a mobile station. It can be used temporarily during maintenance and testing to divert subscribers to an alternate system.

**Serving Frequency.** The CDMA frequency on which a mobile station is currently communicating with one or more base stations.

**Shared Secret Data (SSD).** A 128-bit pattern stored in the mobile station (in semi-permanent memory) and known by the base station. SSD is a concatenation of two 64-bit subsets: SSD_A, which is used to support the authentication procedures, and SSD_B, which serves as one of the inputs to the process generating the encryption mask and private long code.

**Short Message Services (SMS).** A suite of services such as SMS Text Delivery, Digital Paging (i.e., Call Back Number - CBN), and Voice Mail Notification (VMN).

**SID.** See System Identification.

**Signaling Traffic.** Control messages that are carried between the mobile station and the base station on the Traffic Channel. See also Primary Traffic and Secondary Traffic.

**Slotted Mode.** An operation mode of the mobile station in which the mobile station monitors only selected slots on the Paging Channel when in the Mobile Station Idle State.

**Soft Handoff.** A handoff occurring while the mobile station is in the Mobile Station Control on the Traffic Channel State. This handoff is characterized by commencing communications with a new base station on the same CDMA Frequency Assignment before terminating communications with an old base station. See also Hard Handoff.

**SOM.** Start-of-Message bit.

**sps.** Symbols per second.

**SSD.** See Shared Secret Data.

**Station Class Mark (SCM).** An identification of certain characteristics of a mobile station. Classes are defined in [15].
**Status Information.** The following status information is used to describe mobile station operation when using the analog system:

- **Serving-System Status.** Indicates whether a mobile station is tuned to channels associated with System A or System B.
- **First Registration ID Status.** A status variable used by the mobile station in association with its processing of received Registration ID messages.
- **First Location Area ID Status.** A status variable used by the mobile station in association with its processing of received Location Area ID messages.
- **Location Registration ID Status.** A status variable used by the mobile station in association with its processing of power-up registrations and location-based registrations.
- **First Idle ID Status.** A status variable used by the mobile station in association with its processing of the Idle Task.
- **Local Control Status.** Indicates whether a mobile station must respond to local control messages.
- **Roam Status.** Indicates whether a mobile station is in its home system.
- **Termination Status.** Indicates whether a mobile station must terminate the call when it is on an analog voice channel.
- **Update Protocol Capability Status.** Indicates whether the mobile station should report its protocol capability to the serving system.

**Supplemental Channel.** An optional portion of a Traffic Channel (Forward or Reverse Radio Configurations 3 and above) that operates in conjunction with a Fundamental Channel in that Traffic Channel, and (optionally) with other Supplemental Channels to provide higher data rate services.

**Supplemental Code Channel.** An optional portion of a Traffic Channel (Forward or Reverse Radio Configurations 1 and 2) that operates in conjunction with a Fundamental Code Channel in that Traffic Channel, and (optionally) with other Supplemental Code Channels to provide higher data rate services. On this channel a combination of primary data, secondary data, or both (but never signaling information) are transmitted.

**Symbol.** See Code Symbol and Modulation Symbol.

**Sync Channel.** Code channel 32 in the Forward CDMA Channel which transports the synchronization message to the mobile station.

**Sync Channel Superframe.** An 80 ms interval consisting of three Sync Channel frames (each 26.666... ms in length).

**Synchronized Capsule Indicator Bit (SCI).** The first bit in any Paging Channel half frame, which indicates whether a synchronized message capsule immediately follows.

**System.** A system is a [cellular telephone service or personal communications](https://en.wikipedia.org/wiki/Wireless) service that covers a geographic area such as a city, metropolitan region, county, or group of counties. See also Network.
System Identification (SID). A number uniquely identifying a cellular or PCS wireless system.

System Time. The time reference used by the system. System Time is synchronous to UTC time (except for leap seconds) and uses the same time origin as GPS time. All base stations use the same System Time (within a small error). Mobile stations use the same System Time, offset by the propagation delay from the base station to the mobile station. See also Universal Coordinated Time.

Target Frequency. The CDMA frequency assignment to which the base station directs a mobile station in a handoff using an Extended Handoff Direction Message, a General Handoff Direction Message, or a Universal Handoff Direction Message.

Temporary Mobile Station Identity (TMSI). A temporary mobile station identification assigned by the base station.

Timer-Based Registration. A registration method in which the mobile station registers whenever a counter reaches a predetermined value. The counter is incremented an average of once per 80 ms period.

Time Reference. A reference established by the mobile station that is synchronous with the earliest arriving multipath component used for demodulation.

TMSI. See Temporary Mobile Station Identity.

TMSI Zone. The administrative zone that allows the TMSI to be reused. The TMSI_CODE has to be unique within a TMSI zone but may be reused in a different TMSI zone. The TMSI zone is identified by the field TMSI_ZONE.

Traffic Channel. A communication path between a mobile station and a base station used for user and signaling traffic. The term Traffic Channel implies a Forward Traffic Channel and Reverse Traffic Channel pair. See also Forward Traffic Channel and Reverse Traffic Channel.

Traffic Channel Preamble. For RC1 and RC2, a sequence of all-zero frames that is sent by the mobile station on the Reverse Traffic Channel as an aid to Traffic Channel acquisition. For RC3 to RC6 inclusive, the traffic preamble is the ungated transmission of the Reverse Pilot.

Unassured Mode. Mode of delivery that does not guarantee that a PDU will be delivered to the peer. The LAC entity at the receiver does not acknowledge a PDU sent in unassured mode.

Unique Challenge-Response Procedure. An exchange of information between a mobile station and a base station for the purpose of confirming the mobile station’s identity. The procedure is initiated by the base station and is characterized by the use of a challenge-specific random number (i.e., RANDU) instead of the random variable broadcast globally (RAND).

Unique Random Variable (RANDU). A 24-bit random number generated by the base station in support of the Unique Challenge-Response procedure.

Universal Coordinated Time (UTC). An internationally agreed-upon time scale maintained
by the Bureau International de l'Heure (BIH) used as the time reference by nearly all
commonly available time and frequency distribution systems i.e., WWV, WWVH, LORAN-C,
Transit, Omega, and GPS.

**User Zone.** An area within which CDMA Tiered Services may be provided. It may
correspond to an RF coverage area, or it may be established independent of RF topology.
User Zones are classified as broadcast versus mobile-specific, and as active versus passive.
See Broadcast User Zone, Mobile-Specific User Zone, Active User Zone, and Passive User
Zone. See also Registration Zone, with which it should not be confused.

**User Zone Registration.** An autonomous registration method in which the mobile station
registers when it selects an active user zone while in the Idle State. See also Zone-Based
Registration, with which it should not be confused.

**Upper Layers.** General reference to Layer 3 and the layers above it.

**User Zone Exit parameter.** A parameter used by the mobile station to determine if it
should exit a User Zone.

**UTC.** Universal Temps Coordiné. See Universal Coordinated Time.

**Voice Privacy.** The process by which user voice transmitted over a CDMA Traffic Channel
is afforded a modest degree of protection against eavesdropping over the air.

**Walsh Chip.** The shortest identifiable component of a Walsh function. There are $2^N$ Walsh
chips in one Walsh function where $N$ is the order of the Walsh function. On the Forward
CDMA Channel, one Walsh chip equals 1/1.2288 MHz, or 813.802... ns. On the Reverse
CDMA Channel, one Walsh chip equals 4/1.2288 MHz, or 3.255... µs.

**Walsh Function.** One of $2^N$ time orthogonal binary functions (note that the functions are
orthogonal after mapping '0' to 1 and '1' to -1).

**Zone-Based Registration.** An autonomous registration method in which the mobile station
registers whenever it enters a zone that is not in the mobile station’s zone list. See also
User Zone Registration, with which it should not be confused.

**Zone Timer.** A timer used by the mobile station to remove outdated entries from its list of
zones in which it has previously registered.

**µs.** Microsecond ($10^{-6}$ second).

### 1.1.2 Numeric Information

Numeric information is used to describe the operation of the mobile station. The following
subscripts are used to clarify the use of the numeric information:

- “s” indicates a value stored in a mobile station’s temporary memory.
- “sv” indicates a stored value that varies as a mobile station processes various tasks.
- “sl” indicates the stored limits on values that vary.
- “r” indicates a value received by a mobile station over a forward analog control
  channel or a CDMA Forward Channel.
• “p” indicates a value set in a mobile station’s permanent security and identification memory.
• “s-p” indicates a value stored in a mobile station’s semi-permanent security and identification memory.

1.1.2.1 Reserved

1.1.2.2 CDMA Numeric Information

The following are internal values that are stored by the mobile station in temporary memory that are not sent over the air. See Annex F for values stored by the mobile station in permanent and semi-permanent memory.

**ACC_CHAN** – Number of Access Channels supported by the current Paging Channel.

**ACC_ENT_HO_ORDER** – Access entry handoff permitted from the Mobile Station Order and Message Processing Operation of the Mobile Station Idle State.

**ACCESS_ENTRY_HO** – Idle handoff permitted when entering the System Access State.

**ACCESS_HO** – Handoff permitted after performing an access attempt while the mobile station is in the System Access State.

**ACCESS_HO_ALLOWED** – Handoff permitted to the corresponding neighbor base station while in the System Access State.

**ACCESS_HO_LIST** – List of pilots to which access handoff or access probe handoff is permitted.

**ACC_HO_LIST_UPD** – Access handoff list update permitted indicator.

**ACCESS_HO_MSG_RSP** – Access handoff permitted in the System Access State between the time that the mobile station receives a message and responds to that message.

**ACCESS_PROBE_HO** – Access probe handoff permitted during an access attempt in the Mobile Station Origination Attempt Substate or the Page Response Substate.

**ACC_MSG_SEQ** – Last received Access Parameters Message sequence number.

**ACC_PROBE_HO_OTHER_MSG** – Access probe handoff permitted for Access Channel messages other than the Origination Message and the Page Response Message.

**ACC_TMO** – Access Channel acknowledgment timeout, in units of 80 ms.

**ACK_WAITING** – Acknowledgment status indicator for message sequence number i. Set to YES if an acknowledgment is pending for the message; otherwise, set to NO.

**ADD_INTERCEPT** – The intercept in the inequality criterion for adding a pilot to the Active Set.

**AGE** – Neighbor list age. For each pilot in the Neighbor Set, the mobile station increments this counter each time a Neighbor List Update Message or an Extended Neighbor List Update Message is received. When AGE exceeds NGBHR_MAX_AGE, the pilot is deleted from the Neighbor Set.
ALIGN_TIMING_USEDs – Indicates whether the mobile station aligns the times of visits away from the Serving Frequency, as requested by the base station, in the periodic search procedures.

ANALOG_CHANs – Analog channel number for CDMA-to-analog handoff.

ANALOG_NGHBR_LIST – List containing information about neighboring analog systems.

AN_CHAN_TYPEs – Analog voice channel type.

ASSIGNED_QPAGECHs – Assigned Quick Paging Channel number.

AUTHs – Current authentication mode.

BAD_FRAMESs – Forward Fundamental Channel bad frames count. The number of received bad forward Fundamental Channel frames.

BASE_CLASSs – Base station class of the current base station.

BASE_IDs – Base station identification of the current base station.

BASE_LATs – Latitude of the current base station, in units of 0.25 seconds.

BASE_LONGs – Longitude of the current base station, in units of 0.25 seconds.

BEGIN_PREAMBLEs – A stored variable in the mobile station that contains the size of the preamble that shall be transmitted on a Reverse Supplemental Code Channel at the beginning of a Reverse Supplemental Code Channel transmission.

BKOFFs – Access Channel probe sequence backoff range.

BYPASS_ALERT_ANSWERs – Mobile station termination bypass indicator. This is set to ‘1’ if the mobile station is to bypass the Waiting for Order Substate and the Waiting for Mobile Station Answer Substate, and proceed directly to the Conversation Substate when Layer 3 receives a forward dedicated channel-acquired indication from Layer 2.

CDMABANDs. CDMA band class. The CDMA band class currently used by the mobile station.

CDMACHs – CDMA Channel number. The CDMA Channel number currently used by the mobile station.

CF_CDMABANDs – Candidate Frequency CDMA band class. The CDMA band class specified in the Candidate Frequency Search Request Message.

CF_CDMACHs – Candidate Frequency CDMA Channel number. The CDMA Channel number specified in the Candidate Frequency Search Request Message.

CF_PILOT_INCs – PILOT_INC to be used by the mobile station after an inter-frequency hard handoff to the CDMA Candidate Frequency is successfully completed.

CF_SEARCH_PRIORITY_INCLs – Candidate Frequency neighbor pilots’ search priority included indicator.

CF_SRCH_OFFSET_INCLs – Candidate Frequency neighbor pilot search window offset included indicator.
CF_SRCH_WIN_NGHBR_INCL – Candidate Frequency neighbor pilots’ search window included indicator.

CF_SRCH_WIN_Ns – Search window size for the Candidate Frequency Search Set.

CF_SRCH_WIN_Rs – Search window size to be used for the Remaining Set after an inter-frequency hard handoff to the CDMA Candidate Frequency is successfully completed.

CF_T_ADDs – Pilot detection threshold to be used on the CDMA Candidate Frequency.

CH_INDs – A two-bit physical channel indicator, based on currently established physical channels. The least significant bit denotes the Fundamental Channel and the most significant bit denotes the Dedicated Control Channel.

CHAN_LST_MSG_SEQs – CDMA Channel List Message sequence number.

CODE_CHAN_LIST – Code Channel List. A descriptive structure used to manage the Forward Fundamental Channel, and Forward Supplemental Code Channels, if any, associated with the mobile station’s Active Set.

COMPLETE_PUF_FRAMEs – Number of power control groups required to make the PUF probe an integer number of frames.

COMPLETE_SEARCHs – Flag to indicate if the mobile station is to complete the search of the Candidate Frequency Search Set after it has determined that the inter-frequency handoff attempt to the CDMA Candidate Frequency is unsuccessful.


COUNTER_ENABLEDs – Timer-based registration indicator. Set to YES if timer-based registration is enabled; otherwise, set to NO.

CURR_ACC_MSG_SEQ – Current Access Parameter Message sequence number.

CURRENT_ACTIVE_PILOTs – Identifies the current pilot in the Active Set during an access attempt.

CURRENT_PUF_PROBEs – Number of the next PUF probe to be transmitted within the PUF attempt.

DAYLTs – Daylight Savings Time indicator.

DCCH_BAD_FRAMESs – Forward Dedicated Control Channel bad frames count. The number of received bad forward Dedicated Control Channel frames.

DCCH_TOT_FRAMESs – Total forward Dedicated Control Channel frames received. The total number of received forward Dedicated Control Channel frames, counted for Forward Traffic Channel power control.

DECORR – Hashing function input used to decorrelate hashing function applications for the same mobile station.
DEFAULT_CONFIGs – Mobile station current default configuration.

DELETE_FOR_TMSI_s – A storage variable in the mobile station that indicates whether the mobile station should delete its current TMSI if the TMSI was assigned in a different TMSI zone.

DIFF_RX_PWR_THRESHs – Threshold for the difference between the received power on the Serving Frequency and the received power on the CDMA Candidate Frequency for the mobile station to search for pilots on the CDMA Candidate Frequency.

DISTANCE – Distance from registered base station to current base station, used for distance-based registration.

DROP_INTERCEPTs – The intercept in the inequality criterion for dropping a pilot from the Active Set.

DSCCs – Digital supervisory color code.

DTXs – Discontinuous transmission mode for analog channel assignment and CDMA-to-analog handoff.

EC_IO_THRESHs – Pilot E_c/I_o threshold used for system reselection.

EC_THRESHs – Pilot power threshold used for system reselection.

ENCRYPT_MODEs – Current message encryption mode.

EXCL_P_REV_MS – Exclude from redirection by MOB_P_REV indicator.

EXT_NGHBR_LST_MSG_SEQs – Extended Neighbor List Message sequence number.

EXT_CHAN_LISTs – Extended CDMA Channel List Message sent indicator.

EXT_CHAN_LST_MSG_SEQs – Extended CDMA Channel List Message sequence number.

EXT_GLOBAL_REDIRECTs – Extended Global Service Redirection Message sent indicator.

EXT_GLOB_SERV_REDIR_MSG_SEQs – Extended Global Service Redirection Message sequence number.

EXT_SYS_PARAMETERs – Extended System Parameters Message sent indicator.

EXT_SYS_PAR_MSG_SEQs – Extended System Parameters Message sequence number.

FIRST_ACTIVE_PILOTs – While the mobile station is in the System Access State, identifies the pilot to which the first access probe was transmitted, upon entering the System Access State.

FOR_DURATIONs – A stored variable in the mobile station that contains the duration (in units of 80 ms) of a forward Supplemental Code Channel transmission that begins at time FOR_START_TIMEs.

FOR_FCH_RCs – Forward Fundamental Channel Radio Configuration.

FOR_FRAME_40_MAX_RATEs – The maximum data rate for the mobile station’s transmission at 40 ms frame length on the Forward Supplemental Channel.

FOR_FRAME_80_MAX_RATEs – The maximum data rate for the mobile station’s
transmission at 80 ms frame length on the Forward Supplemental Channel.

**FOR_LINKED_HDM_SEQs** – Storage variable containing the most recent forward sequence number of the General Handoff Direction Message to which a Supplemental Channel Assignment Message forward assignment was linked.

**FOR_NID_REGs** – Foreign NID roamer autonomous registration enable.

**FOR_RC**s – Forward Channel Radio Configuration.

**FOR_SCH_CC_INDEXs** – Supplemental code channel index used on the Supplemental Channel.

**FOR_SCH_DURATIONs** – A stored variable in the mobile station which contains the duration of a forward Supplemental Channel transmission which begins at time FOR_SCH_START_TIMEs.

**FOR_SCH_FRAME_LENGTHs** – The Forward Supplemental Channel frame length.

**FOR_SCH_RATE**s – The rate of a forward Supplemental Channel transmission.

**FOR_SCH_START_TIMEs** – A stored variable in the mobile station which contains the System Time, in units of time specified by START_TIME_UNITs, (modulo 32) at which the mobile station shall start (or resume) processing Forward Supplemental Channels.

**FOR_SID_REGs** – Foreign SID roamer autonomous registration enable.

**FOR_START_TIMEs** – A stored variable in the mobile station that contains the System Time, in units of 80 ms, (modulo 64) at which the mobile station shall start (or resume) processing Forward Supplemental Code Channels.

**FPC_DCCH_CURR_SETPTs** – Current power control subchannel outer loop setpoint for the Forward Dedicated Control Channel.

**FPC_DCCH_FERs** – Target frame error rate for the Forward Dedicated Control Channel.

**FPC_DCCH_MAX_SETPTs** – Maximum value of the power control subchannel outer loop setpoint for the Forward Dedicated Control Channel.

**FPC_DCCH_MIN_SETPTs** – Minimum value of the power control subchannel outer loop setpoint for the Forward Dedicated Control Channel.

**FPC_DELTA_SCH_SETPTs** – The difference between the Fundamental Channel current power control subchannel outer loop setpoint and the Supplemental Channel current power control subchannel outer loop setpoint.

**FPC_DELTA_SETPTs** – The difference between the Fundamental Channel current power control subchannel outer loop setpoint and the Dedicated Control Channel current power control subchannel outer loop setpoint.

**FPC_FCH_CURR_SETPTs** – Current power control subchannel outer loop setpoint for the Forward Fundamental Channel.

**FPC_FCH_FERs** – Target frame error rate for the Forward Fundamental Channel.

**FPC_FCH_MAX_SETPTs** – Maximum value of the power control subchannel outer loop setpoint for the Forward Fundamental Channel.
**FPC_FCH_MIN_SETPTs** – Minimum value of the power control subchannel outer loop setpoint for the Forward Fundamental Channel.

**FPC_MODEs** – Forward power control operating mode.

**FPC_PRI_CHANs** – Primary power control subchannel measured channel.

**FPC_SEC_CHANs** – Index of Forward Supplemental Channel to be measured by the secondary power control subchannel.

**FPC_SCH_CURR_SETPTs[i]** – Current power control subchannel outer loop setpoint for Forward Supplemental Channel i.

**FPC_SCH_FERs[i]** – Target frame error rate for Forward Supplemental Channel i.

**FPC_SCH_MAX_SETPTs[i]** – Maximum value of the power control subchannel outer loop setpoint for Forward Supplemental Channel i.

**FPC_SCH_MIN_SETPTs[i]** – Minimum value of the power control subchannel outer loop setpoint for Forward Supplemental Channel i.

**FPC_SETPT_THRESHs** – Power control subchannel outer loop setpoint report threshold for the Dedicated Control Channel.

**FPC_SETPT_THRESH_SCHs** – Power control subchannel outer loop setpoint report threshold for the Supplemental Channel.

**FRAME_OFFSETs** – Current Traffic Channel frame offset, in units of 1.25 ms.

**GEN_NGHBR_LST_MSG_SEQs** – General Neighbor List Message sequence number.

**GLOBAL_REDIRECTs** – Global Service Redirection Message sent indicator.

**GLOB_SERV_REDIR_MSG_SEQs** – Global Service Redirection Message sequence number.

**GRANTED_MODEs** – Mobile station current granted mode.

**HASH_KEY** – Hashing function input that determines the return value. Derived from IMSI_O.

**HDM_SEQs** – Last received Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message sequence number.

**HOME_REGs** – Home (non-roaming) autonomous registration enable.

**IGNORE_ESCAMs** – Identifies whether a mobile station will process the reverse supplemental channel assignment portion of the subsequent Supplemental Channel Assignment Message or Reverse Supplemental Channel Assignment Mini Message.

**IGNORE_SCAMs** – Identifies whether a mobile station will process the reverse supplemental code channel assignment portion of the subsequent Supplemental Channel Assignment Message.

**IMSI_11_12s** – The 11th and 12th digits of the IMSI used for address matching.

**IMSI_O_ADDR_NUMs** – The number of digits in the NMSI of the Operational IMSI (IMSI_O) minus four.
IMSI_O_Ss - The last 10-digits of Operational IMSI (IMSI_O).
IMSI_O_11_12s - The 11th and 12th digits of the Operational IMSI (IMSI_O).
INIT_PWRs - Initial power offset for Access Channel probes.
LC_STATEs - Long code state obtained from the Sync Channel Message.
LOGICAL_TO_PHYSICAL_MAPPING_TABLE[]s - This table contains the logical to physical
mapping for signaling and user traffic.
LP_SECs - Leap seconds count (offset of CDMA system time from UTC).
LTM_OFFs - Local time offset from UTC, in units of 15 minutes.
MAX_CAP_SZs - Maximum number of Access Channel frames in an Access Channel
message capsule, less 3.
MAX_NUM_ALT_SOs - The maximum number of alternative service option numbers that
the mobile station is allowed to include in the Origination Message or in the Page Response
Message.
MAX_NUM_PROBE_HOs - The maximum number of times that a mobile station is
permitted to perform an access probe handoff.
MAX_PWR_PUFs - Maximum number of PUF probes to be transmitted at maximum mobile
station output power during a PUF attempt.
MAX_REQ_SEQs - Maximum number of access probe sequences for an Access Channel
request.
MAX_RSP_SEQs - Maximum number of access probe sequences for an Access Channel
response.
MAX_SLOT_CYCLEs - Maximum value of the slot cycle index allowed by the current base
station.
MCCs - The Mobile Country Code used for address matching.
MCC_Os - The Mobile Country Code of IMSI_O.
MEMs - Analog message encryption mode for CDMA-to-analog handoff.
MIN_PILOT_EC_IO_THRESHs - Threshold for total Ec/Io of pilots in the Serving Frequency
Active Set used in the Periodic Serving Frequency Pilot Report Procedure.
MIN_PILOT_PWR_THRESHs - Threshold for total Ec of pilots in the Serving Frequency
Active Set used in the Periodic Serving Frequency Pilot Report Procedure.
MIN_P_REVs - Minimum mobile station protocol revision level required for access to the
CDMA system.
MIN_TOTAL_PILOT_EC_IOS - Total pilot strength threshold for the mobile station to
attempt to demodulate the Forward Traffic Channel on the CDMA Candidate Frequency.
MOB_TERMs - Mobile station termination indicator. Set to ‘1’ if the mobile station will
accept mobile station terminated calls in its current roaming status.
**MSG_PERSIST**s – Persistence modifier for Access Channel message transmissions.

**MS_LAT**s – The latitude of the mobile station as estimated by the base station.

**MS_LOC_TSTAMP**s – The time corresponding to the estimate of mobile station’s latitude and longitude.

**MS_LONG**s – The longitude of the mobile station as estimated by the base station.

**MULT_NIDS**s – Multiple NID storage indicator. Set to ‘1’ if the mobile station may store more than one entry in SID_NID_LISTs for each SID.

**MULT_SIDS**s – Multiple SID storage indicator. Set to ‘1’ if the mobile station may store entries in SID_NID_LISTs having different SIDs.

**NAR_AN_CAP**s – Narrow analog voice channel capability.

**NDSS_ORIG**s – NDSS Origination Indicator. Indicator used when the mobile station is NDSS-redirected while originating a call.

**NGHBR_BAND**s – Neighbor band class.

**NGHBR_CONFIG**s – Neighbor base station channel allocation configuration.

**NGHBR_FREQ**s – Neighbor CDMA channel number.

**NGHBR_LST_MSG_SEQ**s – Neighbor List Message sequence number.

**NGHBR_MAX_AGE**s – Neighbor set maximum age for retention in the set.

**NGHBR_PN**s – Neighbor base station Pilot Channel PN sequence offset in units of 64 PN chips.

**NGHBR_REC** – Record containing information about a neighbor base station (see also NGHBR_REC_LIST).

**NGHBR_REC_LIST** – Neighbor base station record list. A descriptive structure used to manage the base station’s information records about neighbor base stations (see also NGHBR_REC).

**NGHBR_SET_ACCESS_INFO**s – Neighbor Set access handoff or access probe handoff information included indicator.

**NGHBR_SET_ENTRY_INFO**s – Neighbor Set access entry handoff information included indicator.

**NGHBR_SET_SIZE**s – Size of the Neighbor Set.

**NGHBR_TIMING_INCL**s – Indicates that hopping pilot beacon timing information is included.

**NGHBR_TX_DURATION**s – Hopping pilot beacon transmit time duration.

**NGHBR_TX_OFFSET**s – Hopping pilot beacon transmit time offset.

**NGHBR_TX_PERIOD**s – Hopping pilot beacon transmit time period.

**NID**s – Network identification. A network is a subset of the base stations within a cellular or PCS system.
**NOM_PWR** - Nominal transmit power offset. A correction factor to be used by mobile stations in the open loop power estimate.

**NUM_ANALOG_NGHBRs** - Number of neighboring analog systems.

**NUM_PREAMBLEs** - Number of Traffic Channel preamble.

**NUM_QPCHs** - Number of Quick Paging Channels supported on the current CDMA channel.

**NUM_REV_CODESs** - A storage variable in the mobile station that contains the number of Reverse Supplemental Code Channels that will be utilized in the next Reverse Supplemental Code Channel transmission beginning at time REV_START_TIME. A value of 0 indicates no Reverse Supplemental Code Channel transmission will be permitted (i.e., there is no pending Reverse Supplemental Code Channel transmission).

**NUM_STEPs** - Number of access probes in a single access probe sequence.

**OTHER_REPORTED_LIST** - List of other pilots that have pilot strengths exceeding T_ADD and that are not included in ACCESS_HO_LIST.

**PACA** - PACA call indicator. Set to enabled to indicate that the mobile station is waiting for a priority access channel assignment; otherwise, set to disabled. In Sections 2 and 3, PACA = 0 is equivalent to setting PACA to disabled and PACA = 1 is equivalent to setting PACA to enabled.

**PACA_CANCEL** - PACA call cancel indicator. Set to ‘1’ when the mobile station is directed by the user to cancel the PACA call; otherwise, set to ‘0’.

**PACA_SIDs** - PACA system identifier. Equal to the SID of the system on which the mobile station originated a PACA call.

**PACA_TIMEOUTs** - PACA state timer duration. Specifies how long the mobile station should wait for a PACA Message from the base station.

**PACKET_ZONE_IDs** - Packet data services zone identifier of the base station.

**PAGECHs** - Current CDMA Paging Channel number.

**PAGED** - Indicator for a page match detected while the mobile station is in the System Access State.

**PAGE_CHAN** - Number of Paging Channels supported on the current CDMA channel.

**PAM_SZs** - Number of frames in the Access Channel preamble, less 1.

**PARAMETER_REGs** - Parameter-change registration enable.

**PERIODIC_SEARCHs** - Flag to indicate if the mobile station is to perform a periodic search on the Candidate Frequency.

**PGSLOT** - Value obtained from the hashing function, used to determine the mobile station’s assigned Paging Channel slots.

**PILOT_ARRIVAL** - Time of occurrence, as measured at the mobile station antenna connector, of the earliest arriving usable multipath component of the pilot. The arrival time is measured relative to the mobile station’s time reference.
PILOT_GATING_RATE – Reverse pilot gating rate on the Reverse Pilot Channel.

PILOT_GATING_USE_RATE – Reverse pilot gating rate enable indicator. It indicates whether or not the Reverse Pilot Channel is gated.

PILOT_INC – Pilot PN sequence offset index increment. The interval between pilots, in units of 64 PN chips, for base stations in a system.

PILOT_PN – Pilot Channel PN sequence offset, in units of 64 PN chips, for a base station.

PILOT_PN_PHASE – Calculated Pilot Channel PN phase, in chips, including the PN sequence offset and the arrival time relative to the mobile station’s time reference.

PILOT_REPORT – Pilot reporting indicator.

POWER_DOWN_REG – Power down registration enable indicator.

POWER_UP_REG – Power up registration enable indicator.


PRAT – Data rate of the Paging Channels.

P_REV – Protocol revision level supported by a base station.

P_REV_IN_USE – Protocol revision level currently in use by a mobile station.

PREF_MSID_TYPE – Preferred mobile station identifier field type.

PREVIOUS_ACTIVE_PILOT – Identifies the pilot, if any, which was in the Active Set immediately prior to the current pilot in the Active Set, during the current access attempt.

PRI_NGHBR_LIST – Private Neighbor List Message sent indicator.

PRI_NGHBR_PN – Private Neighbor base station Pilot Channel PN sequence offset in units of 64 PN chips.

PRI_NGHBR_REC – Record containing information about a private neighbor base station (see also PRI_NGHBR_REC_LIST).

PRI_NGHBR_REC_LIST – Private neighbor base station record list. A descriptive structure used to manage the base station’s information records about private neighbor base stations (see also PRI_NGHBR_REC).

PRI_NGHBR_LST_MSG_SEG – Private Neighbor List Message sequence number.

PROBE_BKOFF – Access Channel probe backoff range, in slots.

PROBE_PN_RAN – Range for hashing function selection of the delay prior to transmission of Access Channel probes. Value is log2(range + 1).

PSIST – Persistence value for the mobile station’s overload class.

PUF_FREQ_INCL – Flag to indicate whether the mobile station is to transmit a PUF probe on the serving frequency or on a target frequency.

PUF_INIT_PWR – Power increase (in dB) of the first PUF pulse in a PUF attempt.
PUF_INTERVALs – Number of frames between the start of each PUF probe.

PUF_PULSE_SIZEs – Duration of a PUF pulse in power control groups.

PUF_PWR_STEPs – Amount (in dB) by which the mobile station is to increment the power of a PUF pulse above nominal power from one PUF pulse to the next.

PUF_SETUP_SIZEs – Number of power control groups within a PUF probe before the transmission of the PUF pulse.

PUF_SF_CDMABANDs – Serving Frequency CDMA band class.

PUF_SF_CDMACHs – Serving Frequency CDMA Channel number.

PUF_TF_CDMABANDs – Target Frequency CDMA band class.

PUF_TF_CDMACHs – Target Frequency CDMA Channel number.

PUF_TX_PWRs – Mobile station’s output power for the PUF pulse.

PWR_CNTL_STEPs – Power control step size assigned by the base station that the mobile station is to use for closed loop power control.

PWR_PERIOD_ENABLEs – Forward power control periodic reporting enabled indicator.

PWR_REP_DELAYs – Power report delay. The period that the mobile station waits following an autonomous Power Measurement Report before restarting frame counting for power control purposes.

PWR_REP_FRAMESs – Power control reporting frame count. The number of frames over which the mobile station is to count frame errors. Value is $2 \times \log_2(\text{frames} / 5)$.

PWR_REP_THRESHs – Power control reporting threshold. The number of bad frames to be received in a measurement period before the mobile station is to generate a Power Measurement Report Message.

PWR_STEPs – Power increment for successive access probes, in units of 1.0 dB.

PWR_THRESH_ENABLEs – Forward power control threshold reporting enabled indicator.

QOF_IDs – Quasi-orthogonal function index on the Supplemental Channel.

QPAGECHs – Current Quick Paging Channel number.

QPCH_CCI_SUPPORTEDs – Flag to indicate if configuration change indicators are supported on the Quick Paging Channel.

QPCH_POWER_LEVEL_PAGEs – Relative power level of the transmitted Quick Paging Channel Paging Indicator modulation symbols, relative to the Forward Pilot Channel.

QPCH_POWER_LEVEL_CONFIGs – Relative power level of the transmitted Quick Paging Channel Configuration Change Indicator modulation symbols, relative to the Forward Pilot Channel.

QPCH_RATEs – Indicator rate of the current Quick Paging Channel(s).

QPCH_SUPPORTEDs – Flag to indicate if the Quick Paging Channel is supported by the base station.
RA – Random access channel number. The Access Channel number generated (pseudorandomly) by the mobile station.

RANDs – Authentication random challenge value.

RANDC – The eight most-significant bits of the random challenge value used by the mobile station.

RANDOM_TIME – Random time. A portion of SYS_TIME used to seed the random number generator.

RC_CAP_REQUESTEDs – Radio Configuration Capability indicator. When set to “1” the mobile station shall include the Radio Configuration capabilities that it supports in the Origination Message and Page Response Message.

REDIRECTIONs – Service redirection indicator. Set to enabled to indicate that service redirection is currently in effect; otherwise, set to disabled.

REDIRECT_RECs – Holds the service redirection criteria specified in the redirection record of the most recently received Global Service Redirection Message or Service Redirection Message.

REG_COUNTs – The timer-based registration counter.

REG_COUNT_MAXs – Timer-based registration count limit. The timer-based registration counter expiration value computed from REG_PRDr.

REG_DISTs – Registration distance. Distance from last registration that causes a distance-based registration to occur.

REG_ENABLEDs – Autonomous registrations enabled indicator.

REGISTEREDs – Mobile station registered indicator.

REG_PRDs – Registration period. The time interval between timer-based registrations. Value is \(4 \times \log_2(\text{time} / 0.08 \text{ s})\).

REG_PERSISTs – Persistence modifier for registration accesses (except ordered registrations).

REG_ZONEs – Registration zone number of the base station.

REJECT_UZIDs – User Zone identifier of the User Zone rejected by the base station.

RESELECT_INCLUDEDs – System reselection information included indicator. When this is set to ‘1’, the system reselection procedure is enabled.

RESUME_PREAMBLEs – A storage variable in the mobile station that contains the size of the preamble that shall be transmitted on a Reverse Supplemental Code Channel at the beginning of transmission on a Reverse Supplemental Code Channel when resuming transmission following an interruption when discontinuous transmission is occurring.

RETRY_DELAYs[i] – A storage variable in the mobile station that contains the system time before which the mobile station may not transmit a specific message. The type of message that cannot be transmitted is specified by RETRY_TYPE, represented here by i. A RETRY_DELAYs[i] value of 0 indicates no retry delay is in effect, and a value of ‘11111111’ indicates an infinite retry delay.
RETRY_DELAY_UNITS – The units for the value of RETRY_DELAY. Possible values are 1000ms and 60000ms.

RETRY_DELAY_VALUE – The unitless value of the retry delay.

RETRY_TYPE – The retry delay type. It specifies the type of message to which the retry delay value applies. If set to a value of 0, it indicates that all retry delay values should be cleared.

RETURN_CAUSE – Reason for the mobile station registering or accessing the system.

RETURN_IF_FAIL – Return if fail indicator. Set to '1' to indicate that mobile station is to return to the system from which it was redirected if it fails to acquire service on a system using specified redirection criteria. Otherwise, set to '0'.

RETURN_IF_HANDOFF_FAIL – Return if handoff fail indicator. Indicates if the mobile station is to resume using the Active Set on the Serving Frequency following an unsuccessful hard handoff attempt.

REV_DTX_DURATION – Maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmitting on a Reverse Supplemental Code Channel within the reverse assignment duration.

REV_DURATIONS – A stored variable in the mobile station that contains the duration (in units of 80 ms) of the Reverse Supplemental Code Channel transmission that will begin at time REV_START_TIME.

REV_FCH_GATING_MODE – A parameter that enables gating of the Reverse Fundamental Channel with Radio Configuration 3, 4, 5, or 6.

REV_FCH_RC – Reverse Fundamental Channel Radio Configuration.

REV_PWR_CNTL_DELAY – Reverse link power control loop delay when the Reverse Fundamental Channel with Radio Configuration 3, 4, 5, or 6 is gated or when the Reverse Common Control Channel preamble is gated.

REV_FRAME_40_MAX_RATE – The maximum data rate for the mobile station's transmission at 40 ms frame length on the Reverse Supplemental Channel.

REV_FRAME_80_MAX_RATE – The maximum data rate for the mobile station's transmission at 80 ms frame length on the Reverse Supplemental Channel.

REV_LINKED_HDM_SEQ – Storage variable containing the most recent reverse sequence number of the General Handoff Direction Message to which a Supplemental Channel Assignment Message reverse assignment was linked.

REV_RC – Reverse Channel Radio Configuration.

REV_SCH_DTX_DURATION – Maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmitting on a Reverse Supplemental Channel within the reverse assignment duration.

REV_SCH_DURATIONS – A stored variable in the mobile station which contains the duration of the Reverse Supplemental Channel transmission which will begin at time REV_SCH_START_TIME.
**REV_SCH_FRAME_LENGTH** – The Reverse Supplemental Channel frame length.

**REV_SCH_RATE** – The rate of the Reverse Supplemental Channel.

**REV_SCH_START_TIME** – A stored variable in the mobile station which contains the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station shall start (or resume) processing Reverse Supplemental Channels.

**REV_START_TIME** – A stored variable in the mobile station that contains the next 80 ms frame boundary (modulo 64) on which the mobile station is assigned to start Reverse Supplemental Code Channel transmission.

**REV_WALSH_ID** – Reverse Supplemental Channel Walsh cover identifier

**RN_HASH_KEY** – Name of an internal variable having the same value as the mobile station's ESN. This variable is used by procedures defined in [3].

**ROAM_INDI** – Enhanced roaming indicator used for mobile station roaming condition display.

**RS** – Inter-probe sequence backoff. The delay in slots generated (pseudorandomly) by the mobile station following an unsuccessful access probe sequence or prior to the first access probe in a response attempt.

**RT** – Inter-probe backoff. The delay in slots generated (pseudorandomly) by the mobile station following an unacknowledged access probe.

**SCC** – SAT color code for analog channel assignment and CDMA-to-analog handoff.

**SCAM_FOR_DURATION_MODE** – Indicator for a specific or an indefinite Forward Supplemental Code Channel assignment duration.

**SCAM_FOR_ORDER** – The stop or start command set by a Supplemental Channel Assignment Message that is linked to a General Handoff Direction Message.

**SCAM_REV_DUR_MODE** – Indicator for a specific or an indefinite Reverse Supplemental Code Channel assignment duration.

**SCH_BAD_FRAMES** – Forward Supplemental Channel bad frames count. The number of received bad forward Supplemental Channel frames.

**SCH_TOT_FRAMES** – Total forward Supplemental Channel frames received. The total number of received forward Supplemental Channel frames, counted for Forward Traffic Channel power control.

**SCRM_SEQ_NUM** – Storage variable containing the most recently transmitted Supplemental Channel Request Message sequence number.

**SEARCH_MODE** – Search mode to be used in a periodic search on the Candidate Frequency.

**SEARCH_OFFSET** – Time offset of the start of the first search from the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that starts a search.

**SEARCH_PERIOD** – Period for search on the Candidate Frequency.
SEARCH_PRIORITYs – Neighbor Pilot Channel search priority.
SEARCH_PRIORITY_INCLs – Search priorities included indicator.
SEARCH_TIME_RESOLUTIONs – Unit of delay used in the Candidate Frequency Search Report Message to report the total and maximum times away from the Serving Frequency.
SERV_NEGs – Service negotiation indicator. Indicates whether the mobile station is to use service negotiation or service option negotiation.
SERV_REQ_NUMs – Service request sequence number. Sequence number to use when requesting a new service configuration.
SERVSYSs – Selected serving system indicator for Band Class 0. Set to SYS_A if the mobile station operates in system A; otherwise, set to SYS_B.
SETTING_SEARCH_WIN – SRCH_WIN_NGHBR Setting flag. Set to ‘1’ if the mobile station shall set the SRCH_WIN_NGHBR field of each NGHBR_REC to SEARCH_WIN_Ns for all NGHBR_SET_SIZEs entries upon receiving the System Parameters Message.
SF_ADD_INTERCEPTs – Intercept of the handoff add criterion for the Serving Frequency, stored during hard handoff.
SF_CDMABANDs – Serving Frequency CDMA band class, stored during hard handoff.
SF_CDMACHs – Serving Frequency CDMA Channel number, stored during hard handoff.
SF_CODE_CHAN_LISTs – Serving Frequency Code Channel List, stored during hard handoff.
SF_DROP_INTERCEPTs – Intercept of the handoff drop criterion for the Serving Frequency, stored during hard handoff.
SF_ENCRYPT_MODEs – Message encryption indicator for the Serving Frequency, stored during hard handoff.
SF_FRAME_OFFSETs – Traffic Channel frame offset used on the Serving Frequency, stored during hard handoff.
SF_NOM_PWRs – Nominal transmit power offset used on the Serving Frequency, stored during hard handoff.
SF_NOM_PWR_EXTs – Extended nominal transmit power offset indicator for the Serving Frequency, stored during hard handoff.
SF_P_REVs – Protocol revision level supported by the base station on the Serving Frequency.
SF_P_REV_IN_USEs – Protocol revision level currently used by the mobile station on the Serving Frequency.
SF_PRIVATE_LCMs – Private long code mask indicator for the Serving Frequency, stored during hard handoff.
SF_SERV_NEGs – Service negotiation indicator for the Serving Frequency, stored during hard handoff.
SF_SERVICE_CONFIGs - Service configuration (service configuration record and non-negotiable service configuration record) for the Serving Frequency.

SF_SOFT_SLOPEs - Slope of the handoff add/drop criterion for the Serving Frequency, stored during hard handoff.

SF_SRCH_WIN_As - Search window size for the Active Set and Candidate Set used on the Serving Frequency, stored during hard handoff.

SF_SRCH_WIN_Ns - Search window size for the Neighbor Set used on the Serving Frequency, stored during hard handoff.

SF_SRCH_WIN_Rs - Search window size for the Remaining Set used on the Serving Frequency, stored during hard handoff.

SF_T_ADDs - Pilot detection threshold used on the Serving Frequency, stored during hard handoff.

SF_T_COMPs - Active Set versus Candidate Set comparison threshold used on the Serving Frequency, stored during hard handoff.

SF_T_DROPs - Pilot drop threshold used on the Serving Frequency, stored during hard handoff.

SF_T_TDROPs - Pilot drop timer value used on the Serving Frequency, stored during hard handoff.

SF_TOTAL_EC_THRESHs - Threshold for total Ec of pilots in the Serving Frequency Active Set used in the Candidate Frequency periodic search procedures.

SF_TOTAL_EC_IO_THRESHs - Threshold for total Ec/Io of pilots in the Serving Frequency Active Set used in the Candidate Frequency periodic search procedures.

SIDs - System identifier.

SID_NID_LISTs - Registration SID, NID list. The SID, NID pairs in which the mobile station has registered.

SLOT_CYCLE_INDEXs - Slot cycle index. Equal to the smaller of SLOT_CYCLE_INDEXp and the received maximum slot cycle index.

SLOT_NUM - Paging Channel slot number.

SOFT_SLOPEs - The slope in the inequality criterion for adding a pilot to the Active Set, or dropping a pilot from the Active Set.

SO_REQs - Service option request number. The number of the service option requested by the mobile station during service option negotiation.

SRCH_OFFSET_INCLs - Neighbor pilot search window offset included indicator.

SRCH_OFFSET_NGHBRs - Neighbor pilot search window offset.

SRCH_WIN_As - Search window size for the Active Set and Candidate Set.

SRCH_WIN_NGHBRs - Neighbor Pilot Channel search window size.

SRCH_WIN_NGHBR_INCLs - Neighbor Pilot Channel search window size included indicator.
SRCH_WIN_Ns – Search window size for the Neighbor Set.
SRCH_WIN_Rs – Search window size for the Remaining Set.
START_TIME_UNITs – A stored variable in the mobile station which contains the time unit used for determining FOR_SCH_START_TIME and REV_SCH_START_TIME on Supplemental Channels.
SYS_PAR_MSG_SEQs – System Parameters Message sequence number.
SYS_TIMEs – Current value of CDMA system time as received in the Sync Channel Message.
TA – Acknowledgment response timeout.
T_ADDs – Pilot detection threshold.
T_COMPs – Active Set versus Candidate Set comparison threshold.
T_DROPs – Pilot drop threshold.
TEMP_SUBs – User Zone temporary subscription flag.
TF_CDMABANDs – Target Frequency CDMA band class. The CDMA band class specified in the Extended Handoff Direction Message or the General Handoff Direction Message.
TF_CDMACHs – Target Frequency CDMA Channel number. The CDMA Channel number specified in the Extended Handoff Direction Message or the General Handoff Direction Message.
TF_RESET_FPCs – Flag to initialize the Forward Traffic Channel power control counters on the Target Frequency.
TF_RESET_L2s – Flag to reset acknowledgment procedures on the Target Frequency.
TF_T_ADDs – Pilot detection threshold to be used on the Target Frequency.
TF_WAIT_TIMEs – Maximum time that the mobile station may wait to receive a period of \((N11m \times 20)\) ms with sufficient signal quality (e.g. good frames) on the CDMA Target Frequency.
TMSI_ZONEs – TMSI zone number of the base station.
TMSI_ZONE_LENs – The number of octets in TMSI zone.
T_MULCHANs – A storage variable in the mobile station that contains the threshold offset that the mobile station is to use when reporting neighbor pilot strength measurements in a Supplemental Channel Request Message Reverse Supplemental Code Channel neighbor pilot strength measurement offset. The stored value is a positive value in units of 0.5 dB.
TOTAL_PUF_PROBESs – Maximum number of PUF probes transmitted in a PUF attempt.
TOTAL_ZONESs – Number of registration zones to be retained in ZONE_LISTs.
TOT_FRAMESs – Total forward Fundamental Channel frames received. The total number of received forward Fundamental Channel frames, counted for Forward Traffic Channel power control.
**T_TDROPs** – Pilot drop timer value.

**USE_FOR_HDM_SEQs** – Storage variable containing a flag indicating a pending Supplemental Channel Assignment Message forward assignment that is linked to a *General Handoff Direction Message*.

**USE_REV_HDM_SEQs** – Storage variable containing a flag indicating a pending Supplemental Channel Assignment Message reverse assignment that is linked to a *General Handoff Direction Message*.

**USE_T_ADD_ABORTs** – A storage variable in the mobile station that contains the Reverse Supplement Code Channel assignment T_ADD abort indicator.

**USE_TMSIs** – Base station’s preference of the use of TMSI.

**USER_ZONE_IDs** – *User Zone Identification Message* sent indicator.

**USER_ZONE_ID_MSG_SEQs** – *User Zone Identification Message* sequence number.

**UZ_EXIT_IN_USEs** – The User Zone Exit parameter that the mobile station received from the *User Zone Identification Message* broadcast by the last base station of the old user zone.

**UZ_EXIT_RCVds** – The User Zone Exit parameter that the mobile station just received from the *User Zone Identification Message* broadcast by the currently serving base station.

**UZIDs** – User Zone identifier.

**UZ_REC** – Record containing information about a User Zone broadcast by the base station (see also UZ_REC_LIST).

**UZ_REC_LIST** – Broadcast User Zone record list. A descriptive structure used to manage the base station’s information records about broadcast User Zones (see also UZ_REC).

**UZ_REVs** – User Zone update revision number.

**VMACs** – Analog voice mobile station attenuation code for analog channel assignment or CDMA-to-analog handoff.

**ZONE_LISTs** – Registration zone list. List of zones in which the mobile station has registered.

**ZONE_TIMERs** – Zone timer length.
1.2 Signaling Architecture

Layer 3 signaling for cdma2000 is modeled as follows:

- **Planes.** There are two planes: the **Data Plane**\(^1\) (used for the signaling protocol) and the **Control Plane** (used for supervision of the protocol according to functional requirements).

- **Protocol Layer.** Layer 3 generates Layer 3 PDUs and passes these PDUs to Lower Layers, where proper encapsulation into Lower Layer PDUs is performed. On the receiving end, Lower Layer PDUs are decapsulated and the resulting SDUs are sent from Lower Layers to Layer 3 for processing.

- **Service Access Points.** SAPs and corresponding communication primitives are defined between the Layer 3 and Lower Layers over the data plane. No SAPs are defined for communications through the control plane.

1.3 Signaling and Functionality

1.3.1 Control Plane and Data Plane

The general architecture is presented in two planes: Control Plane, where processing decisions are made, and Data Plane, where the PDUs are generated and processed and transferred. The Data Plane contains the protocol, and is layered.

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\(^1\) User traffic of various types also passes through the Data Plane, but further description is outside the scope of this document. Signaling is just another type of traffic whose users are the control entities in the base station and mobile station.
1.3.2 Interface to Layer 2

The interface between Layer 3 and Layer 2 is a Service Access Point (SAP). At the SAP, Layer 3 and Layer 2 exchange Service Data Units (SDU) and interface control information in the form of Message Control and Status Blocks (MCSB) using a set of primitives.

1.3.2.1 Message Control and Status Block (MCSB)

The MCSB is a parameter block for the defined primitives, containing relevant information about an individual Layer 3 message (PDU), as well as instructions on how the message may be handled or how it is to be (for transmission), or was (for reception), processed by Layer 2. The MCSB is a conceptual construct and is not subject to detailed specification in this document; however, it is envisioned the MCSB will contain information such as:

- The MSG_TAG. If the message is generated in response to a previously received message, the MSG_TYPE of the previously received message is also stored.
- The length of the PDU.
- A unique instance identifier associated with the message, which enables identification of a message for notifications of delivery/non-delivery or recovery procedures.
- Whether the message should be acknowledged at Layer 2 (i.e., delivered in assured mode or unassured mode).
- Whether notification of delivery is required.
- The identity of the addressee for the message.
- Whether the PDU delivered to Layer 3 is a duplicate (in cases where Layer 2 does not discard duplicates).
• Data needed by the authentication procedures (e.g., the CHARi fields of the *Origination Message*).

• Relevant PDU classification (e.g., registrations, originations), where processing at Layer 2 is sensitive to the kind of PDU being transferred.

• The encryption status of the logical channel.

• CDMA System Time corresponding to the frame in which the first or last bit of a message was received.

• Transmission instructions for Layer 2, such as an instruction to send a message with a certain priority (before, after, or by interrupting the transmission of other messages), an instruction regarding supervision, and so on.

• Abnormal conditions indications from Layer 2.

### 1.3.2.2 Interface Primitives

The following primitives are defined for communication between the Layer 3 and Layer 2:

**Name:** L2-Data.Request

**Type:** Request

**Direction:** Layer 3 to Layer 2

**Parameters:** PDU, MCSB

**Action:** The PDU is handed to Layer 2 for delivery across the radio interface.

**Name:** L2-Data.Confirm

**Type:** Confirm

**Direction:** Layer 2 to Layer 3

**Parameters:** MCSB

**Action:** Reception of the specified (in the MCSB) transmitted PDU was acknowledged at Layer 2 by the addressee.

**Name:** L2-Data.Indication

**Type:** Indication

**Direction:** Layer 2 to Layer 3

**Parameters:** PDU, MCSB

**Action:** The received PDU is handed to Layer 3.

**Name:** L2-Condition.Notification
Type: Indication
Direction: Layer 2 to Layer 3
Parameters: MCSB
Action: Layer 3 is notified of a relevant event (e.g. abnormal condition) detected at Layer 2. Details are indicated via the MCSB.

Name: L2-Supervision.Request
Type: Request
Direction: Layer 3 to Layer 2
Parameters: MCSB
Action: Layer 2 executes a control command as directed by Layer 3. This could be, for example, an order to abandon retransmission of a message or an order for local reset for the message sequence number, acknowledgment sequence number and duplicate detection.
1.3.3. Reserved

1.3.4. Functional Description

In the Data Plane, Layer 3 originates and terminates signaling data units according to the semantic and timing of the communication protocol between the base station and the mobile station. From a semantic point of view the signaling data units are referred to as “messages” (or “orders”). From a protocol point of view, the signaling data units are PDUs. In general, the language of this specification does not explicitly distinguish between semantics and the protocol viewpoints, and the terms “PDU” and “Message”. It is considered that the context provides enough information to allow the reader to make the appropriate distinctions.

1.3.5. PDU Transmission and Reception

Layer 3 employs the services offered at the interface with Layer 2 to transfer PDUs to and from the Layer Layer 3 entity.

When requesting the transmission of a PDU, Layer 3 will typically specify whether the transfer will be performed in assured mode or in unassured mode (for example, by setting the proper parameters in the MCSB argument of the L2-Data.Request primitive). For transmission in assured mode, Layer Layer 3 may specify if confirmation of delivery of the PDU is required.

Layer 2 guarantees that an assured mode PDU received from the transmitting Layer 3 entity is delivered to the receiving Layer 3 entity only once and without errors. Additionally, if the transmitting Layer 3 entity requests confirmation of delivery of an assured mode PDU, Layer 2 will send an indication to the transmitting Layer 3 entity (for example by using the L2-Data.Confirm primitive) when Layer 2 receives an acknowledgment for that PDU. If Layer 2 is not able to deliver an assured mode PDU, it sends an indication of the failure to Layer 3 which can then take corrective action.

Layer 2 does not guarantee that an assured mode PDU received from the transmitting Layer 3 entity is delivered to the receiving Layer 3 entity. Thus, Layer 2 acknowledgments may not be required for unassured mode PDUs. To increase the probability of delivery of unassured mode PDUs, Layer 3 may request Layer 2 to send those PDUs multiple times in quick repeat sequence and rely on the duplicate detection capabilities of the receiver to achieve uniqueness of delivery.

Layer 3 can also request Layer 2 to perform a reset of the Layer 2 ARQ procedures (for example, by using the L2-Supervision.Request primitive).
2. REQUIREMENTS FOR MOBILE STATION CDMA OPERATION

This section defines requirements that are specific to CDMA mobile station equipment and operation. A CDMA mobile station may support operation in one or more band classes.

2.1 Reserved

2.2 Reserved

2.3 Security and Identification

2.3.1 Mobile Station Identification Number

Mobile stations operating in the CDMA mode are identified by the International Mobile Station Identity (IMSI). Mobile Stations shall have two different identifiers, IMSI_T and IMSI_M. The IMSI consists of up to 15 numerical characters (0-9). The first three digits of the IMSI are the Mobile Country Code (MCC), and the remaining digits are the National Mobile Station Identity (NMSI). The NMSI consists of the Mobile Network Code (MNC) and the Mobile Station Identification Number (MSIN). The IMSI structure is shown in Figure 2.3.1-1.

<table>
<thead>
<tr>
<th>MCC</th>
<th>MNC</th>
<th>MSIN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 3 digits
- NMSI
- IMSI (≤15 digits)

MCC Mobile Country Code
MNC Mobile Network Code
MSIN Mobile Station Identifier Number
NMSI National Mobile Station Identity
IMSI International Mobile Station Identity

Figure 2.3.1-1. IMSI Structure

An IMSI that is 15 digits in length is called a class 0 IMSI (the NMSI is 12 digits in length); an IMSI that is less than 15 digits in length is called a class 1 IMSI (the NMSI is less than 12 digits in length).

---

IMSI_M is an IMSI that contains a MIN in the lower ten digits of the NMSI. An IMSI_M can be a class 0 or a class 1 IMSI. If the IMSI_M is not programmed, the mobile station shall set the four least-significant digits of the IMSI_M to the value of the ESN_p, converted directly from binary to decimal, modulo 10000, and the mobile station shall set the other digits to 0.

IMSI_T is an IMSI that is not associated with the MIN assigned to the mobile station. An IMSI_T can be a class 0 or class 1 IMSI. If the IMSI_T is not programmed, the mobile station shall set the four least-significant digits of the IMSI_T to the value of the ESN_p, converted directly from binary to decimal, modulo 10000, and the mobile station shall set the other digits to 0.

When operating in the CDMA mode the mobile station shall set its operational IMSI value, IMSI_O, to either the IMSI_M or the IMSI_T depending on the capabilities of the base station (See 2.6.2.2.5).

An IMSI_S is a 10-digit (34-bit) number derived from the IMSI. When an IMSI has ten or more digits, IMSI_S is equal to the last ten digits. When an IMSI has fewer than ten digits, the least significant digits of IMSI_S are equal to the IMSI and zeros are added to the most significant side to obtain a total of ten digits. A 10-digit IMSI_S consists of 3- and 7-digit parts, called IMSI_S2 and IMSI_S1, respectively, as illustrated in Figure 2.3.1-2. IMSI_S is mapped into a 34-bit number (see 2.3.1.1). The IMSI_S derived from IMSI_M is designated IMSI_M_S. The IMSI_S derived from IMSI_T is designated IMSI_T_S. The IMSI_S derived from IMSI_O is designated IMSI_O_S.

The mobile station shall have memory to store the 34-bit IMSI_M_Sp and the 34-bit IMSI_T_Sp. IMSI_M_Sp is represented by the 10-bit IMSI_M_S2p and the 24 bit IMSI_M_S1p. IMSI_T_Sp is represented by the 10-bit IMSI_T_S2p and the 24 bit IMSI_T_S1p.

![Figure 2.3.1-2. IMSI_S Binary Mapping](image_url)

When an IMSI has 12 or more digits, IMSI_11_12 is equal to the 11th and 12th digits of the IMSI. When an IMSI has fewer than 12 digits, digits with a value equal to zero are added to
the most significant side to obtain a total of 12 digits and the IMSI_{11_12} is equal to the
11th and 12th digits of the resulting number.

IMSI_{11_12} is encoded as described in 2.3.1.2. The mobile station shall have memory to
store the 7-bit IMSI_M_{11_12p} and the 7-bit IMSI_T_{11_12p}.

The 3-digit MCC is encoded as described in 2.3.1.3. The mobile station shall have memory
to store the 10-bit MCC_Mp and the 10-bit MCC_Tp.

If the mobile station has a class 1 IMSI_T, or IMSI_M, it shall have memory to store
IMSI_T_ADDR_NUMp and IMSI_M_ADDR_NUMp. IMSI_T_ADDR_NUMp is equal to the
number of digits in the NMSI minus four. IMSI_M_ADDR_NUMp is equal to the number of
digits in the NMSI of the IMSI_M minus four.

2.3.1.1 Encoding of IMSI_M_S and IMSI_T_S

The IMSI_M_S and IMSI_T_S binary mapping is defined as follows:

1. The first three digits of the IMSI_M_S and the first three digits of the IMSI_T_S are
mapped into ten bits (corresponding to IMSI_M_S2p and IMSI_T_S2p, respectively)
by the following coding algorithm:
   a. Represent these three digits as D1 D2 D3 with the digit equal to zero being given
      the value of ten.
   b. Compute 100 \times D1 + 10 \times D2 + D3 - 111.
   c. Convert the result in step b to binary by the standard decimal-to-binary
      conversion as shown in Table 2.3.1.1-1.

Table 2.3.1.1-1. Decimal to Binary Conversion Table

<table>
<thead>
<tr>
<th>Decimal Number</th>
<th>Binary Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0000000000</td>
</tr>
<tr>
<td>1</td>
<td>0000000001</td>
</tr>
<tr>
<td>2</td>
<td>0000000010</td>
</tr>
<tr>
<td>3</td>
<td>0000000011</td>
</tr>
<tr>
<td>4</td>
<td>0000000100</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>998</td>
<td>1111100110</td>
</tr>
<tr>
<td>999</td>
<td>1111100111</td>
</tr>
</tbody>
</table>
2. The second three digits of IMSI_M_S and the second three digits of IMSI_T_S are mapped into the ten most significant bits of IMSI_M_S1p and IMSI_T_S1p, respectively, by the coding algorithm indicated in 1.

3. The last four digits of IMSI_M_S and the last four digits of IMSI_T_S are mapped into the 14 least significant bits of IMSI_M_S1p and IMSI_T_S1p, respectively, as follows:
   a. The thousands digit is mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as shown in Table 2.3.1.1-2.
   b. The last three digits are mapped into ten bits by the coding algorithm indicated in 1.

### Table 2.3.1.1-2. BCD Mapping

<table>
<thead>
<tr>
<th>Decimal Digit</th>
<th>Binary Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0001</td>
</tr>
<tr>
<td>2</td>
<td>0010</td>
</tr>
<tr>
<td>3</td>
<td>0011</td>
</tr>
<tr>
<td>4</td>
<td>0100</td>
</tr>
<tr>
<td>5</td>
<td>0101</td>
</tr>
<tr>
<td>6</td>
<td>0110</td>
</tr>
<tr>
<td>7</td>
<td>0111</td>
</tr>
<tr>
<td>8</td>
<td>1000</td>
</tr>
<tr>
<td>9</td>
<td>1001</td>
</tr>
<tr>
<td>0</td>
<td>1010</td>
</tr>
</tbody>
</table>

The following example illustrates the IMSI_T_S2p and IMSI_T_S1p calculation procedure.

Let the IMSI_T be the 9-digit number 123456789. Since the IMSI_T has fewer than ten digits, the nine least significant digits of the IMSI_T_S are equal to the IMSI_T digits and the most significant IMSI_T_S digit is set to zero. So the 10-digit IMSI_T_S is 012 345 6 789. IMSI_T_S2p and IMSI_T_S1p are calculated as follows:

- **IMSI_T_S2p.** The ten-bit IMSI_T_S2p is derived from the first three digits of the IMSI_T_S (i.e., 012):
  a. D1 = 10; D2 = 1; D3 = 2.
  b. $100 \times D1 + 10 \times D2 + D3 - 111 = 100 \times 10 + 10 \times 1 + 2 - 111 = 901$.
  c. 901 in binary is ‘11 1000 0101’.
  Therefore, IMSI_T_S2p is ‘11 1000 0101’.

- **IMSI_T_S1p.** The ten most significant bits of IMSI_T_S1p are derived from the second three digits of the IMSI_T_S (i.e., 345):
3GPP2 C.S0005-0

1. Represent the 11th digit as $D_{11}$ and the 12th digit as $D_{12}$ with the digit equal to zero being given the value of ten.

2. Compute $10 \times D_{12} + D_{11} - 11$.

3. Convert the result in step 2 to binary by a standard decimal-to-binary conversion as described in Table 6.3.1.1-1 and limit the resulting number to the 7 least significant bits.

2.3.1.3 Encoding of the MCC_M and MCC_T

The MCC_M and MCC_T binary mapping is defined as follows:

1. Represent the 3-digit Mobile Country Code as $D_1\ D_2\ D_3$ with the digit equal to zero being given the value of ten.

2. Compute $100 \times D_1 + 10 \times D_2 + D_3 - 111$.

3. Convert the result in step 2 to binary by a standard decimal-to-binary conversion as described in Table 2.3.1.1-1.

2.3.1.4 Mobile Directory Number

A Mobile Directory Number (MDN) is a dialable number associated with the mobile station through a service subscription. A Mobile Directory Number is not necessarily the same as the mobile station identification on the air interface, i.e., MIN, IMSI_M or IMSI_T. An MDN consists of up to 15 digits. The mobile station should have memory to store at least one Mobile Directory Number (see Table F.3-1).

2.3.2 Electronic Serial Number

The ESN is a 32-bit binary number that uniquely identifies the mobile station to any wireless system. The ESN value is available to procedures in the mobile station as the
value of the variable ESNₚ. The value of the variable RN_HASH_KEYₛ is the same as the value of the variable ESNₚ, and need not be stored separately.

2.3.3 Station Class Mark
Class-of-station information referred to as the station class mark (SCₚ) must be stored in a mobile station. The digital representation of this class mark is specified in Table 2.3.3-1.

### Table 2.3.3-1. Station Class Mark

<table>
<thead>
<tr>
<th>Function</th>
<th>Bit(s)</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended SCM Indicator</td>
<td>7</td>
<td>Band Classes 1, 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other bands</td>
</tr>
<tr>
<td>Dual Mode</td>
<td>6</td>
<td>CDMA Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dual Mode</td>
</tr>
<tr>
<td>Slotted Class</td>
<td>5</td>
<td>Non-Slotted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slotted</td>
</tr>
<tr>
<td>IS-54 Power Class</td>
<td>4</td>
<td>Always 0</td>
</tr>
<tr>
<td>25 MHz Bandwidth</td>
<td>3</td>
<td>Always 1</td>
</tr>
<tr>
<td>Transmission</td>
<td>2</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discontinuous</td>
</tr>
<tr>
<td>Power Class for Band Class 0 Analog Operation</td>
<td>1 - 0</td>
<td>Class I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class III</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserved</td>
</tr>
</tbody>
</table>

If the mobile station supports analog mode operation in Band Class 0, the mobile station shall set the Power Class function bits to reflect its analog power class at Band Class 0, regardless of the band class in which it is operating; otherwise, the mobile station shall set these bits to '00'.

2.3.4 Registration Memory
The mobile station shall have memory to store one element in the zone-based registration list ZONE_LISTₛ₋ₚ (see 2.6.5.1.5 and 2.6.5.5). This stored element shall include both REG_ZONE and the corresponding (SID, NID) pair. The data retention time under power-off conditions shall be at least 48 hours. If, after 48 hours, the data integrity cannot be guaranteed, then the entry in ZONE_LISTₛ₋ₚ shall be deleted upon power-on.

The mobile station shall have memory to store one element in the system/network registration list SID_NID_LISTₛ₋ₚ (see 2.6.5.1.5 and 2.6.5.5). The data retention time under...
power-off conditions shall be at least 48 hours. If, after 48 hours, the data integrity cannot be guaranteed, then the entry in SID_NID_LISTs-p shall be deleted upon power-on.

The mobile station shall have memory to store the distance-based registration variables BASE_LAT_REGs-p, BASE_LONG_REGs-p, and REG_DIST_REGs-p (see 2.6.5.1.4 and 2.6.5.5). The data retention time under power-off conditions shall be at least 48 hours. If, after 48 hours, the data integrity cannot be guaranteed, then REG_DIST_REGs-p shall be set to zero upon power-on.

2.3.5 Access Overload Class

The 4-bit access overload class indicator (ACCOLC_p) is used to identify which overload class controls access attempts by the mobile station and is used to identify redirected overload classes in global service redirection.

The mobile station shall store 4-bit access overload class (ACCOLC_p). Mobile stations that are not for test or emergency use should be assigned to overload classes ACCOLC 0 through ACCOLC 9. For mobile stations that are classified as overload classes ACCOLC 0 through ACCOLC 9, the mobile station’s 4-bit access overload class indicator (ACCOLC_p) shall be automatically derived from the last digit of the associated decimal representation of the IMSI_M by a decimal to binary conversion as specified in Table 2.3.5-1. When a mobile station’s IMSI_M is updated, the mobile station shall re-calculate the ACCOLC_p as indicated above. Mobile stations designated for test use should be assigned to ACCOLC 10; mobile stations designated for emergency use should be assigned to ACCOLC 11. ACCOLC 12 through ACCOLC 15 are reserved.\(^3\) Programming the 4-bit ACCOLC_p for overload classes ACCOLC 10 through ACCOLC 15 as specified in Table 2.3.5-2 shall require a special facility only available to equipment manufacturers and system operators.

The content of ACCOLC_p shall not be visible through the mobile station’s display.

\(^3\) For more information, refer to TSB16[34].
### Table 2.3.5-1. ACCOLC<sub>p</sub> Mapping for ACCOLC 0 through ACCOLC 9

<table>
<thead>
<tr>
<th>Last Digit of the Decimal Representation of the IMSI</th>
<th>ACCOLC&lt;sub&gt;p&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0000</td>
</tr>
<tr>
<td>1</td>
<td>0001</td>
</tr>
<tr>
<td>2</td>
<td>0010</td>
</tr>
<tr>
<td>3</td>
<td>0011</td>
</tr>
<tr>
<td>4</td>
<td>0100</td>
</tr>
<tr>
<td>5</td>
<td>0101</td>
</tr>
<tr>
<td>6</td>
<td>0110</td>
</tr>
<tr>
<td>7</td>
<td>0111</td>
</tr>
<tr>
<td>8</td>
<td>1000</td>
</tr>
<tr>
<td>9</td>
<td>1001</td>
</tr>
</tbody>
</table>

### Table 2.3.5-2. ACCOLC<sub>p</sub> Mapping for ACCOLC 10 through ACCOLC 15

<table>
<thead>
<tr>
<th>Overload Class</th>
<th>ACCOLC&lt;sub&gt;p&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1010</td>
</tr>
<tr>
<td>11</td>
<td>1011</td>
</tr>
<tr>
<td>12</td>
<td>1100</td>
</tr>
<tr>
<td>13</td>
<td>1101</td>
</tr>
<tr>
<td>14</td>
<td>1110</td>
</tr>
<tr>
<td>15</td>
<td>1111</td>
</tr>
</tbody>
</table>

2.3.6 Reserved

2.3.7 Reserved

2.3.8 Home System and Network Identification

In addition to the HOME_SID<sub>p</sub> parameter that the mobile station stores for 800 MHz analog operation, the mobile station shall provide memory to store at least one home (SID<sub>p</sub>, NID<sub>p</sub>) pair. The mobile station shall also provide memory to store the 1-bit parameters MOB_TERM_HOME<sub>p</sub>, MOB_TERM_FOR_SID<sub>p</sub>, and MOB_TERM_FOR_NID<sub>p</sub> (see 2.6.5.3).
2.3.9 Local Control Option

If the mobile station supports the local control option, a means shall be provided within the mobile station to enable or disable the local control option.

2.3.10 Preferred Operation Selection

2.3.10.1 Preferred System

If the mobile station supports operation in Band Class 0 or Band Class 3 (see [2]), a means shall be provided within the mobile station to identify the preferred system. In addition, the mobile station may provide a means for allowing operation only with System A or only with System B.

2.3.10.2 Preferred CDMA or Analog

If the mobile station supports operation in Band Class 0 (see [2]), a means may be provided within the mobile station to identify the preferred operation type as either CDMA mode or analog mode. In addition, the mobile station may provide a means for allowing operation only in the preferred mode.

2.3.11 Discontinuous Reception

The mobile station shall provide memory to store the preferred slot cycle index, SLOT_CYCLE_INDEXp (see 2.6.2.1.1.3.2).

2.3.12 Authentication, Encryption of Signaling Information/User Data and Voice Privacy

2.3.12.1 Authentication

Authentication is the process by which information is exchanged between a mobile station and base station for the purpose of confirming the identity of the mobile station. A successful outcome of the authentication process occurs only when it can be demonstrated that the mobile station and base station possess identical sets of shared secret data.

The authentication algorithms are described in “Common Cryptographic Algorithms.” The interface (input and output parameters) for the algorithms is described in “Interface Specification for Common Cryptographic Algorithms.” Table 2.3.12.1-1 summarizes the setting of the input parameters of the Auth_Signature procedure for each of its uses in this standard.

For authentication purposes, the mobile station shall use IMSI_M if it is programmed; otherwise, the mobile station shall use IMSI_T. The base station uses the IMSI selected according to the same criteria.
Table 2.3.12.1-1. Auth_Signature Input Parameters

<table>
<thead>
<tr>
<th>Procedure</th>
<th>RAND_CHALLENGE</th>
<th>ESN</th>
<th>AUTH_DATA</th>
<th>SSD_AUTH</th>
<th>SAVE_REGISTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique Challenge</td>
<td>RANDU and 8 LSBs of IMSI_S2</td>
<td>ESNp</td>
<td>IMSI_S1</td>
<td>SSD_A</td>
<td>FALSE</td>
</tr>
<tr>
<td>(2.3.12.1.4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Station Challenge</td>
<td>RANDBS</td>
<td>ESNp</td>
<td>IMSI_S1</td>
<td>SSD_A</td>
<td>FALSE</td>
</tr>
<tr>
<td>Challenge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2.3.12.1.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3.12.1.1 Shared Secret Data (SSD)

SSD is a 128-bit quantity that is stored in semi-permanent memory in the mobile station and is readily available to the base station. As depicted in Figure 2.3.12.1.1-1, SSD is partitioned into two distinct subsets. Each subset is used to support a different process.

<table>
<thead>
<tr>
<th>Contents</th>
<th>SSD_A</th>
<th>SSD_B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (bits)</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

Figure 2.3.12.1.1-1. Partitioning of SSD

SSD_A is used to support the authentication procedures and SSD_B is used to support voice privacy (see 2.3.12.3) and message encryption (see 2.3.12.2). SSD is generated according to the procedure specified in 2.3.12.1.5. The SSD shall not be accessible to the user.

2.3.12.1.2 Random Challenge Memory (RAND)

RAND is a 32-bit value held in the mobile station. When operating in CDMA mode, it is equal to the RAND value received in the last Access Parameters Message (see 3.7.2.3.2.2) of the CDMA f-csch.

RANDs is used in conjunction with SSD_A and other parameters, as appropriate, to authenticate mobile station originations, terminations and registrations.

2.3.12.1.3 Call History Parameter (COUNTs-p)

COUNTs-p is a modulo-64 count held in the mobile station. COUNTs-p is updated by the mobile station when a Parameter Update Order is received on the f-dsch (see 3.7.4).

2.3.12.1.4 Unique Challenge-Response Procedure

The Unique Challenge-Response Procedure is initiated by the base station and can be carried out either on the f-csch and r-csch, or on the f-dsch and r-dsch. The procedure is as follows:
The base station generates the 24-bit quantity RANDU and sends it to the mobile station in the Authentication Challenge Message on either the f-csch or f-dsch. Upon receipt of the Authentication Challenge Message, the mobile station shall set the input parameters of the Auth_Signature procedure (see “Interface Specification for Common Cryptographic Algorithms,” section 2.3) as illustrated in Figure 2.3.12.1.4-1. The 24 most significant bits of the RAND_CHALLENGE input parameter shall be filled with RANDU, and the 8 least significant bits of RAND_CHALLENGE shall be filled with the 8 least significant bits of IMSI_S2.

The mobile station shall set the SAVE_REGISTERS input parameter to FALSE.

The mobile station shall then execute the Auth_Signature procedure. The 18-bit output AUTH_SIGNATURE shall be used to fill the AUTHU field of the Authentication Challenge Response Message, which shall be sent to the base station.

The base station computes the value of AUTHU in the same manner as the mobile station, but using its internally stored value of SSD_A. The base station compares its computed value of AUTHU to the value received from the mobile station. If the comparison fails, the base station may deny further access attempts by the mobile station, drop the call in progress, or initiate the process of updating SSD (see 2.3.12.1.5).

2.3.12.1.5 Updating the Shared Secret Data (SSD)

SSD is updated using the SSD_Generation procedure (see “Interface Specification for Common Cryptographic Algorithms,” section 2.2.1), initialized with mobile station specific information, random data, and the mobile station’s A-key. The A-key is 64 bits long. It is assigned to the mobile station and is stored in the mobile station’s permanent security and identification memory. The A-key is known only to the mobile station and to its associated Home Location Register/Authentication Center (HLR/AC) (see [16]). Non-manual methods, such as described in [32], are preferred for entry of the A-key into the mobile station. TSB50 describes a manual method of entry that may be used when automated methods are not available.

The SSD update procedure is performed as follows (see Figure 2.3.12.1.5-1):

The base station sends an SSD Update Message on either the f-csch or the f-dsch. The RANDSSD field of the SSD Update Message contains the same value used for the HLR/AC computation of SSD.

Upon receipt of the SSD Update Message the mobile station shall set the input parameters of the SSD_Generation procedure (see “Interface Specification for Common Cryptographic Algorithms,” section 2.2.1) as illustrated in Figure 2.3.12.1.5-2. The mobile station shall then execute the SSD_Generation procedure. The mobile station shall set SSD_A_NEW and SSD_B_NEW to the outputs of the SSD_Generation procedure.

The mobile station shall then select a 32-bit random number, RANDBS, and shall send it to the base station in a Base Station Challenge Order on the r-csch or r-dsch.

Both the mobile station and the base station shall then set the input parameters of the Auth_Signature procedure (see “Interface Specification for Common Cryptographic Algorithms,” section 2.3) as illustrated in Figure 2.3.12.1.4-1. The 24 most significant bits of the RAND_CHALLENGE input parameter shall be filled with RANDU, and the 8 least significant bits of RAND_CHALLENGE shall be filled with the 8 least significant bits of IMSI_S2.
Algorithms,” section 2.3) as illustrated in Figure 2.3.12.1.5-3 and shall execute the Auth_Signature procedure.

The mobile station and base station shall set the SAVE_REGISTERS input parameter to FALSE.

The mobile station and base station shall execute the Auth_Signature procedure. AUTHBS is set to the 18-bit result AUTH_SIGNATURE. The base station sends its computed value of AUTHBS to the mobile station in a Base Station Challenge Confirmation Order on the f-csch or the f-dsch.

Upon receipt of the Base Station Challenge Confirmation Order the mobile station shall compare the received value of AUTHBS to its internally computed value. (If the mobile station receives a Base Station Challenge Confirmation Order when an SSD update is not in progress, the mobile station shall respond with an SSD Update Rejection Order.)

If the comparison is successful, the mobile station shall execute the SSD_Update procedure (see “Interface Specification for Common Cryptographic Algorithms,” section 2.2.2) to set SSD_A and SSD_B to SSD_A_NEW and SSD_B_NEW, respectively. The mobile station shall then send an SSD Update Confirmation Order to the base station, indicating successful completion of the SSD update.

If the comparison is not successful, the mobile station shall discard SSD_A_NEW and SSD_B_NEW. The mobile station shall then send an SSD Update Rejection Order to the base station, indicating unsuccessful completion of the SSD update.

Upon receipt of the SSD Update Confirmation Order, the base station sets SSD_A and SSD_B to the values received from the HLR/AC (see EIA/TIA/IS-41).

If the mobile station fails to receive the Base Station Challenge Confirmation Order within $T_{64m}$ seconds of when the acknowledgment to the Base Station Challenge Order was received, the mobile station shall discard SSD_A_NEW and SSD_B_NEW. The mobile station shall then terminate the SSD update process.
MOBILE STATION

SSD Update Message

RANDSSD A-key

SSD_Generation Procedure

SSD_B_NEW

SSD_A_NEW

Auth_Signature Procedure

AUTHBS

AUTHBS = AUTHBS?

BASE STATION

SSD Update Message

RANDSSD A-key

SSD_Generation Procedure

SSD_B_NEW

SSD_A_NEW

Auth_Signature Procedure

AUTHBS

AUTHBS = AUTHBS?

SSD Update Confirmation Order (success)
SSD Update Rejection Order (failure)

Figure 2.3.12.1.5-1. SSD Update Message Flow
Figure 2.3.12.1.5-2. Computation of Shared Secret Data (SSD)

Figure 2.3.12.1.5-3. Computation of AUTHBS
2.3.12.2 Signaling Message Encryption

In an effort to enhance the authentication process and to protect sensitive subscriber information (such as PINs), a method is provided to encrypt certain fields of selected f-dsch or r-dsch signaling messages.

The following is a description of the messages on f-dsch (See 2.3.12.2.1) and r-dsch (see 2.3.12.2.2) that are enciphered using the Cellular Message Encryption Algorithm (see §2.5.1, “Common Cryptographic Algorithms,” Revision C) or the Enhanced Cellular Message Encryption Algorithm (see §2.5.2, “Common Cryptographic Algorithms,” Revision C). The availability of encryption algorithm information is governed under the U.S. Export Administration Regulations. TIA acts as the focal point and facilitator for making such information available.

For each message, the enciphered fields are identified. The messages are grouped by channel designation.

Messages shall not be encrypted if authentication is not performed (AUTHs is set to ‘00’). See “Interface Specification for Common Cryptographic Algorithms” for details of the initialization and use of the encryption procedure.

Signaling message encryption is controlled for each call individually. The mobile station identifies its encryption capability in the ENCRYPTION_SUPPORTED field in the Origination Message and the Page Response Message as shown in Table 2.7.1.3.2.4-5. The initial encryption mode for the call is established by the value of the ENCRYPT_MODE field in the Channel Assignment Message or in the Extended Channel Assignment Message. If ENCRYPT_MODE is set to ‘00’, message encryption is off. To turn encryption on after channel assignment, the base station sends one of the following f-dsch messages to the mobile station:

- Extended Handoff Direction Message with the ENCRYPT_MODE field set to ‘01’ or ‘10’
- General Handoff Direction Message with the ENCRYPT_MODE field set to ‘01’ or ‘10’
- Universal Handoff Direction Message with the ENCRYPT_MODE field set to ‘01’ or ‘10’
- Analog Handoff Direction Message with the MEM field set to ‘1’
- Message Encryption Mode Order with the ENCRYPT_MODE field set to ‘01’ or ‘10’

To turn signaling message encryption off, the base station sends one of the following f-dsch messages to the mobile station:

- Extended Handoff Direction Message with the ENCRYPT_MODE field set to ‘00’
- General Handoff Direction Message with the ENCRYPT_MODE field set to ‘00’
- Universal Handoff Direction Message with the ENCRYPT_MODE field set to ‘00’
- Analog Handoff Direction Message with the MEM field set to ‘0’
- Message Encryption Mode Order with the ENCRYPT_MODE field set to ‘00’
Encryption shall apply only to the part of the Layer 3 message specified below.

When encryption is off, all fields of all Layer 3 messages sent by the mobile station and base station are unencrypted.

When additional octets are inserted, the overall Lower Layers message length is updated to reflect the addition. Specific Layer 3 record length fields (e.g., RECORD_LEN, NUM_FIELDS, or NUM_DIGITS) shall not be affected by the insertion of additional bits.

If the Enhanced Cellular Message Encryption Algorithm is used, the following requirements apply:

- The mobile station and base station shall each maintain an 8-bit encryption sequence counter. The encryption sequence counter shall be incremented modulo 256 for each new encryption. The counter value, hereafter called ES_COUNT, shall be used to form the SYNC parameter of the Enhanced Cellular Message Encryption Algorithm as described below.

- As part of each encryption, an additional octet of value ES_COUNT shall be inserted immediately following the encrypted part of the message. This additional octet shall not be encrypted. The additional octet shall be removed from the message after decryption.

2.3.12.2.1 Encrypted Messages on the f-dsch

When encryption is on (ENCRYPT_MODEs equal to binary '01' or '10'), the encryptable fields of the following Forward Traffic Channel messages, as listed below, shall be encrypted. All other Forward Traffic Channel messages shall be unencrypted.

1. Alert With Information Message (see 3.7.3.3.2.3) is encrypted.

The type-specific fields of all information records (see 3.7.5) shall be encrypted. For each information record, the type-specific fields shall be treated by the encryption procedure as a new single message. If the type-specific fields of an information record consist of a single octet (RECORD_LEN field equal to 1), an additional octet of value ‘00000000’ shall be inserted following the information record and shall be encrypted as if part of the record. (If the RECORD_LEN field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)

No other fields in the Alert With Information Message are encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary ‘10’), the following requirements apply for each information record:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = RECORD_TYPE

2. Flash With Information Message (see 3.7.3.3.2.14) is encrypted.

The type-specific fields of all information records (see 3.7.5) shall be encrypted. For each
information record, the type-specific fields shall be treated by the encryption procedure as a new single message. If the type-specific fields of an information record consist of a single octet (RECORD_LEN field equal to 1), an additional octet of value ‘00000000’ shall be inserted following the information record and shall be encrypted as if part of the record. (If the RECORD_LEN field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)

No other fields in the Flash With Information Message are encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary ‘10’), the following requirements apply for each information record:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = RECORD_TYPE

3. Send Burst DTMF Message (see 3.7.3.3.2.9) is encrypted.

The DIGITi fields of the Send Burst DTMF Message shall be encrypted. These fields are treated by the encryption procedure as a new single message, with the 4-bit digit codes packed into consecutive octets. If the NUM_DIGITS field contains an odd number, four bits of value ‘0000’ shall follow the last digit and shall be included in the encrypted message. If NUM_DIGITS is less than 3, an additional eight bits of value ‘00000000’ shall follow the DIGITi fields and shall be included in the encrypted part of the message.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary ‘10’), the following requirements apply:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = MSG_TYPE = ‘00001001’

4. Continuous DTMF Tone Order (see 3.7.3.3.2.1) is encrypted.

The 16 bits comprised of ADD_RECORD_LEN, the order-specific fields and the first five (5) bits of the RESERVED field shall be encrypted. These fields shall be treated by the encryption procedure as a new single message.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary ‘10’), the following requirements apply:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = MSG_TYPE = ‘00000001’

5. Data Burst Message (see 3.7.3.3.2.4) is encrypted.
If BURST_TYPE is equal to ‘111110’ or ‘111111’, all CHARi fields after the first two shall be encrypted; otherwise, all CHARi fields shall be encrypted.

If the CHARi field consists of a single octet (NUM_FIELDS field equal to 1), an additional octet of value ‘00000000’ shall be inserted following the information record and shall be encrypted as if part of the record. (If the NUM_FIELDS field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)

If the Cellular Message Encryption Algorithm is used (ENCRIPT_MODEs equal to binary ‘01’), the following requirements apply:

- If BURST_TYPE is equal to ‘000011’ (SMS) or ‘000100’ (OTASP), the message shall be encrypted.
- For all other values of BURST_TYPE, the message shall be encrypted only if encryption is required by the service option standard governing use of the Data Burst Message; otherwise, the message shall not be encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRIPT_MODEs equal to binary ‘10’), the following requirements apply:

- If BURST_TYPE is equal to ‘000100’ (OTASP), the DATA_TYPE parameter shall be set to ‘0’. Otherwise, the DATA_TYPE parameter shall be set to ‘1’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = MSG_TYPE = ‘00000100’

6. **Power Up Function Completion Message** (see 3.7.3.2.30) is encrypted.

If the LOC_IND field is set to ‘1’, the fields RESERVED (3 bits), MS_LAT (22 bits), MS_LONG (23 bits), and MS_LOC_TSTAMP (24 bits) are encrypted. These fields shall be treated by the encryption procedure as a new single message.

Otherwise, if the LOC_IND field is set to ‘0’, no fields in this message are encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRIPT_MODEs equal to binary ‘10’), the following requirements apply:

- The DATA_TYPE parameter shall be set to ‘1’.
- The SYNC parameter shall be set as follows:
  - SYNC[0] = ES_COUNT
  - SYNC[1] = MSG_TYPE = ‘00011110’

2.3.12.2.2 Encrypted Messages on the r-dsch

When encryption is on (ENCRIPT_MODEs equal to binary ‘01’ or ‘10’) the encryptable fields of the following rdsch layer Layer 3 messages, as listed below, shall be encrypted. All other r-dsch messages shall be unencrypted.

1. **Origination Continuation Message** (see 2.7.2.3.2.9) is encrypted.
The CHARi fields of the *Origination Continuation Message* shall be encrypted. These fields shall be treated by the encryption procedure as a new single message, with the character codes packed into consecutive octets. If DIGIT_MODE is '0' and the NUM_FIELDS field contains an odd number, four bits of value '0000' shall follow the last digit and shall be included in the encrypted part of the message. In addition, if ENCRYPT_MODES is equal to '01', the following requirement applies:

- If DIGIT_MODE is '0' and NUM_FIELDS is less than 3, or if DIGIT_MODE is '1' and NUM_FIELDS is less than 2, an additional eight bits of value '00000000' shall follow the CHARi fields and shall be included in the encrypted part of the message.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary '10'), the following requirements apply:

1. The DATA_TYPE parameter shall be set to '0'.
2. The SYNC parameter shall be set as follows:
   - Sync[0] = ES_COUNT
   - Sync[1] = MSG_TYPE = '00001001'

The type-specific fields of all information records (see 2.7.4) in the *Origination Continuation Message* shall be encrypted. For each information record, the type-specific fields shall be treated by the encryption procedure as a new single message. If the type-specific fields of an information record consist of a single octet (RECORD_LEN field equal to 1), an additional octet of value '00000000' shall be inserted following the information record and shall be encrypted as if part of the record. (If the RECORD_LEN field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs equal to binary '10'), the following requirements apply for each information record:

1. The DATA_TYPE parameter shall be set to '0'.
2. The SYNC parameter shall be set as follows:
   - Sync[0] = ES_COUNT
   - Sync[1] = RECORD_TYPE

2. *Flash With Information Message* (see 2.7.2.3.2.3) is encrypted.

The type-specific fields of all information records (see 2.7.4) shall be encrypted. For each information record, the type-specific fields shall be treated by the encryption procedure as a new single message. If the type-specific fields of an information record consist of a single octet (RECORD_LEN field equal to 1), an additional octet of value '00000000' shall be inserted following the information record and shall be encrypted as if part of the record. (If the RECORD_LEN field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)

No other fields in the *Flash With Information Message* are encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODEs...
equal to binary ‘10’), the following requirements apply for each information record:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - $\text{SYNC}[0] = \text{ES\_COUNT}$
  - $\text{SYNC}[1] = \text{RECORD\_TYPE}$

3. **Send Burst DTMF Message** (see 2.7.2.3.2.7) is encrypted.

The DIGIT$i$ fields of the **Send Burst DTMF Message** shall be encrypted. These fields shall be treated by the encryption procedure as a new single message, with the 4-bit digit codes packed into consecutive octets. If the NUM_DIGITS field contains an odd number, four bits of value ‘0000’ shall follow the last digit and shall be included in the encrypted message. If NUM_DIGITS is less than 3, an additional eight bits of value ‘00000000’ shall follow the DIGIT$i$ fields and shall be included in the encrypted part of the message.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODE is equal to binary ‘10’), the following requirements apply:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - $\text{SYNC}[0] = \text{ES\_COUNT}$
  - $\text{SYNC}[1] = \text{MSG\_TYPE} = '00000111'$

4. **Continuous DTMF Tone Order** (see 2.7.2.3.2.1) is encrypted.

The 16 bits comprised of ADD\_RECORD\_LEN, the order-specific fields and the first five (5) bits of the RESERVED field shall be encrypted. These fields shall be treated by the encryption procedure as a new single message.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODE is equal to binary ‘10’), the following requirements apply:

- The DATA_TYPE parameter shall be set to ‘0’.
- The SYNC parameter shall be set as follows:
  - $\text{SYNC}[0] = \text{ES\_COUNT}$
  - $\text{SYNC}[1] = \text{MSG\_TYPE} = '00000001'$

5. **Data Burst Message** (see 2.7.2.3.2.4) is encrypted.

If BURST\_TYPE is equal to ‘111110’ or ‘111111’, all CHAR$i$ fields after the first two shall be encrypted; otherwise, all CHAR$i$ fields shall be encrypted.

If the CHAR$i$ field consists of a single octet (NUM\_FIELDS field equal to 1), an additional octet of value ‘00000000’ shall be inserted following the information record and shall be encrypted as if part of the record. (If the NUM\_FIELDS field is 0, the information record contains no type-specific fields, and the record contains no encrypted data.)
If the Cellular Message Encryption Algorithm is used (ENCRYPT_MODE equals to binary '01'), the following requirements apply:

- If BURST_TYPE is equal to '000011' (SMS) or '000100' (OTASP), the message shall be encrypted.
- For all other values of BURST_TYPE, the message shall be encrypted only if encryption is required by the service option standard governing use of the Data Burst Message; otherwise, the message shall not be encrypted.

If the Enhanced Cellular Message Encryption Algorithm is used (ENCRYPT_MODE equals to binary '10'), the following requirements apply:

- If BURST_TYPE is equal to '000100' (OTASP), the DATA_TYPE parameter shall be set to '0'. Otherwise, the DATA_TYPE parameter shall be set to '1'.
- The SYNC parameter shall be set as follows:
  - \[\text{SYNC}[0] = \text{ES}_\text{COUNT}\]
  - \[\text{SYNC}[1] = \text{MSG}_\text{TYPE} = '00000100'\]

2.3.12.3 Voice Privacy

Also see [2].

Voice privacy is provided in the CDMA system by means of the private long code mask used for PN spreading.

Voice privacy is provided on the Traffic Channels only. All calls are initiated using the public long code mask for PN spreading. The mobile station user may request voice privacy during call setup using the Origination Message or Page Response Message, and during Traffic Channel operation using the Long Code Transition Request Order.

The transition to private long code mask shall not be performed if authentication is not performed (AUTHs is set to '00' or mobile station unable to perform authentication).

To initiate a transition to the private or public long code mask, either the base station or the mobile station sends a Long Code Transition Request Order on the f-dsch or r-dsch. The mobile station actions in response to receipt of this order are specified in 2.6.4, and the base station actions in response to receipt of this order are specified in 3.6.4.

The base station can also cause a transition to the private or public long code mask by sending the Extended Handoff Direction Message, the General Handoff Direction Message, or the Universal Handoff Direction Message with the PRIVATE_LCM bit set appropriately.

2.3.13 Lock and Maintenance Required Orders

The mobile station shall have memory to store the lock reason code (LCKRSN_{S-p}) received in the Lock Until Power-Cycled Order. The data retention time under power-off conditions shall be at least 48 hours.

The mobile station shall have memory to store the maintenance reason code (MAINTRSN_{S-p}) received in the Maintenance Required Order. The data retention time under power-off conditions shall be at least 48 hours.
There are no requirements on the use of the lock and maintenance reason codes, and interpretation and use are implementation dependent.

2.3.14 Mobile Station Revision Identification

The mobile station shall provide memory to store the following parameters sent in the Status Message, the Status Response Message, or the Extended Status Response Message (Terminal Information information record):

- Mobile manufacturer code (MOB_MFG_CODEp)
- Manufacturer’s model number (MOB_MODELp)
- Firmware revision number (MOB_FIRM_REVP)

In addition, the mobile station shall provide memory to store the following parameter for each supported band class:

- Protocol revision number (MOB_P_REVP)

2.3.15 Temporary Mobile Station Identity

2.3.15.1 Overview

The Temporary Mobile Station Identity (TMSI) is a temporary locally assigned number used for addressing the mobile station. The mobile station obtains a TMSI when assigned by the base station. The TMSI as a number does not have any association with the mobile station’s IMSI, ESN, or directory number all of which are permanent identifications.

A TMSI zone is an arbitrary set of base stations for the administrative assignment of TMSIs. A TMSI_CODE is uniquely assigned to a mobile station inside a TMSI zone. A TMSI zone is identified by the TMSI_ZONE field. The same TMSI_CODE may be reused to identify a different mobile station in a different TMSI zone. The pair (TMSI_ZONE, TMSI_CODE) is a globally unique identity for the mobile station. This pair is called the full TMSI. The TMSI_CODE can be two, three, or four octets in length. The TMSI_ZONE can range from 1 to 8 octets in length. Figure 2.3.15-1 shows an example of a TMSI_ZONE where the TMSI_ZONE is a subset of the NID (see 2.6.5.2).
The base station sends a *TMSI Assignment Message* to assign a TMSI. In response, the mobile station sends a *TMSI Assignment Completion Message*. The base station instructs the mobile station to delete the TMSI by sending a *TMSI Assignment Message* with all the bits in the TMSI_CODE field set equal to ‘1’.

The TMSI expiration time is used to automatically delete the assigned TMSI. The mobile station obtains the expiration time when the TMSI is assigned in the *TMSI Assignment Message*. The mobile station compares the expiration time to the current System Time when it powers up and periodically during operation.

Whenever the mobile station sends its full TMSI, the mobile station sets a timer, called the full-TMSI timer. If the full-TMSI timer expires, the mobile station deletes the TMSI by setting all bits in the TMSI_CODE field to ‘1’.

### 2.3.15.2 TMSI Assignment Memory

The mobile station shall provide memory to store the following parameters:

- 4-bit assigning TMSI zone length (ASSIGNING_TMSI_ZONE_LEN_{s-p})
- 8-octet assigning TMSI zone (ASSIGNING_TMSI_ZONE_{s-p})
- 4-octet TMSI code (TMSI_CODE_{s-p})
- 3-octet TMSI expiration time (TMSI_EXP_TIME_{s-p})
2.4 Accumulated Statistics

2.4.1 Monitored Quantities and Statistics

The mobile station shall store the value described in Table 2.4.1-1.

Table 2.4.1-1. Monitored Quantities and Statistics

<table>
<thead>
<tr>
<th>Quantity Identifier</th>
<th>Length (bits)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHER_SYS_TIME</td>
<td>36</td>
<td>The SYS_TIME field from the most recently received Sync Channel Message</td>
</tr>
</tbody>
</table>

2.4.2 Accumulated Paging Channel Statistics

The mobile station shall maintain the counters shown in Table 2.4.2-1. The counters shall have the length as specified in Table 2.4.2-1. The mobile station shall initialize each counter described herein to zero upon power-on; the mobile station shall not re-initialize any counter described herein at any other time except upon command from the base station. Each counter shall be maintained modulo $2^{\text{Length}}$, where Length is specified in Table 2.4.2-1.

The mobile station shall increment the counter PAG_6 each time that it declares a loss of the Paging Channel (see 2.6.2.1.1.4). The mobile station shall increment the counter PAG_7 for each idle handoff it performs.

Table 2.4.2-1. Accumulated PCH Channel Statistics

<table>
<thead>
<tr>
<th>Counter Identifier</th>
<th>Length (bits)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAG_6</td>
<td>16</td>
<td>Number of times that the mobile station declared a loss of the Paging Channel</td>
</tr>
<tr>
<td>PAG_7</td>
<td>16</td>
<td>Number of mobile station idle handoffs</td>
</tr>
</tbody>
</table>
2.5 Reserved
No text.
2.6 Call Processing

This section describes mobile station call processing. It contains frequent references to the messages that flow between the mobile station and base station. While reading this section, it may be helpful to refer to the SDU formats (see 2.7 and 3.7), and to the message flow examples (see Annex B).

The mobile station shall ignore fields at the end of messages that do not exist in the protocol revision supported by the mobile station.

The values for the time and numerical constants used in this section (e.g., T_{20m}, N_{4m}) are specified in Annex D.

As illustrated in Figure 2.6-1, mobile station call processing consists of the following states:

- **Mobile Station Initialization State** - In this state, the mobile station selects and acquires a system.

- **Mobile Station Idle State** - In this state, the mobile station monitors messages on the f-csch.

- **System Access State** - In this state, the mobile station sends messages to the base station on the r-csch.

- **Mobile Station Control on the Traffic Channel State** - In this state, the mobile station communicates with the base station using the f-dsch and r-dsch.

After power is applied to the mobile station, it shall enter the **System Determination Substate** of the **Mobile Station Initialization State** with a power-up indication (see 2.6.1.1).
Figure 2.6-1. Mobile Station Call Processing States
2.6.1 Mobile Station Initialization State

In this state, the mobile station first selects a system to use. If the selected system is a CDMA system, the mobile station proceeds to acquire and then synchronize to the CDMA system. If the selected system is an analog system, the mobile station begins analog mode operation (see [6]).

As illustrated in Figure 2.6.1-1, the Mobile Station Initialization State consists of the following substates:

- **System Determination Substate** - In this substate, the mobile station selects which system to use.
- **Pilot Channel Acquisition Substate** - In this substate, the mobile station acquires the Pilot Channel of a CDMA system.
- **Sync Channel Acquisition Substate** - In this substate, the mobile station obtains system configuration and timing information for a CDMA system.
- **Timing Change Substate** - In this substate, the mobile station synchronizes its timing to that of a CDMA system.

While in the Mobile Station Initialization State, the mobile station shall update all active registration timers as specified in 2.6.5.5.1.2.
Power-up or Any Other State

System Determination Substate (2.6.1.1)

CDMA system selected

Pilot Channel Acquisition Substate (2.6.1.2)

Acquires Pilot Channel

Sync Channel Acquisition Substate (2.6.1.3)

Receives Sync Channel Message

Timing Change Substate (2.6.1.4)

Note: Not all state transitions are shown.

Mobile Station Idle State

Figure 2.6.1-1. Mobile Station Initialization State
2.6.1.1 System Determination Substate

In this substate, the mobile station selects the system to use.

Upon entering the System Determination Substate, the mobile station shall initialize registration parameters as specified in 2.6.5.5.1.1.

If the mobile station enters the System Determination Substate with a power-up indication, the mobile station shall set RANDs to 0 (see 2.3.12.1.2), PACAs to disabled, PACACANCEL to ‘0’, the PACA state timer to disabled, NDSS_ORIGs to disabled, MAX_REDIRECT_DELAYs to 31, REDIRECTIONs to disabled, and T_SLOTTEDs to T74m. If the mobile station supports analog mode operation in Band Class 0, the mobile station shall set the First-Idle ID status to enabled (see [6]). The mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with any indication other than a power-up indication, and if PACAs is equal to enabled, the mobile station shall also set PACAs to disabled, PACA_CANCEL to ‘0’, the PACA state timer to disabled, and should indicate to the user that the PACA call has been canceled.

If the mobile station enters the System Determination Substate with an acquisition failure indication, the mobile station shall perform the following:

- If REDIRECTIONs is equal to enabled, the mobile station shall attempt to select another system in accordance with the current redirection criteria (see 2.6.1.1.2). If the mobile station is able to select another system, the mobile station shall attempt to acquire the selected system (see 2.6.1.1.4). Otherwise, if the mobile station has exhausted all possible selections using the current redirection criteria, the mobile station shall perform the following:
  - The mobile station shall set REDIRECTIONs to disabled.
  - The mobile station shall set RETURN_CAUSEs to ‘0001’.
  - If RETURN_IF_FAILs is equal to ‘1’, the mobile station shall attempt to select the system from which it was redirected, and shall attempt to acquire the selected system (see 2.6.1.1.4). The precise process for determining how to select the system from which the mobile station was redirected is left to the mobile station manufacturer.
  - If RETURN_IF_FAILs is equal to ‘0’, the mobile station shall select a system other than the system from which it was redirected in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4). The precise process that the mobile station uses to avoid selecting the system from which it was redirected is left to the mobile station manufacturer.

- If REDIRECTIONs is equal to disabled, the mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).
If the mobile station enters the System Determination Substate with a new system indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination has been canceled. The mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a CDMA available indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination is canceled. The mobile station should set CDMACHs to the CDMA Channel (CDMA_FREQ) specified in the CDMA Capability Global Action Message and should attempt to acquire a CDMA system on the specified CDMA channel (see 2.6.1.1.4). If the mobile station does not attempt to acquire a CDMA system on the specified CDMA Channel, the mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with an additional CDMA available indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination is canceled. The mobile station should set CDMACHs to the CDMA Channel (CDMA_FREQ) specified in the CDMA Info Order and should attempt to acquire a CDMA system on the specified CDMA channel (see 2.6.1.1.4). If the mobile station does not attempt to acquire a CDMA system on the specified CDMA Channel, the mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a reselection indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination is canceled. The mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a system reselection indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination is canceled. The mobile station should attempt to select a system available for system reselection as specified in 2.6.1.1.3, and should attempt to acquire the selected system (see 2.6.1.1.4). The precise process for determining how to select such a system is left to the mobile station manufacturer. If the mobile station does not attempt to select such a system, the mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a rescan indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call origination is canceled. The mobile station should attempt to acquire a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).
station shall set NDSS_ORIGs to disabled and should indicate to the user that the call
origination is canceled. The mobile station shall select a system in accordance with the
custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected
system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a protocol mismatch
indication, the mobile station shall perform the following:

- If REDIRECTIONs is equal to enabled, the mobile station shall attempt to select
  another system in accordance with the current redirection criteria (see 2.6.1.1.2). If
  the mobile station is able to select another system, the mobile station shall attempt
to acquire the selected system (see 2.6.1.1.4). Otherwise, if the mobile station has
exhausted all possible selections using the current redirection criteria, the mobile
station shall perform the following:
  - The mobile station shall set REDIRECTIONs to disabled.
  - The mobile station shall set RETURN_CAUSEs to '0010'.
  - If RETURN_IF_FAILs is equal to '1', the mobile station shall attempt to select the
    system from which it was redirected, and shall attempt to acquire the selected
    system (see 2.6.1.1.4). The precise process for determining how to select the
    system from which the mobile station was redirected is left to the mobile station
    manufacturer.
  - If RETURN_IF_FAILs is equal to '0', the mobile station shall select a system other
    than the system from which it was redirected in accordance with the custom
    system selection process (see 2.6.1.1.1), and shall attempt to acquire the
    selected system (see 2.6.1.1.4). The precise process for determining how to avoid
    the system from which the mobile station was redirected is left to the mobile
    station manufacturer.

- If REDIRECTIONs is equal to disabled, the mobile station shall select a system in
  accordance with the custom system selection process (see 2.6.1.1.1), and shall
  attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a system lost indication,
the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the
mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the call
origination is canceled. The mobile station shall attempt to select the same system
that was lost, and should attempt to acquire the selected system (see 2.6.1.1.4). The
precise process for determining how to select the same system is left to the mobile station
manufacturer. If the mobile station does not attempt to select the same system, the mobile
station shall select a system in accordance with the custom system selection process (see
2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a lock indication, the
mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile
station shall set NDSS_ORIGs to disabled and should indicate to the user that the call
origination is canceled. The mobile station shall select a system in accordance with the
custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected
system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with an unlock indication, the
mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the
mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the
call origination is canceled. The mobile station shall select a system in accordance with the
custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected
system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with an access denied
indication, the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is
enabled, the mobile station shall set NDSS_ORIGs to disabled and should indicate to the
user that the call origination is canceled. The mobile station shall select a system in
accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to
acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with an NDSS off indication,
the mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the
mobile station shall set NDSS_ORIGs to disabled and should indicate to the user that the
call origination is canceled. The mobile station shall select a system in accordance with the
custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected
system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a release indication and
REDIRECTIONs is equal to enabled, the mobile station shall attempt to select the same
system on which the release occurred, and shall attempt to acquire the selected system (see
2.6.1.1.4). The precise process for determining how to select the same system is left to the
mobile station manufacturer. If REDIRECTIONs is equal to disabled, the mobile station
shall select a system in accordance with the custom system selection process (see
2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4). If NDSS_ORIGs
is enabled, the mobile station shall set NDSS_ORIGs to disabled.

If the mobile station enters the System Determination Substate with an error indication, the
mobile station shall set REDIRECTIONs to disabled. If NDSS_ORIGs is enabled, the mobile
station shall set NDSS_ORIGs to disabled and should indicate to the user that the call
origination is canceled. The mobile station shall select a system in accordance with the
custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected
system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a redirection indication,
the mobile station shall set REDIRECTIONs to enabled. The mobile station shall delete all
entries from the ZONE_LISTs and SID_NID_LISTs. The mobile station shall select a system
in accordance with the current redirection criteria (see 2.6.1.1.2), and shall attempt to
acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a registration rejected
indication, the mobile station shall perform the following:

- If REDIRECTIONs is equal to enabled, the mobile station shall perform the following:
- The mobile station shall set REDIRECTIONs to disabled.
- The mobile station shall set RETURN_CAUSEs to '0011'.
- If RETURN_IF_FAILs is equal to ‘1’, the mobile station shall attempt to select the
  system from which it was redirected, and shall attempt to acquire the selected
  system (see 2.6.1.1.4). The precise process for determining how to select the
  system from which the mobile station was redirected is left to the mobile station
  manufacturer.
- If RETURN_IF_FAILs is equal to ‘0’, the mobile station shall select a system other
  than the system from which it was redirected in accordance with the custom
  system selection process (see 2.6.1.1.1), and shall attempt to acquire the
  selected system (see 2.6.1.1.4). The precise process for determining how to avoid
  the system from which the mobile station was redirected is left to the mobile
  station manufacturer.
- If REDIRECTIONs is equal to disabled, the mobile station shall select a system in
  accordance with the custom system selection process (see 2.6.1.1.1), and shall
  attempt to acquire the selected system (see 2.6.1.1.4).

If the mobile station enters the System Determination Substate with a wrong system
indication, the mobile station shall perform the following:
  - If REDIRECTIONs is equal to enabled, the mobile station shall attempt to select
    another system in accordance with the current redirection criteria (see 2.6.1.1.2). If
    the mobile station is able to select another system, the mobile station shall attempt
    to acquire the selected system (see 2.6.1.1.4). Otherwise, if the mobile station has
    exhausted all possible selections using the current redirection criteria, the mobile
    station shall perform the following:
      - The mobile station shall set REDIRECTIONs to disabled.
      - The mobile station shall set RETURN_CAUSEs to '0100'.
    - If RETURN_IF_FAILs is equal to ‘1’, the mobile station shall attempt to select the
      system from which it was redirected, and shall attempt to acquire the selected
      system (see 2.6.1.1.4). The precise process for determining how to select the
      system from which the mobile station was redirected is left to the mobile station
      manufacturer.
    - If RETURN_IF_FAILs is equal to ‘0’, the mobile station shall select a system other
      than the system from which it was redirected in accordance with the custom
      system selection process (see 2.6.1.1.1), and shall attempt to acquire the
      selected system (see 2.6.1.1.4). The precise process for determining how to avoid
      the system from which the mobile station was redirected is left to the mobile
      station manufacturer.
  - If REDIRECTIONs is equal to disabled, the mobile station shall select a system in
    accordance with the custom system selection process (see 2.6.1.1.1), and shall
    attempt to acquire the selected system (see 2.6.1.1.4).
If the mobile station enters the *System Determination Substate* with a wrong network indication, the mobile station shall perform the following:

- If REDIRECTION\textsubscript{s} is equal to enabled, the mobile station shall attempt to select another system in accordance with the current redirection criteria (see 2.6.1.1.2). If the mobile station is able to select another system, the mobile station shall attempt to acquire the selected system (see 2.6.1.1.4). Otherwise, if the mobile station has exhausted all possible selections using the current redirection criteria, the mobile station shall perform the following:
  - The mobile station shall set REDIRECTION\textsubscript{s} to disabled.
  - The mobile station shall set RETURN\textsubscript{CAUSE}s to ‘0101’.
  - If RETURN\textsubscript{IF_FAIL}s is equal to ‘1’, the mobile station shall attempt to select the system from which it was redirected, and shall attempt to acquire the selected system (see 2.6.1.1.4). The precise process for determining how to select the system from which the mobile station was redirected is left to the mobile station manufacturer.
  - If RETURN\textsubscript{IF_FAIL}s is equal to ‘0’, the mobile station shall select a system other than the system from which it was redirected in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4). The precise process for determining how to avoid the system from which the mobile station was redirected is left to the mobile station manufacturer.

- If REDIRECTION\textsubscript{s} is equal to disabled, the mobile station shall select a system in accordance with the custom system selection process (see 2.6.1.1.1), and shall attempt to acquire the selected system (see 2.6.1.1.4).

### 2.6.1.1.1 Custom System Selection Process

The precise process for custom system selection is left to the mobile station manufacturer typically influenced by a set of expressed user preferences.

The mobile station shall perform the custom system selection process as follows:

- The mobile station shall determine which system to use.
- If the mobile station is to use a CDMA system, it shall set CDMABAND\textsubscript{s} to the band class (see [38]) for the selected system.
- If the mobile station is to use a CDMA system with CDMABAND\textsubscript{s} = ‘00000’ or CDMABAND\textsubscript{s} = ‘00011’, it shall perform the following:
  - If the mobile station is to use System A, it shall set SERVSYS\textsubscript{s} to SYS_A. If the mobile station is to use System B, it shall set SERVSYS\textsubscript{s} to SYS_B.
– The mobile station shall set CDMACHs either to the Primary or Secondary CDMA Channel number (see [2]) for the selected serving system (SERVSYSs). If the mobile station fails to acquire a CDMA system on the first CDMA Channel it tries, the mobile station should attempt to acquire on the alternate CDMA Channel (Primary or Secondary) before attempting other alternatives.

• If the mobile station is to use a CDMA system with CDMABANDs other than ‘00000’ or ‘00011’, CDMABANDs = ‘00001’, CDMABANDs = ‘00010’, CDMABANDs = ‘00100’, CDMABANDs = ‘00101’, CDMABANDs = ‘00110’, CDMABANDs = ‘00111’, CDMABANDs = ‘01000’, or CDMABANDs = ‘01001’, it shall set CDMACHs to the CDMA Channel number (see [2]) for the selected system.

If the mobile station is to use System A of the 800 MHz analog system, it shall set SERVSYSs to SYS_A. If the mobile station is to use System B of the 800 MHz analog system, it shall set SERVSYSs to SYS_B.

2.6.1.1.2 System Selection Using Current Redirection Criteria
To perform system selection using current redirection criteria, the mobile station shall use information received either in a Service Redirection Message, a Global Service Redirection Message, or a Extended Global Service Redirection Message and stored in the variable REDIRECT_RECs.

If the RECORD_TYPE field of REDIRECT_RECs is equal to ‘00000001’ and the mobile station supports Band Class 0, the mobile station shall perform system selection as follows:

• If the SYS_ORDERING field is equal to ‘000’, the mobile station shall make sequential system selections as follows:
  – The mobile station shall set SERVSYSs either to SYS_A or SYS_B. The precise process for determining how many system selections to make and for determining whether to use SYS_A or SYS_B is left to the mobile station manufacturer.

• If the SYS_ORDERING field is equal to ‘001’, the mobile station shall select no more than one system selection as follows:
  – The mobile station shall set SERVSYSs to SYS_A.

• If the SYS_ORDERING field is equal to ‘010’, the mobile station shall select no more than one system selection as follows:
  – The mobile station shall set SERVSYSs to SYS_B.

• If the SYS_ORDERING field is equal to ‘011’, the mobile station shall make at most two sequential system selections as follows:
  – For the first system selection, the mobile station shall set SERVSYSs to SYS_A.
  – For the second system selection, the mobile station shall set SERVSYSs to SYS_B.

• If the SYS_ORDERING field is equal to ‘100’, the mobile station shall make at most 2 sequential system selections as follows:
– For the first system selection, the mobile station shall set SERVSYSs to SYS_B.
– For the second system selection, the mobile station shall set SERVSYSs to SYS_A.

• If the SYS_ORDERING field is equal to ‘101’, the mobile station shall make at most 2 sequential system selections as follows:
  – For the first system selection, the mobile station shall set SERVSYSs either to SYS_A or SYS_B. The precise process for determining whether to use SYS_A or SYS_B first is left to the mobile station manufacturer.
  – For the second system selection, the mobile station shall set SERVSYSs to SYS_B if SYS_A was used for the first selection, or to SYS_A if SYS_B was used for the first selection.

If the RECORD_TYPE field of REDIRECT_RECs is equal to ‘00000010’, the mobile station shall perform system selection as follows:

• If the mobile station supports CDMA mode operation in the band class identified by the BAND_CLASS field, the mobile station shall make at most \( n \) sequential system selections, where \( n \) is equal to the value of the NUM_CHANs field, as follows:
  – For the \( i^{th} \) system selection, where \( i \) ranges from 1 to \( n \), if the mobile station supports operation on the CDMA channel associated with the value of the \( i^{th} \) occurrence of the CDMA_CHAN field, the mobile station shall set CDMACHs to the value of the \( i^{th} \) occurrence of the CDMA_CHAN field and shall set CDMABANDs to the value specified in the BAND_CLASS field. If the mobile station does not support operation on the CDMA Channel associated with the value of the \( i^{th} \) occurrence of the CDMA_CHAN field, the mobile station shall not make the \( i^{th} \) system selection.

2.6.1.1.3 System Selection Using System Reselection Criteria

The precise process for selecting a system using system reselection criteria is left to the mobile station manufacturer. The mobile station should use information received in the Neighbor List Message, Extended Neighbor List Message or the General Neighbor List Message to perform the system reselection process as follows:

• If there are pilots in the Neighbor List on a different Frequency Assignment than that of the mobile station, the mobile station may select the CDMA system consisting of these neighbor pilots. If the mobile station is to use a CDMA system, it shall set CDMABANDs to the band class (see [38]) for the selected system and shall set CDMACHs to the CDMA Channel number (see [2]) for the selected system.

• If NUM_ANALOG_NGHBRs is not equal to ‘000’, the mobile station may select an analog system as specified by ANALOG_NGHBR_LIST. If the mobile station is to use System A of the 800 MHz analog system, it shall set SERVSYSs to SYS_A. If the mobile station is to use System B of the 800 MHz analog system, it shall set SERVSYSs to SYS_B.
2.6.1.4 Acquiring the Selected System

The mobile station shall attempt to acquire the selected system as follows:

- If the selected system is an analog system, the mobile station shall enter the Initialization Task (see [6]).
- If the selected system is a CDMA system, the mobile station shall enter the Pilot Channel Acquisition Substate.

2.6.1.2 Pilot Channel Acquisition Substate

In this substate, the mobile station acquires the Pilot Channel of the selected CDMA system.

Upon entering the Pilot Channel Acquisition Substate, the mobile station shall tune to the CDMA Channel number equal to CDMACHₜ, shall set its code channel for the Pilot Channel (see [2]), and shall search for the Pilot Channel for no longer than $T_{20m}$ seconds (see Annex D). If the mobile station acquires the Pilot Channel, the mobile station shall enter the Sync Channel Acquisition Substate.

If the mobile station determines that it is unlikely to acquire the Pilot Channel within $T_{20m}$ seconds, the mobile station may enter the System Determination Substate with an acquisition failure indication (see 2.6.1.1). The time, to either acquire the Pilot Channel or determine that Pilot Channel acquisition is unlikely, shall not exceed $T_{20m}$ seconds (see Annex D), after which the mobile station shall enter the System Determination Substate with an acquisition failure indication (see 2.6.1.1).

2.6.1.3 Sync Channel Acquisition Substate

In this substate, the mobile station receives and processes the Sync Channel Message to obtain system configuration and timing information.

Upon entering the Sync Channel Acquisition Substate, the mobile station shall set its code channel for the Sync Channel (see [2]).

If the mobile station does not receive a valid Sync Channel Message within $T_{21m}$ seconds, the mobile station shall enter the System Determination Substate with an acquisition failure indication.

If the mobile station receives a valid Sync Channel Message within $T_{21m}$ seconds but the protocol revision level supported by mobile station (MOB_P_REVₚ of the current band class) is less than the minimum protocol revision level supported by the base station (MIN_P_REVᵣ), the mobile station shall enter the System Determination Substate with a protocol mismatch indication (see 2.6.1.1).

If the mobile station receives a valid Sync Channel Message within $T_{21m}$ seconds but the value of the PRATᵣ field is designated as reserved by the protocol revision level supported by the mobile station (MOB_P_REVₚ of the current band class), the mobile station shall enter the System Determination Substate with a protocol mismatch indication (see 2.6.1.1).

If the mobile station receives a valid Sync Channel Message within $T_{21m}$ seconds and the protocol revision level supported by the mobile station (MOB_P_REVₚ of the current band
class) is greater than or equal to the minimum protocol revision level supported by the base station (MIN_P_REVᵣ), the mobile station shall store the following information from the message:

- Protocol revision level (P_REVₛ = P_REVᵣ)
- Minimum protocol revision level (MIN_P_REVₛ = MIN_P_REVᵣ)
- System identification (SIDₛ = SIDᵣ)
- Network identification (NIDₛ = NIDᵣ)
- Pilot PN sequence offset index (PILOT_PNₛ = PILOT_PNᵣ)
- Long code state (LC_STATEₛ = LC_STATEᵣ)
- System Time (SYS_TIMEₛ = SYS_TIMEᵣ)
- Paging Channel data rate (PRATₛ = PRATᵣ)
- Protocol revision level currently in use (P_REV_IN_USEₛ = the lesser value of P_REVₛ and MOB_P_REVᵣ of the current band class)

The mobile station shall ignore any fields at the end of the Sync Channel Message that are not defined according to the protocol revision level (MOB_P_REVᵣ of the current band class) being used by the mobile station.

The mobile station may store the following information from the message:

- Number of leap seconds that have occurred since the start of System Time (LP_SECₛ = LP_SECᵣ)
- Offset of local time from System Time (LTM_OFFₛ = LTM_OFFᵣ)
- Daylight savings time indicator (DAYLTₛ = DAYLTᵣ)

If REDIRECTIONₛ and NDSS_ORIGₛ are equal to disabled, the mobile station may enter the System Determination Substate with a reselection indication (see 2.6.1.1).

If REDIRECTIONₛ is equal to enabled, the EXPECTED_SID field of REDIRECT_RECₛ is not equal to 0, and SIDᵣ is not equal to EXPECTED_SID, the mobile station shall enter the System Determination Substate with a wrong system indication (see 2.6.1.1). If REDIRECTIONₛ is equal to enabled, the EXPECTED_NID field of REDIRECT_RECₛ is not equal to 65535, and NIDᵣ is not equal to EXPECTED_NID, the mobile station shall enter the System Determination Substate with a wrong network indication.

If the mobile station does not support both the Quick Paging Channel and any radio configuration in the Radio Configuration Class 2 (see 1.1.1), and CDMACHₛ is different from CDMA_FREQᵣ, the mobile station shall set CDMACHₛ = CDMA_FREQᵣ and shall then tune to the CDMA Channel.

If P_REV_IN_USEₛ is greater than or equal to 6, the mobile station supports either the Quick Paging Channel or any radio configuration in the Radio Configuration Class 2 (see 1.1.1), and CDMACHₛ is different from EXT_CDMA_FREQᵣ, the mobile station shall set CDMACHₛ = EXT_CDMA_FREQᵣ and shall then tune to the CDMA Channel.

The mobile station shall enter the Timing Change Substate.
2.6.1.4 Timing Change Substate

Figure 2.6.1.4-1 illustrates the mobile station timing changes that occur in this substate. The mobile station synchronizes its long code timing and system timing to those of the CDMA system, using the PILOT_PNs, LC_STATEs, and SYS_TIMEs values obtained from the received *Sync Channel Message*. SYS_TIMEs is equal to the System Time (see 1.2) corresponding to 320 ms past the end of the last 80 ms superframe (see [2]) of the received *Sync Channel Message* minus the pilot PN sequence offset. LC_STATEs is equal to the system long code state (see [2]) corresponding to SYS_TIMEs.

In the **Timing Change Substate**, the mobile station shall synchronize its long code timing to the CDMA system long code timing derived from LC_STATEs, and synchronize its system timing to the CDMA system timing derived from SYS_TIMEs.

The mobile station shall:

- Set PAGECHs to the Primary Paging Channel (see [2]);
- Set PAGE_CHANs to ‘1’;
- Set the stored message sequence numbers CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, ACC_MSG_SEQs, NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs and PRI_NGHBR_LST_MSG_SEQs variables to NULL (see 2.6.2.2);
- Set IMSI_11_12s and MCCs to NULL;
- Perform registration initialization as specified in 2.6.5.1.3; and
- If the bits of TMSI_CODEs-p are not all equal to ‘1’ and if SYS_TIMEs exceeds TMSI_EXP_TIMEs-p × 2\(^{12}\), the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’.

The mobile station shall enter the **Mobile Station Idle State**.
Figure 2.6.1.4-1. Mobile Station Internal Timing
2.6.2 Mobile Station Idle State

In this state, the mobile station monitors the Paging Channel or the Quick Paging Channel. The mobile station can receive messages, receive an incoming call (mobile station terminated call), initiate a call (mobile station originated call), cancel a PACA call, initiate a registration, or initiate a message transmission.

Upon entering the *Mobile Station Idle State*, the mobile station shall perform the following:

- Set its code channel to PAGECH<sub>S</sub>,
- Set the Paging Channel data rate as determined by PRAT<sub>S</sub>,
- Set SLOTTED<sub>S</sub> to YES if T_SLOTTED<sub>S</sub> is equal to ‘00000000’; or if the mobile station does not support the slotted timer; otherwise enable the TMS_Slotted timer with the duration specified by T_SLOTTED<sub>S</sub>, and
- Perform Paging Channel supervision as specified in 2.6.2.1.1.4.

If REDIRECTION<sub>S</sub>, PACAs, and NDSS.ORIG<sub>S</sub> are equal to disabled, the mobile station may exit the *Mobile Station Idle State* at any time and enter the *System Determination Substate* of the *Mobile Station Initialization State* with a reselection indication (see 2.6.1.1).

While in the *Mobile Station Idle State*, the mobile station shall perform the following procedures:

- The mobile station shall perform Paging Channel monitoring procedures as specified in 2.6.2.1.1.
- The mobile station shall perform message acknowledgment procedures as specified in [4].
- The mobile station shall perform registration procedures as specified in 2.6.2.1.3.
- The mobile station shall perform idle handoff procedures as specified in 2.6.2.1.4.
- The mobile station shall perform system reselection procedures as specified in 2.6.2.1.6.
- The mobile station shall perform the *Response to Overhead Information Operation* as specified in 2.6.2.2 whenever the mobile station receives a system overhead message (*System Parameters Message, CDMA Channel List Message, Extended System Parameters Message, Neighbor List Message, Extended Neighbor List Message, General Neighbor List Message, Global Service Redirection Message, Extended Global Service Redirection Message, User Zone Identification Message, Private Neighbor List Message*, or *Access Parameters Message*).
- The mobile station shall perform the *Mobile Station Page Match Operation* as specified in 2.6.2.3 whenever it receives a *General Page Message*.
- The mobile station shall perform the *Mobile Station Order and Message Processing Operation* as specified in 2.6.2.4 whenever a message or order directed to the mobile station is received other than a *General Page Message*. 
• The mobile station shall set NDSS_ORIGs to disabled if directed by the user to cancel the call origination.

• The mobile station shall perform the Mobile Station Origination Operation as specified in 2.6.2.5 if directed by the user to initiate a call, or if NDSS_ORIGs is equal to enabled.

• The mobile station shall not send any subsequent Origination Message containing the same packet data service option until the system time stored in RETRY_DELAYs[001]. At the system time stored in RETRY_DELAYs[001], the mobile station shall reset RETRY_DELAYs [001] to 0.

• The mobile station shall perform the Mobile Station PACA Cancel Operation as specified in 2.6.2.8, if PACAs is equal to enabled and any of the following conditions are met:
  – PACA_CANCEL is equal to ‘1’; or
  – The mobile station is directed by the user to cancel the PACA call.

• If the PACA state timer expires, the mobile station shall perform the following:
  – The mobile station should enter the Update Overhead Information Substate of the System Access State (see 2.6.3) with an origination indication within T_{33m} seconds to re-originate the PACA call.
  – Otherwise, the mobile station shall perform the Mobile Station PACA Cancel Operation as specified in 2.6.2.8.

• If the mobile station supports Data Burst Message transmission, it shall perform the Mobile Station Message Transmission Operation as specified in 2.6.2.6 if directed by the user to transmit a message.

• The mobile station shall perform the Mobile Station Power-Down Operation as specified in 2.6.2.7 if directed by the user to power down.

• If the bits of TMSI_CODEs-p are not all equal to ‘1’ and if System Time (in 80 ms units) exceeds TMSI_EXP_TIMEs-p \times 2^{12}, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’ within T_{66m} seconds.

• If the full-TMSI timer expires or has expired, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall update the registration variables as described in 2.6.5.5.2.5.

2.6.2.1 Idle Procedures

2.6.2.1.1 Paging Channel Monitoring Procedures

2.6.2.1.1.1 General Overview

The Paging Channel is divided into 80 ms slots called Paging Channel slots. Paging and control messages for a mobile station operating in the non-slotted mode can be received in any of the Paging Channel slots; therefore, the non-slotted mode of operation requires the
mobile station to monitor all slots.

2.6.2.1.1.1 General Overview for Individually Addressed Messages

The Paging Channel protocol provides for scheduling the transmission of messages for a specific mobile station in certain assigned slots. Support of this feature is optional and may be enabled by each mobile station. A mobile station that monitors the Paging Channel only during certain assigned slots is referred to as operating in the slotted mode. During the slots in which the Paging Channel is not being monitored, the mobile station can stop or reduce its processing for power conservation. A mobile station may not operate in the slotted mode in any state except the Mobile Station Idle State.

A mobile station operating in the slotted mode generally monitors the Paging Channel for one or two slots per slot cycle. The mobile station can specify its preferred slot cycle using the SLOT_CYCLE_INDEX field in the Registration Message, Origination Message, or Page Response Message. The mobile station can also specify its preferred slot cycle using the SLOT_CYCLE_INDEX field of the Terminal Information record of the Status Response Message or the Extended Status Response Message. In addition, the mobile station can also specify its preferred slot cycle using the SLOT_CYCLE_INDEX field of the Terminal Information record of the Status Response Message or the Status Message when in the Mobile Station Control on the Traffic Channel State. The length of the slot cycle, $T$, in units of 1.28 seconds, is given by

$$T = 2^i,$$

where $i$ is the selected slot cycle index (see 2.6.2.1.1.3).

A mobile station operating in the slotted mode may optionally monitor additional slots to receive broadcast messages and/or broadcast pages (see 2.6.2.1.1.3.3 and 2.6.2.1.1.3.4).

There are $16 \times T$ slots in a slot cycle.

SLOT_NUM is the Paging Channel slot number, modulo the maximum length slot cycle (2048 slots). That is, the value of SLOT_NUM is

$$SLOT_NUM = \left\lfloor t/4 \right\rfloor \mod 2048,$$

where $t$ is the System Time in frames. For each mobile station, the starting times of its slot cycles are offset from the slot in which SLOT_NUM equals zero by a fixed, randomly selected number of slots as specified in 2.6.2.1.1.3.

Figure 2.6.2.1.1.1-1 shows an example for a slot cycle length of 1.28 seconds, in which the computed value of PGSLOT (see 2.6.2.1.1.3) is equal to 6, so that one of the mobile station’s slot cycles begins when SLOT_NUM equals 6. The mobile station begins monitoring the Paging Channel at the start of the slot in which SLOT_NUM equals 6. The next slot in which the mobile station must begin monitoring the Paging Channel is 16 slots later, i.e., the slot in which SLOT_NUM is 22.

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1 The minimum length slot cycle consists of 16 slots of 80 ms each, hence 1.28 seconds.
Layer 3 determines when a mobile station operating in the slotted mode may stop monitoring the Paging Channel based upon indications received from Layer 2 (see 2.1.2.2.2.4.1 of [4]). When the General Page Message is used, Layer 2 determines whether there is an address mismatch or a broadcast address mismatch, based upon the address information received in the General Page Message. Based upon the address mismatch and broadcast address mismatch indications received from Layer 2, Layer 3 can determine when no further messages or records addressed to an individual mobile station will be present in the slot.

A General Page Message contains four fields, CLASS_0_DONE, CLASS_1_DONE, TMSI_DONE, and ORDERED_TMSIS, which indicate when a mobile station operating in the slotted mode may stop monitoring the Paging Channel.

When CLASS_0_DONE is set to ‘1’ during a mobile station’s assigned slot and the mobile station is operating in the slotted mode, no further messages or records addressed by a class 0 IMSI will be directed to the mobile station during the current slot. When CLASS_1_DONE is set to ‘1’ during a mobile station’s assigned slot and the mobile station is operating in the slotted mode, no further messages or records addressed by a class 1 IMSI will be directed to the mobile station during the current slot. Similarly, when TMSI_DONE is set to ‘1’ during a mobile station’s assigned slot and the mobile station is operating in the slotted mode, no further messages or records addressed by a TMSI will be directed to the mobile station during the current slot.

The field ORDERED_TMSIS, which when set to ‘1’ during a mobile station’s assigned slot, indicates that the base station has ordered TMSI page records directed to mobile stations operating in the slotted mode so that the resulting TMSI_CODE values are in ascending order in the General Page Messages in the slot.
A mobile station which is operating in the slotted mode, has a class 0 IMSI assigned, and
does not have a TMSI assigned (all the bits of TMSI_CODEs-p are equal to ‘1’) may stop
monitoring the Paging Channel after processing a General Page Message containing
CLASS_0_DONE equal to ‘1’. Similarly, a mobile station which is operating in the slotted
mode, has a class 1 IMSI assigned, and does not have a TMSI assigned (all the bits of
TMSI_CODEs-p are equal to ‘1’) may stop monitoring the Paging Channel after processing a
General Page Message containing CLASS_1_DONE equal to ‘1’.

A mobile station which is operating in the slotted mode, has a class 0 IMSI assigned, and
has a TMSI assigned (the bits of TMSI_CODEs-p are not all equal to ‘1’) may stop monitoring
the Paging Channel after processing a General Page Message containing both
CLASS_0_DONE equal to ‘1’ and TMSI_DONE equal to ‘1’. Similarly, a mobile station which
is operating in the slotted mode, has a class 1 IMSI assigned, and has a TMSI assigned (the
bits of TMSI_CODEs-p are not all equal to ‘1’) may stop monitoring the Paging Channel after
processing a General Page Message containing both CLASS_1_DONE equal to ‘1’ and
TMSI_DONE equal to ‘1’.

If ORDERED_TMSIS is equal to ‘1’ and CLASS_0_DONE is equal to ‘1’, a mobile station
which has a class 0 IMSI assigned, is operating in the slotted mode and has a TMSI
assigned (the bits of TMSI_CODEs-p are not all equal to ‘1’) may stop monitoring the Paging
Channel after processing a page record with a TMSI_CODE value of higher numerical value
than TMSI_CODEs-p.

If ORDERED_TMSIS is equal to ‘1’ and CLASS_1_DONE is equal to ‘1’, a mobile station
which has a class 1 IMSI assigned, is operating in the slotted mode and has a TMSI
assigned (the bits of TMSI_CODEs-p are not all equal to ‘1’) may stop monitoring the Paging
Channel after processing a page record with a TMSI_CODE value of higher numerical value
than TMSI_CODEs-p.

The mobile station continues to monitor the Paging Channel for one additional slot unless,
within its assigned slot, the mobile station receives a General Page Message containing the
appropriate indicator permitting it to stop monitoring the Paging Channel (CLASS_0_DONE,
CLASS_1_DONE, TMSI_DONE, or ORDERED_TMSIS equal to ‘1’, whichever is appropriate).
This allows the base station to carry over a message begun in the assigned slot into the
following slot if necessary.

2.6.2.1.1.1.2 General Overview for Broadcast Messages

The Paging Channel protocol provides two methods for the transmission of broadcast
messages. Each method enables mobile stations operating in the slotted mode or in the
non-slotted mode to receive broadcast messages. A broadcast message on the Paging
Channel is a Data Burst Message that has a broadcast address type. A mobile station
operating in the slotted mode has assigned slots that it monitors to receive Paging Channel
messages (see 2.6.2.1.1.1). A broadcast page is a record within a General Page Message
that has a broadcast address type. A base station may transmit a broadcast page in an
assigned slot to inform mobile stations monitoring that slot that a broadcast message will
be transmitted in a predetermined subsequent slot. A slot that a mobile station monitors in
order to receive either a broadcast page or a broadcast message is referred to as a broadcast
slot.
2.6.2.1.1.2.1 Method 1: Multi-Slot Broadcast Message Transmission

According to this method, a broadcast message is sent in a sufficient number of assigned slots such that it may be received by all mobile stations that are operating in the slotted mode.

Figure 2.6.2.1.1.2.1-1 shows an example for the case when the maximum slot cycle index is equal to 0. In this example, the broadcast message fits in a single slot. The Data Burst Message is transmitted in 16 consecutive slots.

![Figure 2.6.2.1.1.2.1-1. Multi-Slot Broadcast Message Transmission Example](image)

2.6.2.1.1.2.2 Method 2: Periodic Broadcast Paging

According to this method, mobile stations configured to receive broadcast messages monitor a specific broadcast slot (the first slot of a broadcast paging cycle; see 2.6.2.1.1.3.3.). There are two methods of sending broadcast messages used with Periodic Broadcast Paging.

If all of the broadcast messages to be transmitted fit within the first slot of a broadcast paging cycle, they may all be transmitted in this broadcast slot. If there is a single broadcast message to be transmitted, it may be transmitted beginning in this broadcast slot.

Alternately, one or more broadcast pages may be transmitted in the first slot of a broadcast paging cycle. Each broadcast page is associated with a subsequent broadcast slot. For each broadcast page, an associated broadcast message may be transmitted in the associated subsequent broadcast slot. The broadcast slot for the associated broadcast message is determined according to the position of the broadcast page within the General Page Message transmitted in the first slot of the broadcast paging cycle.

Figure 2.6.2.1.1.2.2-1 shows an example of Periodic Broadcast Paging when the broadcast index is set to 1. A General Page Message containing three broadcast pages is transmitted in the first slot of the broadcast paging cycle. For each of the three broadcast pages, a Data Burst Message is transmitted in a subsequent slot.
2.6.2.1.1.2 Non-Slotted Mode Requirements

A mobile station operating in the non-slotted mode shall monitor the Paging Channel at all times. If the mobile station declares a loss of the Paging Channel (see 2.6.2.1.1.4), the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1). The mobile station shall operate in the non-slotted mode when PACA\textsubscript{s} is equal to enabled.

When a mobile station monitors the Paging Channel in any state other than the Mobile Station Idle State, it shall operate in the non-slotted mode.

The mobile station shall operate in the non-slotted mode when SLOTTED\textsubscript{s} is equal to NO.

2.6.2.1.1.3 Slotted Mode Requirements

The mobile station shall not operate in the slotted mode if any of the of the following conditions are true:

- SLOTTED\textsubscript{s} is equal to NO,
- Bit 5 of the station class mark is set to ‘0’ (see 2.3.3),
- PACA\textsubscript{s} is equal to enabled, or
- The mobile station’s configuration parameters are not current (see 2.6.2.2).

During operation in the slotted mode, the mobile station shall ensure that its stored configuration parameter values are current (see 2.6.2.2).

If the mobile station declares a loss of the Paging Channel (see 2.6.2.1.1.4), the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).
### 2.6.2.1.3.1 Monitoring Assigned Slots

If the mobile station does not support Quick Paging Channel operation or if $\text{QPCH\_SUPPORTED}_s = '0'$, the mobile station shall monitor the Paging Channel in each of its assigned slots.

If the mobile station supports Quick Paging Channel operation and if $\text{QPCH\_SUPPORTED}_s = '1'$, for each of its assigned slots, the mobile station shall perform the following:

- The mobile station should check its assigned paging indicators in the complete Quick Paging Channel slot immediately preceding its assigned Paging Channel slot, as specified in 2.6.2.1.2.1; the mobile station shall monitor the assigned Paging Channel slot if the paging indicators meet the conditions specified in 2.6.2.1.2.2.
- If the mobile station does not check its assigned paging indicators, the mobile station shall monitor its assigned Paging Channel slot.

If the mobile station monitors an assigned Paging Channel slot, it shall begin monitoring the Paging Channel in time to receive the first bit of the slot. If the mobile station is not configured to receive broadcast addresses, the mobile station shall continue to monitor the Paging Channel until one of the following conditions is satisfied:

- Layer 3 receives an address mismatch indication from Layer 2 (see [4]); or
- The mobile station monitors the assigned slot and the slot following the assigned slot, and the mobile station receives at least one valid message (see [4]).

If the mobile station is configured to receive broadcast addresses, the mobile station shall continue to monitor the Paging Channel until one of the preceding conditions is satisfied and should monitor the Paging Channel until Layer 3 receives a broadcast address mismatch indication from Layer 2 (see [4]).

For each broadcast slot monitored to receive broadcast pages or broadcast messages that is not one of its assigned slots, the mobile station should begin monitoring the Paging Channel in time to receive the first bit of the broadcast slot. The mobile station should continue to monitor the Paging Channel until one of the following conditions is satisfied:

- Layer 3 receives a broadcast address mismatch indication from Layer 2; or
- The mobile station monitors the Paging Channel to receive all messages beginning in the broadcast slot and in the slot following the broadcast slot, and the mobile station receives at least one valid message (see [4]).

To determine its assigned slots, the mobile station shall use the hash function specified in 2.6.7.1 to select a number, PGSLOT, in the range 0 to 2047 (spanning the maximum slot cycle length, which is 163.84 seconds). The mobile station’s assigned slots shall be those slots in which

$$\left\lfloor t/4 \right\rfloor - \text{PGSLOT} \mod (16 \times T) = 0,$$

where $t$ is the System Time in frames and $T$ is the slot cycle length in units of 1.28 seconds given by

$$T = 2^i,$$
where i is the slot cycle index.

2.6.2.1.3.2 Determination of the Slot Cycle Index

If the SID and NID of the current base station (SID_s and NID_s, as stored from the System Parameters Message) do not match any entry of SID_NID_LISTs, the mobile station shall use a slot cycle index no greater than the smaller of MAX_SLOT_CYCLE_INDEX_s and 1; otherwise, the mobile station shall use a slot cycle index no greater than SLOT_CYCLE_INDEX_s (see 2.6.2.1.6).

If the mobile station is directed by the user to modify the preferred slot cycle index (SLOT_CYCLE_INDEX_p), the mobile station shall perform parameter-change registration (see 2.6.5.1.6).

2.6.2.1.3.3 Slot Cycles for Broadcast Paging

Distribution of broadcast messages relies on specially defined Paging Channel slot cycles. The definitions are as follows:

*Maximum paging cycle:* A maximum paging cycle is a Paging Channel slot cycle (see 2.6.2.1.3.1) having a duration of M slots such that:

\[ M = 2^i \times 16, \quad 0 \leq i \leq 7 \]

where \( i = \) MAX_SLOT_CYCLE_INDEX_s as received in the System Parameters Message.

The first slot of each maximum paging cycle is any Paging Channel slot in which

\[ \lfloor t/4 \rfloor \mod M = 0, \]

where \( t \) represents system time in frames.

*Broadcast paging cycle:* A broadcast paging cycle is a Paging Channel slot cycle (see 2.6.2.1.3.1) having a duration of B + 3 slots where:

\[ B = 2^i \times 16, \quad 1 \leq i \leq 7 \]

where \( i = \) BCAST_INDEX_s as received in the Extended System Parameters Message, or set by default when the Extended System Parameters Message is not sent.

The first slot of each broadcast paging cycle is any Paging Channel slot in which

\[ \lfloor t/4 \rfloor \mod (B + 3) = 0, \]

where \( t \) represents system time in frames.

2.6.2.1.3.4 Monitoring Paging Channel Broadcasts

The following requirements apply to mobile stations supporting the reception of broadcast messages.
If BCAST_INDEXs is equal to '000', the mobile station shall monitor only its assigned Paging Channel slots (see 2.6.2.1.3.1).

If BCAST_INDEXs is not equal to '000', and the mobile station is configured to receive messages addressed to broadcast addresses, the mobile station should also monitor the Paging Channel beginning with the first slot of each broadcast paging cycle (see 2.6.2.1.3.3).

If the mobile station receives a broadcast page containing a burst type and broadcast address that the mobile station has been configured to receive (see 2.6.2.3), the mobile station should monitor the slot in which the corresponding broadcast Paging Channel message will be sent, determined as follows:

- The mobile station shall consider a broadcast page to have been received in the paging slot in which the General Page Message containing the broadcast page began.
- If BCAST_INDEXs is not equal to '000', the paging slot containing the broadcast page is defined as the reference slot.
- Let n represent the ordinal number of the broadcast page relative to other broadcast pages that are contained in the same General Page Message (n = 1, 2, 3,...). The mobile station should monitor the Paging Channel slot that occurs n × 3 paging slots after the reference slot.

2.6.2.1.3.5 Support of Broadcast Delivery Options

A mobile station configured to receive broadcast messages shall support reception of broadcast messages transmitted using Multi-Slot Broadcast Message Transmission (see 3.6.2.4.1.2.1.1).

A mobile station configured to receive broadcast messages shall support reception of broadcast messages transmitted using Periodic Broadcast Paging (see 3.6.2.4.1.2.1.2).

2.6.2.1.4 Paging Channel Supervision

The mobile station shall monitor the Paging Channel as specified in 2.6.2.1.1. The mobile station shall set a timer for T30m seconds whenever it begins to monitor the Paging Channel. The mobile station shall reset the timer for T30m seconds whenever it gets an indication that a valid message was received on the Paging Channel, whether addressed to the mobile station or not (see [4]). The mobile station shall disable the timer when it is not monitoring the Paging Channel. If the timer expires, the mobile station shall declare a loss of the Paging Channel.

2.6.2.1.2 Quick Paging Channel Monitoring Procedures

2.6.2.1.2.1 Overview

The Quick Paging Channel is divided into 80 ms slots called Quick Paging Channel slots. The Quick Paging Channel protocol provides for scheduling the transmission of paging
indicators for a mobile station in Quick Paging Channel slots assigned to the mobile station. Support of this feature is optional.

The Quick Paging Channel protocol also provides for scheduling the transmission of configuration change indicators for mobile stations in Quick Paging Channel slots. Support of this feature is optional.

If the mobile station is operating in the slotted mode and it supports the Quick Paging Channel, the mobile station monitors paging indicators on the Quick Paging Channel as follows:

The mobile station's assigned Quick Paging Channel slots are offset from its assigned Paging Channel slots by 100 ms, as shown in Figure 2.6.2.1.2.1-1. Two paging indicators are assigned to a mobile station in its assigned Quick Paging Channel slot. In the following, t* is the start time of the mobile station's assigned Paging Channel slot. According to the hash function specified in 2.6.7.1, paging indicators are assigned as follows:

- The first paging indicator for the mobile station is assigned between (t*-100) ms and (t*-80) ms (marked as 1 in Figure 2.6.2.1.2.1-1) and the second paging indicator is assigned between (t*-60) ms and (t*-40) ms (marked as 3 in the figure); or
- The first paging indicator for the mobile station is assigned between (t*-80) ms and (t*-60) ms (marked as 2 in the figure) and the second paging indicator is assigned between (t*-40) ms and (t*-20) ms (marked as 4 in the figure).

If the mobile station is operating in the slotted mode and it supports the Quick Paging Channel, the mobile station can, when performing an idle handoff to a base station whose Paging Channel has recently been monitored, monitor one or more configuration change indicators. Configuration change indicators are scheduled every 40 ms on the first Quick Paging Channel.
Figure 2.6.2.1.2.1-1. Quick Paging Channel Timeline
2.6.2.1.2.2 Requirements

A mobile station operating in the slotted mode should monitor the paging indicators in the mobile station’s assigned Quick Paging Channel slot if all of the following conditions hold:

- The mobile station supports the Quick Paging Channel;
- QPCH_SUPPORTED = '1'; and
- The mobile station is not monitoring the Paging Channel.

The mobile station’s assigned Quick Paging Channel slots shall be those slots in which

\[
\left\lfloor \left( \frac{t+5}{4} \right) - \text{PGSLOT} \right\rfloor \mod (16 \times T) = 0.
\]

where t is the System Time in frames, PGSLOT is selected in the range 0 to 2047 by using the hash function specified in 2.6.7.1, and T is the slot cycle length in units of 1.28 seconds such that

\[
T = 2^i,
\]

and i is the slot cycle index.

To determine the position of the mobile station’s two assigned paging indicators respective to the beginning of the mobile station’s assigned Quick Paging Channel slot, the mobile station shall use the hash function specified in 2.6.7.1. The R1 and R2 outputs of the hashing algorithm correspond to an indicator bit position relative to the beginning of the Quick Paging Channel slot. The hashing algorithm is so devised that two paging indicators (R1 and R2) for a mobile station will be in the first and third quarter slot or the second and fourth quarter slot.

If the mobile station checks assigned paging indicators, the mobile station shall perform the following:

- If the mobile station detects that one of the paging indicators is set to “OFF”, the mobile station need not detect another paging indicator.
- If the mobile station does not detect that at least one of the paging indicators is set to “OFF”, the mobile station shall receive its assigned Paging Channel slot immediately following its assigned Quick Paging Channel slot.\(^2\)

When performing an idle handoff to a base station whose Paging Channel was previously monitored, a mobile station operating in the slotted mode should monitor one or more configuration change indicators on the first Quick Paging Channel for the new base station if all of the following conditions hold:

\(^2\) A case for which the mobile station may not be able to detect that at least one of the paging indicators is set to “OFF” is for a mobile station that misses a part of or its entire Quick Paging Channel slot during overhead information update. In this case, the mobile station monitors its assigned Paging Channel slot.
The mobile station supports the Quick Paging Channel,

- The mobile station has knowledge that the new base station supports the Quick Paging Channel,
- The mobile station has knowledge that the new base station supports configuration change indicators,
- The mobile station is not monitoring the Paging Channel, and
- No more than $T_{31m}$ seconds have elapsed since the mobile station last received a valid message on the new Paging Channel.

Before monitoring a configuration change indicator, the mobile station shall perform the following:

- The mobile station shall set $ASSIGNED_{QPAGECH_s}$ equal to $QPAGECH_s$, and
- The mobile station shall set $QPAGECH_s$ equal to 1.

Before monitoring a paging indicator subsequent to monitoring a configuration change indicator, the mobile station shall set $QPAGECH_s$ equal to $ASSIGNED_{QPAGECH_s}$.

If the Quick Paging Channel data rate is 2400 bps (indicator rate is 4800 bps), the bit positions of the mobile station’s first pair of configuration change indicators shall be the last two bits in the first 40 ms half of a Quick Paging Channel slot. The bit positions of the mobile station’s second pair of configuration change indicators shall be the last two bits in a Quick Paging Channel slot.

If the Quick Paging Channel data rate is 4800 bps (indicator rate is 9600 bps), the bit positions of the mobile station’s first four configuration change indicators shall be the last four bits in the first 40 ms half of a Quick Paging Channel slot. The bit positions of the mobile station’s second four configuration change indicators shall be the last four bits in a Quick Paging Channel slot.

If the mobile station monitors a configuration change indicator and determines that it is set to “OFF”, the mobile station can enter or remain in the slotted mode after an idle handoff (see 2.6.2.1.4.2).

2.6.2.1.3 Registration

While in the Mobile Station Idle State, the mobile station shall perform the registration procedures specified in 2.6.5.5.2.1.

2.6.2.1.4 Idle Handoff

2.6.2.1.4.1 Pilot Search

An idle handoff occurs when a mobile station has moved from the coverage area of one base station into the coverage area of another base station during the Mobile Station Idle State. If the mobile station detects a Pilot Channel signal from another base station, that is sufficiently stronger than that of the current base station, the mobile station determines that an idle handoff should occur.
Pilot Channels are identified by their offsets relative to the zero offset pilot PN sequence (see 3.1.3.2.1). Pilot offsets are grouped into sets describing their status with regard to pilot searching.

The following sets of pilot offsets are defined for a mobile station in the Mobile Station Idle State. Each pilot offset is a member of only one set.

- **Active Set**: The pilot offset of the Forward CDMA Channel whose Paging Channel is being monitored.
- **Neighbor Set**: The offsets of the Pilot Channels that are likely candidates for idle handoff. The members of the Neighbor Set are specified in the Neighbor List Message, Extended Neighbor List Message, and the General Neighbor List Message.
- **Remaining Set**: The set of all possible pilot offsets in the current system (integer multiples of PILOT_INCs) on the current CDMA Frequency Assignment, excluding the pilots in the Neighbor Set and the Active Set.
- **Private Neighbor Set**: The offsets of the Pilot Channels for the private systems that are likely candidates for idle handoff. The members of the Private Neighbor Set are specified in the Private Neighbor List Message.

The mobile station shall support a Neighbor Set size of at least \( N_{8m} \) pilots (see Annex D).

In the Mobile Station Idle State, the mobile station shall continuously search for the strongest Pilot Channel signal on the corresponding CDMA Frequency Assignment whenever it monitors the Paging Channel.

The mobile station may search other frequencies and band classes. For example, if a pilot in the Neighbor Set or in the Private Neighbor Set is on a different Frequency Assignment than that of the mobile station, this frequency should be included in the search criteria. Search performance criteria are defined in [14] and [10].

This search should be governed by the following:

- **Active Set**: The search window size for the pilot in the Active Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_A8. The mobile station should center the search window for the pilot of the Active Set around the earliest arriving usable multipath component of the pilot. If the mobile station receives a value greater than or equal to 13 for SRCH_WIN_AR, it may store and use the value 13 in SRCH_WIN_A8.
• Neighbor Set: The search window size for each pilot in the Neighbor Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_NGHBRS field of the NGHBR_REC for the pilot. The mobile station should center the search window for each pilot in the Neighbor Set around the pilot’s PN sequence offset plus the corresponding SRCH_OFFSET_NGHBRS (see Table 2.6.6.2.1-2) using timing defined by the mobile station’s time reference (see [2]). The mobile station should use the SEARCH_PRIORITY field of the NGHBR_REC for the corresponding pilot to schedule its neighbor search. If ADD_PILOT_REC_INCL field of the NGHBR_REC for the corresponding pilot is equal to ‘1’, the mobile station shall use the information included in the NGHBR_PILOT_REC field for searching the neighbor.

If the mobile station supports hopping pilot beacons and the TIMING_INCL field of the NGHBR_REC for the corresponding pilot is equal to ‘1’, then the mobile station shall use the information included in the NGHBR_TX_OFFSET, NGHBR_TX_DURATION, and NGHBR_TX_PERIOD fields of the NGHBR_REC for the corresponding pilot to schedule the time for searching the neighbor.

• Remaining Set: The search window size for each pilot in the Remaining Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_Rs. The mobile station should center the search window for each pilot in the Remaining Set around the pilot’s PN sequence offset using timing defined by the mobile station’s time reference (see [2]). The mobile station should only search for Remaining Set pilots whose pilot PN sequence offset indices are equal to integer multiples of PILOT_INCs.

• Private Neighbor Set: The search window size for each pilot in the Private Neighbor Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_PRI_NGHBRS field of the PRI_NGHBRS_REC for the pilot. The mobile station should center the search window for each pilot in the Private Neighbor Set around the pilot’s PN sequence offset using timing defined by the mobile station’s time reference (see [2]).

If the mobile station determines that one of the Neighbor Set, Private Neighbor Set or Remaining Set Pilot Channel signals is sufficiently stronger (see [14] and [10]) than the Pilot Channel of the Active Set, the mobile station should perform an idle handoff as specified in 2.6.2.1.4.2.

A mobile station operating in slotted mode, which is successfully demodulating the Paging Channel, should not perform an idle handoff while it is required to monitor its assigned slot (see 2.6.2.1.1.3.1).

2.6.2.1.4.2 Idle Handoff Procedures

While performing an idle handoff, the mobile station should not begin operating in the non-slotted mode after the idle handoff if all of the following conditions hold:

• The mobile station supports the Quick Paging Channel,

• The mobile station has knowledge that the new base station supports configuration
change indicators,

- The mobile station determines that the Quick Paging Channel configuration change indicator for the new Quick Paging Channel is set to “OFF” (see 2.6.2.1.2.1), and
- No more than $T_{31m}$ seconds have elapsed since the mobile station last received a valid message on the new Paging Channel.

Otherwise, the mobile station shall operate in the non-slotted mode until the mobile station has received at least one valid configuration message or General Page Message on the new Paging Channel. Following the reception of this message the mobile station may resume slotted mode operation in accordance with 2.6.2.1.1.3. After performing an idle handoff, the mobile station shall discard all unprocessed messages received on the old Paging Channel.

If the new base station is listed in NGHBR_REC_LIST for the old base station (see 2.6.2.2.3, 2.6.2.2.7, and 2.6.2.1.4.1), the mobile station shall use the corresponding 3-bit NGHBR_CONFIG field to determine the actions required to transition to the new base station. If the new base station is not listed in NGHBR_REC_LIST, the mobile station shall perform the handoff operation using the same procedure as for a pilot in NGHBR_REC_LIST with the NGHBR_CONFIG field set to ‘011’.

If the NGHBR_CONFIG field is ‘000’, the mobile station shall perform the following:

- The mobile station shall set ACC_MSG_SEQs and CURR_ACC_MSG_SEQ to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot offset index of the base station transmitting the new Paging Channel.
- If the mobile station has not stored configuration parameters for the new Paging Channel, or if the stored information is not current (see 2.6.2.2), the mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, and PRI_NGHBR_LST_MSG_SEQs to NULL.
- Otherwise (if the stored information for the new Paging Channel is current), the mobile station shall set CONFIG_MSG_SEQs to the stored information for the new Paging Channel and the mobile station shall set NGHBR_REC_LIST to the stored information for the new Paging Channel.
- If the associated NGHBR_BANDs or NGHBR_FREQs of the new base station in NGHBR_REC_LIST of the old base station is not equal to CDMABANDs and CDMACHs respectively, the mobile station shall set CDMABANDs to NGHBR_BANDs, CDMACHs to NGHBR_FREQs, and tune to the new CDMA Channel. The mobile station shall begin monitoring the Paging Channel of the new base station, using the same rate, code rate, and code channel.
If PACAS is equal to enabled, the mobile station shall enter the *Update Overhead Information Substate* of the *System Access State* (see 2.6.3) with an origination indication within $T_{33m}$ seconds to re-originate the PACA call using the new base station.

If the NGHBR_CONFIG field is '001', the mobile station shall perform the following:

- The mobile station shall set ACC_MSG_SEQs and CURR_ACC_MSG_SEQ to NULL and shall set PILOT_PNs to the pilot offset index of the base station transmitting the new Paging Channel.

- If the stored information for the Primary Paging Channel or any of the Paging Channels on the associated NGHBR_FREQs of the new base station in NGHBR_REC_LIST of the old base station is current, the mobile station shall perform the following:
  - The mobile station shall use the hash algorithm specified in 2.6.7.1 to select a new Paging Channel number in the range 1 to PAGE_CHANs, where PAGE_CHANs is the value stored for the Paging Channel whose stored information is current. The mobile station shall store the new Paging Channel number as PAGECHs. The mobile station shall perform the following:
    - If the mobile station has not stored configuration parameters for the new Paging Channel, or if the stored parameters are not current (see 2.6.2.2), the mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, SYSTEM_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, and GLOB_SERV_REDIR_MSG_SEQs to NULL.
    - Otherwise (if the stored information for the new Paging Channel is current), the mobile station shall set CONFIG_MSG_SEQs to the stored information for the new Paging Channel and set NGHBR_REC_LIST to the stored information for the new Paging Channel.

- If the associated NGHBR_BANDs or NGHBR_FREQs of the new base station in NGHBR_REC_LIST of the old base station is not equal to CDMABANDs and CDMACHs respectively, the mobile station shall set CDMABANDs to NGHBR_BANDs, CDMACHs to NGHBR_FREQs, and tune to the new CDMA Channel. The mobile station shall begin monitoring the new Paging Channel of the new base station.

- Otherwise, the mobile station shall perform the following:
- The mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, and PRI_NGHBR_LST_MSG_SEQs to NULL.

- The mobile station shall set PAGE_CHANs to '1' and PAGECHs to the Primary Paging Channel. If the associated NGHBR_BANDs or NGHBR_FREQs of the new base station in NGHBR_REC_LIST of the old base station is not equal to CDMABANDs and CDMACHs respectively, the mobile station shall set CDMABANDs to NGHBR_BANDs, CDMACHs to NGHBR_FREQs, and tune to the new CDMA Channel. The mobile station shall begin monitoring the Primary Paging Channel of the new base station.

- If PACA}s is equal to enabled, the mobile station shall enter the Update Overhead Information Substate of the System Access State (see 2.6.3) with an origination indication within T33m seconds to re-originate the PACA call using the new base station.

If the NGHBR_CONFIG field is '010', the mobile station shall perform the following:

- The mobile station shall set ACC_MSG_SEQs and CURR_ACC_MSG_SEQ to NULL and shall set PILOT_PNs to the pilot offset index of the base station transmitting the new Paging Channel.

- If the stored information for the Primary Paging Channel or any of the Paging Channels on the target frequency or any of the frequencies of the new base station is current, the mobile station shall perform the following:

  + The mobile station shall use the hash algorithm specified in 2.6.7.1 and the stored value of the number of CDMA channels to determine the new CDMA Channel and shall set FREQ_NEW to this new CDMA Channel. The mobile station shall perform the following:

    o If the stored information for any of the Paging Channels on the CDMA channel specified by FREQ_NEW is current, the mobile station shall perform the following:

      - The mobile station shall use the hash algorithm specified in 2.6.7.1 to select a new Paging Channel number in the range 1 to PAGE_CHANs, where PAGE_CHANs is the value stored for the Paging Channel whose stored information is current. The mobile station shall store the new Paging Channel number as PAGECHs. The mobile station shall perform the following:
If the mobile station has not stored configuration parameters for the new Paging Channel, or if the stored parameters are not current (see 2.6.2.2), the mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, and GLOB_SERV_REDIR_MSG_SEQs to NULL.

Otherwise (if the stored information for the new Paging Channel is current), the mobile station shall set CONFIG_MSG_SEQs to the stored information for the new Paging Channel and set NGHBR_REC_LIST to the stored information for the new Paging Channel.

- If the band class corresponding to FREQ_NEW is not equal to CDMABANDs of the old base station or FREQ_NEW is not equal to CDMACHs of the old base station, the mobile station shall set CDMABANDs to band class corresponding to FREQ_NEW and shall set CDMACHs to FREQ_NEW, and tune to the new CDMA Channel. The mobile station shall begin monitoring the new Paging Channel of the new base station.

If none of the Paging Channel stored information on the CDMA channel specified by FREQ_NEW are current, the mobile station shall perform the following:

- The mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, and PRI_NGHBR_LST_MSG_SEQs to NULL.

- The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. If the band class corresponding to FREQ_NEW is not equal to CDMABANDs of the old base station or FREQ_NEW is not equal to CDMACHs of the old base station, the mobile station shall set CDMABANDs to band class corresponding to FREQ_NEW and shall set CDMACHs to FREQ_NEW, and tune to the new CDMA Channel. The mobile station shall begin monitoring the Primary Paging Channel of the new base station.

- Otherwise, the mobile station shall perform the following:
- The mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, and PRI_NGHBR_LST_MSG_SEQs to NULL.

- The mobile station shall set PAGE_CHANs to '1' and PAGECHs to the Primary Paging Channel. If the associated NGHBR_BANDs or NGHBR_FREQs of the new base station in NGHBR_REC_LIST of the old base station is not equal to CDMABANDs and CDMACHs of the old base station respectively, the mobile station shall set CDMABANDs to NGHBR_BANDs, and CDMACHs to NGHBR_FREQs; Otherwise, the mobile station shall set CDMACHs as follows:

  + If the Extended CDMA Channel List Message is being sent on the old base station, set CDMACHs to the first CDMA Channel given in the Extended CDMA Channel List Message for the old base station.

  + Otherwise, set CDMACHs to the first CDMA Channel given in the CDMA Channel List Message for the old base station.

Then the mobile station shall tune to the new CDMA channel and begin monitoring the Primary Paging Channel of the new base station.

• If PACA_s is equal to enabled, the mobile station shall enter the Update Overhead Information Substate of the System Access State (see 2.6.3) with an origination indication within T33m seconds to re-originate the PACA call using the new base station.

If the NGHBR_CONFIG field is '011', the mobile station shall perform the following:

• Enter the System Determination Substate of the Mobile Station Initialization State with a new system indication (see 2.6.1.1).

2.6.2.1.5 Reserved

2.6.2.1.6 System Reselection Procedures

If the mobile station supports more than one operating mode or the Remaining Set/Neighbor Set contains pilots on frequencies different from the current frequency, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system reselection indication (see 2.6.1.1) if the following are true:

• RESELECT_INCLUDEDs is equal to '1';

• The following inequality is satisfied: 
  
  \[ 20 \times \log_{10} \left( \frac{E_c}{I_o} \right) > EC_IO_THRESH_s \]

  where \( E_c/I_o \) is the measured \( E_c/I_o \) of the active pilot; and
The following inequality is satisfied:

\[
pilot_{\text{power}} < EC_{\text{THRESH}}_{\text{s}} - 115
\]

where \(pilot_{\text{power}}\) (dBm/1.23 MHz) = \(10 \times \log_{10}(PS)\) (dB) + mean input power (dBm/1.23 MHz) and \(PS\) is the strength of the active pilot, as specified in 2.6.6.2.2.

2.6.2.1.7 Slotted Timer Expiration

Upon expiration of the slotted \(T_{\text{MS}}\) Slotted timer, the mobile station shall disable the timer and set \(SLOTTED_{\text{s}}\) to YES.

2.6.2.2 Response to Overhead Information Operation

The overhead messages on the Paging Channel are:

- System Parameters Message
- Access Parameters Message
- Neighbor List Message
- CDMA Channel List Message
- Extended System Parameters Message
- Global Service Redirection Message
- Extended Neighbor List Message
- General Neighbor List Message
- User Zone Identification Message
- Private Neighbor List Message
- Extended Global Service Redirection Message
- Extended CDMA Channel List Message

The Response to Overhead Information Operation is performed whenever the mobile station receives an overhead message. The mobile station updates internally stored information from the received message’s data fields.

Configuration parameters and access parameters are received in the configuration messages and the Access Parameters Message. The configuration messages are:

- System Parameters Message
- Neighbor List Message
- CDMA Channel List Message
- Extended System Parameters Message
- Global Service Redirection Message
- Extended Neighbor List Message
- General Neighbor List Message
Acknowledged with the set of configuration messages sent on each Paging Channel is a
configuration message sequence number (CONFIG_MSG_SEQ). When the contents of one
or more of the configuration messages change, the configuration message sequence number
is incremented. For each of the configuration messages received, the mobile station stores
the configuration message sequence number contained in the configuration message (SYS_PAR_MSG_SEQs, NGHBR_LIST_MSG_SEQs, EXT_NGHBR_LIST_MSG_SEQs, GEN_NGHBR_LIST_MSG_SEQs, CHAN_LIST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, EXT_CHAN_LIST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, or PRI_NGHBR_LIST_MSG_SEQs). The mobile station also stores the most recently received
configuration message sequence number (CONFIG_MSG_SEQs) contained in any message
(see 2.6.2.2.1, 2.6.2.2.3, 2.6.2.2.4, 2.6.2.2.5, 2.6.2.2.6, 2.6.2.2.7, 2.6.2.2.8, 2.6.2.2.9,
2.6.2.2.10, 2.6.2.2.11, 2.6.2.2.12 and 2.6.2.3). The mobile station examines the stored
values of the configuration message sequence numbers to determine whether the
configuration parameters stored by the mobile station are current.

The field EXT_SYS_PARAMETER in the System Parameters Message, when set equal to '0',
indicates that the base station is not sending the Extended System Parameters Message. When the mobile station receives the System Parameters Message with the
EXT_SYS_PARAMETER field set equal to '0', the mobile station shall set
EXT_SYS_PAR_MSG_SEQs to CONFIG_MSG_SEQs to indicate that the Extended System Parameters Message is current.

The field GEN_NGHBRLIST in the System Parameters Message, when set equal to '0',
indicates that the base station is not sending the General Neighbor List Message. When the mobile station receives the System Parameters Message with the GEN_NGHBRLIST field set
equal to '0', the mobile station shall set the GEN_NGHBRLIST_MSG_SEQs to
CONFIG_MSG_SEQs to indicate that the General Neighbor List Message is current.

The field EXT_NGHBRLIST in the System Parameters Message, when set equal to '0',
indicates that the base station is not sending the Extended Neighbor List Message. When the mobile station receives the System Parameters Message with the EXT_NGHBRLIST field set equal to '0', the mobile station shall set EXT_NGHBRLIST_SEQs to CONFIG_MSG_SEQs to indicate that the Extended Neighbor List Message is current.

The field GLOBAL_REDIRECT in the System Parameters Message, when set equal to '0',
indicates that the base station is not sending the Global Service Redirection Message. When the mobile station receives the System Parameters Message with the GLOBAL_REDIRECT field set equal to '0', the mobile station shall set GLOB_SERV_REDIR_MSG_SEQs to
CONFIG_MSG_SEQs to indicate that the Global Service Redirection Message is current.

The field EXT_GLOBAL_REDIRECT in the System Parameters Message, when set equal to
'0', indicates that the base station is not sending the Extended Global Service Redirection
Message. When the mobile station receives the System Parameters Message with the EXT_GLOBAL_REDIRECT field set equal to '0', the mobile station shall set EXT_GLOB_SERV_REDIR_MSG_SEQs to CONFIG_MSG_SEQs to indicate that the Extended Global Service Redirection Message is current.

The field USER_ZONE_ID in the System Parameters Message, when set equal to '0', indicates that the base station is not sending the User Zone Identification Message. When the mobile station receives the System Parameters Message with the USER_ZONE_ID field set equal to '0', the mobile station shall set USER_ZONE_ID_MSG_SEQs to CONFIG_MSG_SEQs to indicate that the User Zone Identification Message is current.

The field PRI_NGHBR_LIST in the System Parameters Message, when set equal to '0', indicates that the base station is not sending the Private Neighbor List Message. When the mobile station receives the System Parameters Message with the PRI_NGHBR_LIST field set equal to '0', the mobile station shall set PRI_NGHBR_LIST_MSG_SEQs to CONFIG_MSG_SEQs to indicate that the Private Neighbor List Message is current.

The configuration message sequence number is also included in the General Page Message. This allows the mobile station to determine whether the stored configuration parameters are current without waiting for a configuration message.

Access Parameters Messages are independently sequence-numbered by the ACC_MSG_SEQ field. The mobile station stores the most recently received Access Parameters Message sequence number (ACC_MSG_SEQs).

Paging Channels shall be considered different if they are transmitted by different base stations, if they are transmitted on different code channels, or if they are transmitted on different CDMA Channels. Configuration and access parameters from one Paging Channel shall not be used while monitoring a different Paging Channel except for registration and authentication parameters while the mobile station is performing an access probe handoff or access handoff. The mobile station shall ignore any overhead message whose PILOT_PNr field is not equal to the pilot offset index (PILOT_PNs) of the base station whose Paging Channel is being monitored.

The mobile station may store the configuration parameters from Paging Channels it has recently monitored. When a mobile station starts monitoring a Paging Channel that it has recently monitored, the mobile station can determine whether the stored parameters are current by examining the CONFIG_MSG_SEQs in a configuration message or a General Page Message.

The mobile station shall use a special value, NULL, to be stored in place of sequence numbers for messages that have not been received or are marked as not current. The special value NULL shall be unequal to any valid message sequence number.

The mobile station shall consider the stored configuration parameters to be current only if all of the following conditions are true:
All stored configuration message sequence numbers (SYS_PAR_MSG_SEQs, NGHBR_LIST_MSG_SEQs, EXT_NGHBR_LIST_MSG_SEQs, CHAN_LIST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GEN_NGHBR_LIST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LIST_MSG_SEQs, EXT_CHAN_LIST_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs and GLOB_SERV_REDIR_MSG_SEQs) are equal to CONFIG_MSG_SEQs; and

• CONFIG_MSG_SEQs is not equal to NULL; and

• No more than T_{31m} seconds (see Annex D) have elapsed since the mobile station last received a valid message on the Paging Channel for which the parameters were stored.

If the configuration parameters are not current, the mobile station shall process the stored parameters upon receipt of the configuration messages as described in 2.6.2.2.1, 2.6.2.2.3, 2.6.2.2.4, 2.6.2.2.5, 2.6.2.2.6, 2.6.2.2.7, 2.6.2.2.8, 2.6.2.2.9, 2.6.2.2.10, 2.6.2.2.11, and 2.6.2.2.12.

2.6.2.2.1 System Parameters Message

Whenever a System Parameters Message is received on the Paging Channel, the configuration message sequence number, CONFIG_MSG_SEQr, shall be compared to that stored in SYS_PAR_MSG_SEQs. If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as described in 2.6.2.2.1.1, 2.6.2.2.1.2, 2.6.2.2.1.3, 2.6.2.2.1.4, 2.6.2.2.1.5, and 2.6.2.2.1.6.

If PAGE_CHAN, REG_PRD, BASE_LAT, BASE_LONG, or PWR_REP_THRESH are not within the valid ranges specified in 3.7.2.3.2.1, then the mobile station shall ignore the System Parameters Message that contains them.

If BAND_CLASS is equal to ‘00001’ and if either EXT_SYS_PARAMETERSr is not equal to ‘1’ or EXT_NGHBR_LISTr is not equal to ‘1’, or both, the mobile station shall ignore the System Parameters Message containing these fields.

2.6.2.2.1.1 Stored Parameters

The mobile station shall store the following parameters:

• Configuration message sequence number
  \[(\text{CONFIG_MSG_SEQs} = \text{CONFIG_MSG_SEQr}, \text{SYS_PAR_MSG_SEQs} = \text{CONFIG_MSG_SEQr})\]

• Base station identification (BASE_IDs = BASE_IDr)

• Base station class (BASE_CLASSs = BASE_CLASSr)

• Maximum slot cycle index
  \[(\text{MAX_SLOT_CYCLE_INDEXs} = \text{MAX_SLOT_CYCLE_INDEXr})\]

• Home registration indicator (HOME_REGs = HOME_REGr)

• SID roamer registration indicator (FOR_SID_REGs = FOR_SID_REGr)
• NID roamer registration indicator (FOR_NID_REGs = FOR_NID_REGr)
• Power-up registration indicator (POWER_UP_REGs = POWER_UP_REGr)
• Power-down registration indicator (POWER_DOWN_REGs = POWER_DOWN_REGr)
• Parameter-change registration indicator (PARAMETER_REGs = PARAMETER_REGr)
• Search window size for the Active Set and Candidate Set
  (SRCH_WIN_As = SRCH_WIN_Ar)
• Search window size for the Neighbor Set (SRCH_WIN_Ns = SRCH_WIN_Nr)
• Search window size for the Remaining Set (SRCH_WIN_Rs = SRCH_WIN_Rr)
• Maximum age for retention of Neighbor Set members
  (NGHBR_MAX_AGEs = NGHBR_MAX_AGEr)
• Power control reporting threshold (PWR_REP_THRESHs = PWR_REP_THRESHr)
• Power control reporting frame count (PWR_REP_FRAMESs = PWR_REP_FRAMESr)
• Threshold report mode indicator
  (PWR_THRESH_ENABLEs = PWR_THRESH_ENABLEr)
• Periodic report mode indicator (PWR_PERIOD_ENABLEs = PWR_PERIOD_ENABLEr).
• Power report delay (PWR_REP_DELAYs = PWR_REP_DELAYr)
• Pilot detection threshold (T_ADDs = T_ADDr)
• Pilot drop threshold (T_DROPs = T_DROPr)
• Active Set versus Candidate Set comparison threshold (T_COMPs = T_COMPr)
• Drop timer value (T_TDROPs = T_TDROPr)
• Extended System Parameters Message sent
  (EXT_SYS_PARAMETERs = EXT_SYS_PARAMETERr)
• Global Service Redirection Message sent
  (GLOBAL_REDIRECTs = GLOBAL_REDIRECTr)
• Extended Global Service Redirection Message sent
  (EXT_GLOBAL_REDIRECTs = EXT_GLOBAL_REDIRECTr)
• Extended Neighbor List Message sent
  (EXT_NGHBR_LSTs = EXT_NGHBR_LSTr)
• General Neighbor List Message sent
  (GEN_NGHBR_LSTs = GEN_NGHBR_LSTr)
• User Zone Identification Message sent
  (USER_ZONE_IDs = USER_ZONE_IDr)
• Private Neighbor List Message sent
  (PRI_NGHBR_LSTs = PRI_NGHBR_LSTr)
• Extended CDMA Channel List Message sent
  (EXT_CHAN_LIST_s = EXT_CHAN_LIST_p)

The mobile station shall also store the following parameters if the mobile station is not in
the Origination Attempt Substate or Page Response Substate:

• System identification (SID_s = SID_p)
• Network identification (NID_s = NID_p)
• Registration zone (REG_ZONE_s = REG_ZONE_p)
• Number of registration zones to be retained (TOTAL_ZONES_s = TOTAL_ZONES_p)
• Zone timer length (ZONE_TIMER_s = ZONE_TIMER_p)
• Multiple SID storage indicator (MULT_SIDS_s = MULT_SIDS_p)
• Multiple NID storage indicator (MULT_NIDS_s = MULT_NIDS_p)
• Registration period (REG_PRD_s = REG_PRD_p)
• Base station latitude (BASE_LAT_s = BASE_LAT_p)
• Base station longitude (BASE_LONG_s = BASE_LONG_p)
• Registration distance (REG_DIST_s = REG_DIST_p)

If EXT_SYS_PARAMETER_s is equal to ‘0’, then the mobile station shall perform the
following:

• Set EXT_SYS_PAR_MSG_SEQ_s to CONFIG_MSG_SEQ_s.
• Set BCAST_INDEX_s to MAX_SLOT_CYCLE_INDEX_s.
• Set IMSI_O to IMSI_M by setting IMSI_O_S1_s to IMSI_M_S1_p and IMSI_O_S2_s to IMSI_M_S2_p, MCC_O_s to MCC_M_p,
  IMSI_O_11_12_s to IMSI_M_11_12_p, and IMSI_O_ADDR_NUM_s to
  IMSI_M_ADDR_NUM_p.
• Set RESELECT_INCLUDED_s to ‘0’.
• For Band Class 0, if the mobile station determines it is operating in Korea, set
  P_REV_s to ‘00000010’; otherwise, set P_REV_s to ‘00000011’. For Band Class 3, set
  P_REV_s to ‘00000011’. For Band Class 1 and Band Class 4, set P_REV_s to
  ‘00000001’, and
• Set P_REV_IN_USE_s to the lesser value of P_REV_s and MOB_P_REV_p of the current
  band class.

If EXT_CHAN_LIST_s is equal to ‘0’, then the mobile station shall set
EXT_CHAN_LST_MSG_SEQ_s to CONFIG_MSG_SEQ_s.

If GLOBAL_REDIRECT_s is equal to ‘0’, then the mobile station shall set GLOB_SERV-
_REDIRECT_MSG_SEQ_s to CONFIG_MSG_SEQ_s.

If EXT_GLOBAL_REDIRECT_s is equal to ‘0’, then the mobile station shall set
EXT_GLOB_SERV_REDIR_MSG_SEQ_s to CONFIG_MSG_SEQ_s.
If EXT_NGHBR_LSTs is equal to ‘0’, then the mobile station shall set
EXT_NGHBR_LST_MSG_SEQs to CONFIG_MSG_SEQs.

If GEN_NGHBR_LSTs is equal to ‘0’, then the mobile station shall perform the following:

1. Set GEN_NGHBR_LST_MSG_SEQs to CONFIG_MSG_SEQs.
2. Set the SRCH_WIN_NGHBR field of NGHBR_REC to SRCH_WIN_Ns for all entries.
3. Set the SRCH_OFFSET_NGHBR field of NGHBR_REC to ‘000’ for all entries.
4. Set the TIMING_INCL field of NGHBR_REC to ‘0’ for all entries.
5. Set NUM_ANALOG_NGHBRs to ‘000’ and ANALOG_NGHBR_LIST to NULL.

6. If EXT_NGHBR_LSTs is equal to ‘0’:
   - Set the SEARCH_PRIORITY field of the NGHBR_REC to ‘10’ (high) for all entries.
   - Set the NGHBR_BAND field of the NGHBR_REC to CDMABANDs for all entries.
   - Set the NGHBR_FREQ field of the NGHBR_REC to CDMACHs for all entries.

7. If GEN_NGHBR_LSTs is equal to ‘1’, GEN_NGHBR_LST_MSG_SEQs is equal to
   CONFIG_MSG_SEQs, and SETTING_SEARCH_WIN is equal to ‘1’, the mobile station shall
   perform the following:
   - Set the SRCH_WIN_NGHBR field of each NGHBR_REC to SEARCH_WIN_Ns for all
     NGHBR_SET_SIZEs entries.
   - Set SETTING_SEARCH_WIN to ‘0’.

8. If USER_ZONE_IDs is equal to ‘0’, then the mobile station shall perform the following:
   - Set USER_ZONE_ID_MSG_SEQs to CONFIG_MSG_SEQs.
   - Set the UZID field of the UZ_REC to ‘0000000000000000’ for all entries.
   - Set the UZ_REV field of the UZ_REC to ‘0000’ for all entries.
   - Set the TEMP_SUB field of the UZ_REC to ‘0’ for all entries.

9. If USER_ZONE_IDs is equal to ‘1’ and the mobile station does not support Tiered Services,
   then the mobile station shall set USER_ZONE_ID_MSG_SEQs to CONFIG_MSG_SEQs.

10. If PRI_NGHBR_LISTs is equal to ‘0’, then the mobile station shall set
    PRI_NGHBR_LIST_MSG_SEQs to CONFIG_MSG_SEQs.

11. If PRI_NGHBR_LISTs is equal to ‘1’ and the mobile station does not support Tiered Services,
    then the mobile station shall set PRI_NGHBR_LIST_MSG_SEQs to CONFIG_MSG_SEQs.

The mobile station shall ignore any fields at the end of the System Parameters Message
that are not defined according to the protocol revision level (MOB_P_REVp of the current band
class) being used by the mobile station.

2.6.2.2.1.2 Paging Channel Assignment Change

If the number of Paging Channels specified in the System Parameters Message
(PAGE_CHANr) is different from PAGE_CHANs, the mobile station shall use the hash
algorithm specified in 2.6.7.1 to select a new Paging Channel number in the range 1 to PAGE_CHANr. The mobile station shall store the new Paging Channel number as PAGECHs. The mobile station shall then set PAGE_CHANs to PAGE_CHANr. The mobile station shall set ACC_MSG_SEQs to NULL. If the mobile station has not stored configuration parameters for the new Paging Channel, or if the stored parameters are not current (see 2.6.2.2), the mobile station shall set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, and GLOB_SERV_REDIR_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, and GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall then begin monitoring the new Paging Channel as specified in 2.6.2.1.1.

2.6.2.2.1.3 RESCAN Parameter
If the RESCANr field in the System Parameters Message equals ‘1’, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a rescan indication (see 2.6.1.1).

2.6.2.2.1.4 Roaming Status
The mobile station shall determine the roaming status for the mobile station (see 2.6.5.3). The mobile station should indicate to the user whether the mobile station is roaming.

2.6.2.2.1.5 Registration
The mobile station shall update stored variables and perform other registration procedures as specified in 2.6.5.5.2.2.

2.6.2.2.1.6 Slot Cycle Index
The mobile station shall set SLOT_CYCLE_INDEXs to the smaller of: the preferred slot cycle index SLOT_CYCLE_INDEXp and the maximum slot cycle index MAX_SLOT_CYCLE_INDEXs. If the mobile station is operating in the slotted mode, it shall set its slot cycle length as described in 2.6.2.1.1.3.

2.6.2.2.1.7 PACA Disable for SID Change
If PACAs is equal to enabled, and SIDs is not equal to PACA_SIDs, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

2.6.2.2.1.8 Retry Delay Disable for Packet Zone ID or SID/NID Change
The mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0 when the mobile station determines that the Packet Zone Identification or the System Identification/Network Identification (SID/NID pair) has been changed, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.

2-71
2.6.2.2.2 Access Parameters Message

Whenever an Access Parameters Message is received on the Paging Channel, the sequence number, ACC_MSG_SEQ_r, shall be compared to ACC_MSG_SEQ_s. If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows.

If PROBE_PN_RAN, MAX_REQ_SEQ, or MAX_RSP_SEQ are not within the valid ranges specified in 3.7.2.3.2.2, then the mobile station shall ignore the Access Parameters Message that contains them.

The mobile station shall store the following parameters:

- Access Parameters Message sequence number (ACC_MSG_SEQ_s = ACC_MSG_SEQ_r)
- Number of Access Channels (ACC_CHAN_s = ACC_CHAN_r)
- Nominal transmit power offset (NOM_PWR_s = NOM_PWR_r)
- Initial power offset for access (INIT_PWR_s = INIT_PWR_r)
- Power increment (PWR_STEP_s = PWR_STEP_r)
- Number of access probes (NUM_STEP_s = NUM_STEP_r)
- Maximum Access Channel message capsule size (MAX_CAP_SZ_s = MAX_CAP_SZ_r)
- Access Channel preamble length (PAM_SZ_s = PAM_SZ_r)
- Persistence modifier for Access Channel attempts for registrations which are not responses to the Registration Request Order (REG_PSIST_s = REG_PSIST_r)
- Persistence modifier for Access Channel attempts for message transmissions (MSG_PSIST_s = MSG_PSIST_r)
- Time randomization for Access Channel probes (PROBE_PN_RAN_s = PROBE_PN_RAN_r)
- Acknowledgment timeout (ACC_TMO_s = ACC_TMO_r)
- Access Channel probe backoff range (PROBE_BKOFF_s = PROBE_BKOFF_r)
- Access Channel probe sequence backoff range (BKOFF_s = BKOFF_r)
- Maximum number of probe sequences for an Access Channel request (MAX_REQ_SEQ_s = MAX_REQ_SEQ_r)
- Maximum number of probe sequences for an Access Channel response (MAX_RSP_SEQ_s = MAX_RSP_SEQ_r)
- If CDMABAND_s is equal to '0', the mobile station shall set extended nominal transmit power NOM_PWR_EXT_s to '0'; otherwise, the mobile station shall store extended nominal transmit power (NOM_PWR_EXT_s = NOM_PWR_EXT_r).
- IC threshold (IC_THRESH_s = -7)
The mobile station shall also store the following parameters if the mobile station is not in the **Origination Attempt Substate** or **Page Response Substate**:

- Authentication mode (if AUTH_r is equal to ‘00’ or ‘01’, then AUTH_s = AUTH_r; otherwise AUTH_s = ‘01’)
- Random challenge value (RAND_s = RAND_r)

The mobile station shall ignore any fields at the end of the Access Parameters Message which are not defined according to the protocol revision level (MOB_P_REV_p of the current band class) being used by the mobile station.

The mobile station shall store the persistence parameter number according to the following rule: If the mobile station’s access overload class is in the range 0-9, set PSIST_s equal to PSIST(0-9)_r; otherwise set PSIST_s equal to PSIST(n)_r, where n is equal to the mobile station access overload class.

The mobile station shall set CURR_ACC_MSG_SEQ to ACC_MSG_SEQ_s.

### 2.6.2.2.3 Neighbor List Message

Whenever a valid *Neighbor List Message* is received on the current Paging Channel (PAGECH_s), the configuration message sequence number, CONFIG_MSG_SEQ_r, shall be compared to that stored in NGHBR_LST_MSG_SEQ_s. If the comparison results in a match, the mobile station shall ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows.

If the PILOT_INC field is not within the valid range specified in 3.7.2.3.2.3, then the mobile station shall ignore the *Neighbor List Message* that contains it.

The mobile station shall store the following parameters:

- Configuration message sequence number
  
  \[ \text{CONFIG_MSG_SEQ_s} = \text{CONFIG_MSG_SEQ_r}, \quad \text{NGHBR_LST_MSG_SEQ_s} = \text{CONFIG_MSG_SEQ_r} \]

- Pilot PN sequence offset increment (PILOT_INC_s = PILOT_INC_r)

The mobile station shall set NGHBR_SET_SIZE_s to the number of neighboring base stations contained in the *Neighbor List Message*.

For each of the neighboring base stations contained in the *Neighbor List Message*, the mobile station shall do the following:

- If the i^{th} occurrence of NGHBR_CONFIG_r is equal to ‘000’, ‘001’, or ‘010’, set the NGHBR_CONFIG field of NGHBR_REC[i] to the i^{th} occurrence of NGHBR_CONFIG_r; otherwise, set the NGHBR_CONFIG field of NGHBR_REC[i] to ‘011’.

- Set the NGHBR_PN field of NGHBR_REC[i] to the i^{th} occurrence of NGHBR_PN_r.

If GEN_NGHBR_LST_MSG_SEQ_s is not equal to CONFIG_MSG_SEQ_s, the mobile station shall perform the following:

- Set the SEARCH_PRIORITY field of the NGHBR_REC to ‘10’ (high) for all NGHBR_SET_SIZE_s entries.
• Set the NGHBR_BAND field of NGHBR_REC to CDMABANDs for all NGHBR_SET_SIZEs entries.
• Set the NGHBR_FREQ field of NGHBR_REC to CDMACHs for all NGHBR_SET_SIZEs entries.
• Set the SRCH_WIN_NGHBR field of NGHBR_REC to SRCH_WIN_NS for all NGHBR_SET_SIZEs entries.
• Set the SRCH_OFFSET_NGHBR field of NGHBR_REC to '000' for all entries.
• Set NUM_ANALOG_NGHBRs to '000' and set ANALOG_NGHBR_LIST to NULL.

The mobile station shall set the ACCESS_ENTRY_HO field of the NGHBR_REC to '0' for all NGHBR_SET_SIZEs entries if any of the following conditions are met:

• EXT_SYS_PARAMETERs is equal to '0',
• NGHBR_SET_ENTRY_INFOs is equal to '0', or
• EXT_SYS_PAR_MSG_SEQs is not equal to CONFIG_MSG_SEQs.

The mobile station shall set the ACCESS_HO_ALLOWED field of the NGHBR_REC to '0' for all NGHBR_SET_SIZEs entries if any of the following conditions are met:

• EXT_SYS_PARAMETERs is equal to '0',
• NGHBR_SET_ACCESS_INFOs is equal to '0', or
• EXT_SYS_PAR_MSG_SEQs is not equal to CONFIG_MSG_SEQs.

The mobile station shall update the idle handoff Neighbor Set (see 2.6.2.1.4) so that it consists only of pilot offsets listed in the Neighbor List Message. If the Neighbor List Message contains more pilot offsets than the mobile station can store, the mobile station shall store the pilot offsets beginning at the start of the Neighbor List Message, up to the limits of the mobile station's Neighbor Set storage capacity.

2.6.2.2.4 CDMA Channel List Message

Whenever a CDMA Channel List Message is received on the Paging Channel, the configuration message sequence number, CONFIG_MSG_SEQr, shall be compared to that stored in CHAN_LST_MSG_SEQs. If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows.

The mobile station shall store the following parameters:

• Configuration message sequence number
  (CONFIG_MSG_SEQs = CONFIG_MSG_SEQr, CHAN_LST_MSG_SEQs = CONFIG_MSG_SEQr)

The mobile station shall perform the following:

• If both SYS_PAR_MSG_SEQs and EXT_SYS_PAR_MSG_SEQs are current,
  – If EXT_CHAN_LISTs is equal to '1', the mobile station shall ignore this message.
- If EXT_CHAN_LISTs is equal to '0', the mobile station shall process this message as described below.
- Otherwise, the mobile station shall process this message after SYS_PAR_MSG_SEQs and EXT_SYS_PAR_MSG_SEQs become current.

The mobile station shall use the hash algorithm specified in 2.6.7.1 and the number of channels listed in the CDMA Channel List Message to determine the CDMA Channel (Frequency Assignment) for its Paging Channel.

If the CDMA Frequency Assignment has changed (the computed CDMA Channel is different from CDMACHs), the mobile station shall perform the following actions:

- If the stored configuration parameters is not current (see 2.6.2.2) for the corresponding base station and frequency assignment, the mobile station shall perform the following actions:
  - Set CDMACHs to the new CDMA Channel.
  - Set PAGE_CHANs to '1'.
  - Set PAGECHs to the Primary Paging Channel.
  - Set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, and ACC_MSG_SEQs to NULL.
  - Tune to the new CDMA Channel.
- Otherwise, the mobile station shall perform the following actions:
  - Set CDMACHs to the new CDMA Channel.
  - The mobile station shall use the hash algorithm specified in 2.6.7.1 to select a new Paging Channel number in the range 1 to PAGE_CHANs, where PAGE_CHANs is the value stored for the Paging Channel whose stored information is current. The mobile station shall store the new Paging Channel number as PAGECHs.
  - Tune to the new CDMA Channel and shall begin monitoring the new Paging Channel.

2.6.2.2.5 Extended System Parameters Message

Whenever an Extended System Parameters Message is received on the Paging Channel, the configuration message sequence number, CONFIG_MSG_SEQr, shall be compared to that stored in EXT_SYS_PAR_MSG_SEQs. If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows.

2-75
If the protocol revision level supported by the mobile station (MOB_P_REVp) is less than the
minimum protocol revision level supported by the base station (MIN_P_REVr), the mobile
station shall enter the System Determination Substate of the Mobile Station Initialization State
with a protocol mismatch indication (see 2.6.1.1). Otherwise, the mobile station shall store
the following parameters:

- Configuration message sequence number
  \[‐‐\] Configuration message sequence number
  \[‐‐\] (CONFIG_MSG_SEQs = CONFIG_MSG_SEQr,
  \[‐‐\] EXT_SYS_PAR_MSG_SEQs = CONFIG_MSG_SEQr)
- Preferred Access Channel MSID type (PREF_MSID_TYPEs = PREF_MSID_TYPEr)
- Broadcast slot cycle index (BCAST_INDEXs = BCAST_INDEXr)
- The mobile station shall set its operational IMSI, IMSI_O, as follows:
  - If IMSI_T_SUPPORTEDr is equal to ‘0’, the mobile station shall set IMSI_O to
    IMSI_Mp.
  - If IMSI_T_SUPPORTEDr is equal to ‘1’ and the mobile station’s IMSI_Tp has been
    programmed, the mobile station shall set IMSI_O to IMSI_Tp.
  - If IMSI_T_SUPPORTEDr is equal to ‘1’ and the mobile station’s IMSI_Tp has not
    been programmed, the mobile station shall set IMSI_O to IMSI_Mp.
  - If IMSI_O has been changed, the mobile station shall set SYS_PAR_MSG_SEQs
    and CHAN_LST_MSG_SEQs and EXT_CHAN_LST_MSG_SEQs to NULL and set
    PAGE_CHANs to ‘1’.
- If MCCr = ‘1111111111’ and IMSI_11_12r = ‘1111111’, the mobile station shall set
  the IMSI_O to IMSI_Mp and store:
    - Mobile Country Code (MCCs = MCCMp) and
    - IMSI 11th and 12th digits (IMSI_11_12s = IMSI_M_11_12p);
  otherwise, the mobile station shall store:
    - Mobile Country Code (MCCs = MCCr) and
    - IMSI 11th and 12th digits (IMSI_11_12s = IMSI_11_12r).
- If IMSI_O is set to the IMSI_M, the mobile station shall set:
  - IMSI_O_Ss to IMSI_M_Sp (i.e., IMSI_O_S1s to IMSI_M_S1p and IMSI_O_S2s to
    IMSI_M_S2p)
  - IMSI_O_11_12s to IMSI_M_11_12p
  - MCC_0s to MCCMp
  - IMSI_O_ADDR_NUMs to IMSI_M_ADDR_NUMp
- If IMSI_O is set to the IMSI_T, the mobile station shall set:
  - IMSI_O_Ss to IMSI_T_Sp (i.e., IMSI_O_S1s to IMSI_T_S1p and IMSI_O_S2s to
    IMSI_T_S2p).
- IMSI_O_11_12s to IMSI_T_11_12p
- MCC_Os to MCC_Tp
- IMSI_O_ADDR_NUMs to IMSI_T_ADDR_NUMp

- Protocol revision level (P_REVS = P_REVr) if included in the message; otherwise, set P_REVs as follows:
  - For Band Class 0, if the mobile station determines it is operating in Korea, set P_REVs to ‘00000010’; otherwise, set P_REVs to ‘00000011’.
  - For Band Class 3, set P_REVs to ‘00000011’.
  - For Band Class 1 and Band Class 4, set P_REVs to ‘00000001’.

- Minimum protocol revision level (MIN_P_REVS = MIN_P_REVr) if included in the message; otherwise, MIN_P_REVs = ‘00000010’ for Band Class 0, MIN_P_REVs = ‘00000001’ for Band Class 1 and Band Class 4, and MIN_P_REVs = ‘00000011’ for Band Class 3.

- Protocol revision level currently in use (P_REV_IN_USEs = the lesser value of P_REVs and MOB_P_REVp of the current band class)

- Slope of the handoff add/drop criterion (SOFT_SLOPEs = SOFT_SLOPEr) if included in the message; otherwise, SOFT_SLOPEs = ‘000000’.

- Intercept of the handoff add criterion (ADD_INTERCEPTs = ADD_INTERCEPTr)

- Intercept of the handoff drop criterion (DROP_INTERCEPTs = DROP_INTERCEPTr)

- Delete foreign TMSI (DELETE_FOR_TMSIs = DELETE_FOR_TMSIr)

- Use TMSI (USE_TMSIs = USE_TMSIr)

- TMSI zone length (TMSI_ZONE_LENs = TMSI_ZONE_LENr)

- TMSI zone number (TMSI_ZONEs = TMSI_ZONer)

- Maximum number of alternative service options (MAX_NUM_ALT_SOs = MAX_NUM_ALT_SOr) if included in the message; otherwise, MAX_NUM_ALT_SOs = ‘000’.

- System reselection indicator (RESELECT_INCLUDEDs = RESELECT_INCLUDEDr) if included in the message; otherwise, RESELECT_INCLUDEDs = ‘0’.

- Pilot reporting indicator (PILOT_REPORTs = PILOT_REPORTr)

- Neighbor Set access entry handoff information indicator (NGHBR_SET_ENTRY_INFOs = NGHBR_SET_ENTRY_INFOr) if included in the message; otherwise, NGHBR_SET_ENTRY_INFOs = ‘0’.

- Neighbor Set access handoff information indicator (NGHBR_SET_ACCESS_INFOs = NGHBR_SET_ACCESS_INFOr) if included in the message; otherwise, NGHBR_SET_ACCESS_INFOs = ‘0’.

- Short Data Burst supported indicator (SDB_SUPPORTEDs = SDB_SUPPORTEDr)
- Nominal reverse traffic channel output power offset relative to Reverse Pilot Channel power (RLGAIN_TRAFFIC_PILOT_s = RLGAIN_TRAFFIC_PILOT_r)
- Reverse Power Control Delay (REV_PWR_CNTL_DELAY_s = REV_PWR_CNTL_DELAY_r) if included
- Broadcast GPS Assist Indicator (BROADCAST_GPS_ASST_s = BROADCAST_GPS_ASST_r)

If P_REV_IN_USE_s has been changed, the mobile station shall set ACC_MSG_SEQs, CURR_ACC_MSG_SEQ, SYS_PAR_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQ_s, and GLOB_SERV_REDIR_MSG_SEQ_s to NULL.

If NGHBR_SET_ENTRY_INFO_s is equal to '1', the mobile station shall store the access entry handoff in order and message processing operation indicator (ACC_ENT_HO_ORDER_s = ACC_ENT_HO_ORDER_r).

If the mobile station supports packet data service options and the PACKET_ZONE_ID field is included in the message, the mobile station shall store the packet data services zone identifier (PACKET_ZONE_ID_s = PACKET_ZONE_ID_r); otherwise, the mobile station shall set PACKET_ZONE_ID_s to '00000000'.

If RESELECT_INCLUDED_s is equal to '1', the mobile station shall store:

- Pilot power threshold (EC_THRESH_s = EC_THRESH_r)
- Pilot E_c/I_o threshold (EC_IO_THRESH_s = EC_IO_THRESH_r)

If NGHBR_SET_ACCESS_INFO_s is equal to '1', the mobile station shall store:

- Access handoff permitted indicator (ACCESS_HO_s = ACCESS_HO_r)
- Access probe handoff permitted indicator (ACCESS_PROBE_HO_s = ACCESS_PROBE_HO_r)
- If ACCESS_PROBE_HO_s is equal to '1', access handoff list update permitted indicator (ACC_HO_LIST_UPD_s = ACC_HO_LIST_UPD_r)
- Maximum number of times that the mobile station is permitted to perform an access probe handoff (MAX_NUM_PROBE_HO_s = MAX_NUM_PROBE_HO_r)
- Access handoff permitted for message response indicator (ACCESS_HO_MSG_RSP_s = ACCESS_HO_MSG_RSP_r)
- Access probe handoff permitted for other messages indicator (ACC_PROBE_HO_OTHER_MSG_s = ACC_PROBE_HO_OTHER_MSG_r)

If NGHBR_SET_ENTRY_INFO_s or NGHBR_SET_ACCESS_INFO_s is equal to '1', the mobile station shall store the size of the Neighbor Set (NGHBR_SET_SIZE_s = NGHBR_SET_SIZE_r).

If NGHBR_SET_ENTRY_INFO_s is equal to '0', then for all NGHBR_SET_SIZE_s occurrences of ACCESS_ENTRY_HO, the mobile station shall set the ACCESS_ENTRY_HO field of NGHBR_REC[i] to '0'.

2-78
If NGHBR_SET_ENTRY_INFOs is equal to ‘1’, then for all NGHBR_SET_SIZEs occurrences of
ACCESS_ENTRY_HO, the mobile station shall set the ACCESS_ENTRY_HO field of
NGHBR_REC[i] to the i\textsuperscript{th} occurrence of ACCESS_ENTRY_HO\textsubscript{r}.

If NGHBR_SET_ACCESS_INFOs is equal to ‘0’, then for all NGHBR_SET_SIZEs occurrences
of ACCESS_HO_ALLOWED, the mobile station shall set the ACCESS_HO_ALLOWED field of
NGHBR_REC[i] to ‘0’.

If NGHBR_SET_ACCESS_INFOs is equal to ‘1’, then for all NGHBR_SET_SIZEs occurrences
of ACCESS_HO_ALLOWED, the mobile station shall set the ACCESS_HO_ALLOWED field of
NGHBR_REC[i] to the i\textsuperscript{th} occurrence of ACCESS_HO_ALLOWED\textsubscript{r}.

The mobile station shall set all bits of TMSI_CODE\textsubscript{s-p} to ‘1’ if all of the following conditions
are met:

- The bits of TMSI_CODE\textsubscript{s-p} are not all equal to ‘1’,
- DELETE\_FOR\_TMSI\textsubscript{s} is equal to ‘1’, and
- ASSIGNING\_TMSI\_ZONE\_LEN\textsubscript{s-p} is not equal to TMSI\_ZONE\_LEN\textsubscript{s}, or the least
  significant ASSIGNING\_TMSI\_ZONE\_LEN\textsubscript{s-p} octets of ASSIGNING\_TMSI\_ZONE\textsubscript{s-p}
  are not equal to TMSI\_ZONE\textsubscript{s}.

If the mobile station supports the Quick Paging Channel operation:

- The mobile station shall set QPCH\_SUPPORTED\textsubscript{s} to QPCH\_SUPPORTED\textsubscript{r}.
- If QPCH\_SUPPORTED\textsubscript{r} = ‘1’:
  - The mobile station shall set QPCH\_RATE\textsubscript{s} to QPCH\_RATE\textsubscript{r}.
  - If the number of Quick Paging Channels specified in the received message
    (NUM\_QPCH\textsubscript{r}) is different from NUM\_QPCH\textsubscript{s}, the mobile station shall use the
    hash algorithm specified in 2.6.7.1 to select a new Quick Paging Channel
    number in the range 1 to NUM\_QPCH\textsubscript{r}. The mobile station shall store the new
    Quick Paging Channel number as QPAGECH\textsubscript{s} and as ASSIGNED\_QPAGECH\textsubscript{s}.
    The mobile station shall then set NUM\_QPCH\textsubscript{s} to NUM\_QPCH\textsubscript{r}.

- The mobile station shall set QPCH\_POWER\_LEVEL\_PAGE\textsubscript{s} to
  QPCH\_POWER\_LEVEL\_PAGE\textsubscript{r}.
- The mobile station shall set QPCH\_CCI\_SUPPORTED\textsubscript{s} to QPCH\_CCI\_SUPPORTED\textsubscript{r}.
- If QPCH\_CCI\_SUPPORTED\textsubscript{r} = ‘1’, the mobile station shall set
  QPCH\_POWER\_LEVEL\_CONFIG\textsubscript{s} to QPCH\_POWER\_LEVEL\_CONFIG\textsubscript{r}.

2.6.2.2.6 Global Service Redirection Message
Whenever a Global Service Redirection Message is received on the Paging Channel, the
configuration message sequence number, CONFIG\_MSG\_SEQ\textsubscript{r}, shall be compared to that
stored in GLOB\_SERV\_REDIR\_MSG\_SEQ\textsubscript{s}. If the comparison results in a match or if
SYS\_PAR\_MSG\_SEQ\textsubscript{s} is not current, the mobile station may ignore the message; otherwise,
the mobile station shall store the following parameters:

2-79
1. Configuration message sequence number
   (CONFIG_MSG_SEQ_s = CONFIG_MSG_SEQ_r,
   GLOB_SERV_REDIR_MSG_SEQ_s = CONFIG_MSG_SEQ_r)

2. If the P_REV_IN_USE_s is equal to or greater than 6, the mobile station shall ignore
   this message, if any of the following conditions is true:
   - EXT_GLOBAL_REDIRECT_s = ‘1’
   - EXCL_P_REV_MS_r = ‘1’

3. If the subfield corresponding to the access overload class, ACCOLC_p, of the mobile station
   is set equal to ‘1’ in the REDIRECT_ACCOLC_r field of the received message, the mobile
   station shall store the following parameters and then shall enter the System Determination
   Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1):

4. Return if fail indicator (RETURN_IF_FAIL_s = RETURN_IF_FAIL_r)

5. If DELETE_TMSI_r is equal to ‘1’, the mobile station shall set all the bits of
   TMSI_CODE_s-p to ‘1’

6. Redirection record (REDIRECT_REC_s = redirection record from received message)

7. If RECORD_TYPE_r = ‘00000001’, the mobile station shall:
   - Set CDMA_MODE_s to ‘1’
   - Set DIGITAL_REG_s-p to ‘00000000’
   - Max delay upon redirection (MAX_REDIRECT_DELAY_s =
     MAX_REDIRECT_DELAY_r)

2.6.2.2.7 Extended Neighbor List Message

Whenever a valid Extended Neighbor List Message is received on the current Paging Channel
(PAGECH_s), the configuration message sequence number, CONFIG_MSG_SEQ_r, shall be
compared to that stored in EXT_NGHBR_LST_MSG_SEQ_s. If the comparison results in a
match, the mobile station may ignore the message. If the comparison results in a
mismatch, then the mobile station shall process the remaining fields in the message as
follows.

If the PILOT_INC field is not within the valid range specified in 3.7.2.3.2.14, then the mobile
station shall ignore the Extended Neighbor List Message that contains it.

The mobile station shall store the following parameters:

- Configuration message sequence number
  (CONFIG_MSG_SEQ_s = CONFIG_MSG_SEQ_r,
  EXT_NGHBR_LST_MSG_SEQ_s = CONFIG_MSG_SEQ_r,
  NGHBR_LST_MSG_SEQ_s = CONFIG_MSG_SEQ_r)

- Pilot PN sequence offset increment (PILOT_INC_s = PILOT_INC_r)
The mobile station shall set \texttt{NGHBR\_SET\_SIZE}s to the number of neighboring base stations contained in the \textit{Extended Neighbor List Message}.

For each of the neighboring base stations contained in the \textit{Extended Neighbor List Message}, if \texttt{FREQ\_INCLr} equals ‘0’, or if \texttt{FREQ\_INCLr} equals ‘1’ and \texttt{NGHBR\_BANDr} is supported, the mobile station shall do the following:

1. If the \texttt{ith} occurrence of \texttt{NGHBR\_CONFIGr} is equal to ‘000’, ‘001’, or ‘010’, set the \texttt{NGHBR\_CONFIG} field of \texttt{NGHBR\_REC[i]} to the \texttt{ith} occurrence of \texttt{NGHBR\_CONFIGr}; otherwise, set the \texttt{NGHBR\_CONFIG} field of \texttt{NGHBR\_REC[i]} to ‘011’.
2. Set the \texttt{NGHBR\_PN} field of \texttt{NGHBR\_REC[i]} to the \texttt{ith} occurrence of \texttt{NGHBR\_PNr}.
3. Set the \texttt{SEARCH\_PRIORITY} field of \texttt{NGHBR\_REC[i]} to the \texttt{ith} occurrence of \texttt{SEARCH\_PRIORITYr}.

For each of the neighboring base stations contained in the \textit{Extended Neighbor List Message}, if \texttt{FREQ\_INCLr} equals ‘1’ and \texttt{NGHBR\_BANDr} is supported, the mobile station shall also do the following:

1. Set the \texttt{NGHBR\_BAND} field of \texttt{NGHBR\_REC[i]} to the \texttt{ith} occurrence of \texttt{NGHBR\_BANDr}.
2. Set the \texttt{NGHBR\_FREQ} field of \texttt{NGHBR\_REC[i]} to the \texttt{ith} occurrence of \texttt{NGHBR\_FREQr}.

For each of the neighboring base stations contained in the \textit{Extended Neighbor List Message}, if \texttt{FREQ\_INCLr} equals ‘0’, the mobile station shall also do the following:

1. Set the \texttt{NGHBR\_BAND} field of \texttt{NGHBR\_REC[i]} to \texttt{CDMABAND}s.
2. Set the \texttt{NGHBR\_FREQ} field of \texttt{NGHBR\_REC[i]} to \texttt{CDMACH}s.

If \texttt{GEN\_NGHBR\_LST\_MSG\_SEQ}s is not equal to \texttt{CONFIG\_MSG\_SEQ}s, the mobile station shall do the following:

1. Set the \texttt{SRCH\_WIN\_NGHBR} field of \texttt{NGHBR\_REC} to \texttt{SRCH\_WIN\_N}s for all \texttt{NGHBR\_SET\_SIZE}s entries.
2. Set the \texttt{SRCH\_OFFSET\_NGHBR} field of \texttt{NGHBR\_REC} to ‘000’ for all entries.
3. Set \texttt{NUM\_ANALOG\_NGHBR}s to ‘000’ and set \texttt{ANALOG\_NGHBR\_LIST} to NULL.

The mobile station shall set the \texttt{ACCESS\_ENTRY\_HO} field of the \texttt{NGHBR\_REC} to ‘0’ for all \texttt{NGHBR\_SET\_SIZE}s entries if any of the following conditions are met:

1. \texttt{EXT\_SYS\_PARAMETER}s is equal to ‘0’.
2. \texttt{NGHBR\_SET\_ENTRY\_INFO}s is equal to ‘0’, or
3. \texttt{EXT\_SYS\_PAR\_MSG\_SEQ}s is not equal to \texttt{CONFIG\_MSG\_SEQ}s.

The mobile station shall set the \texttt{ACCESS\_HO\_ALLOWED} field of the \texttt{NGHBR\_REC} to ‘0’ for all \texttt{NGHBR\_SET\_SIZE}s entries if any of the following conditions are met:

1. \texttt{EXT\_SYS\_PARAMETER}s is equal to ‘0’.
• NGHBR_SET_ACCESS_INFOs is equal to ‘0’, or
• EXT_SYS_PAR_MSG_SEQs is not equal to CONFIG_MSG_SEQs.

The mobile station shall update the idle handoff Neighbor Set (see 2.6.2.1.4) so that it consists only of pilot offsets listed in the Extended Neighbor List Message. If the Extended Neighbor List Message contains more pilot offsets than the mobile station can store, the mobile station shall store the pilot offsets beginning at the start of the Extended Neighbor List Message, up to the limits of the mobile station’s Neighbor Set storage capacity.

2.6.2.2.8 General Neighbor List Message

Whenever a valid General Neighbor List Message is received on the current Paging Channel (PAGECHs), the configuration message sequence number, CONFIG_MSG_SEQr shall be compared to that stored in GEN_NGHBR_LST_MSG_SEQs. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows.

If the PILOT_INC field is not within the valid range specified in 3.7.2.3.2.22, then the mobile station shall ignore the General Neighbor List Message that contains it.

The mobile station shall store the following parameters:

• Configuration message sequence number
  (CONFIG_MSG_SEQs = CONFIG_MSG_SEQr,
   GEN_NGHBR_LST_MSG_SEQs = CONFIG_MSG_SEQr).
• Pilot PN sequence offset increment (PILOT_INCs = PILOT_INCr).

If NGHBR_CONFIG_PN_INCLr is equal to ‘1’ and FREQ_FIELDS_INCLr is equal to ‘1’, the mobile station shall store the following parameters:

• Configuration message sequence number
  (EXT_NGHBR_LST_MSG_SEQs = CONFIG_MSG_SEQr,
   NGHBR_LST_MSG_SEQs = CONFIG_MSG_SEQr).

The mobile station shall set NGHBR_SET_SIZEs to the number of neighboring base stations contained in the General Neighbor List Message.

For each of the neighboring base stations contained in the General Neighbor List Message, if FREQ_INCLr equal ‘0’, or if FREQ_INCLr equal ‘1’ and NGHBR_BANDr is supported, the mobile station shall do the following:

• If NGHBR_CONFIG_PN_INCLr is equal to ‘1’, set the NGHBR_CONFIG and NGHBR_PN fields as follows:
  – If the ith occurrence of NGHBR_CONFIGr is equal to ‘000’, ‘001’, or ‘010’, set the NGHBR_CONFIG field of NGHBR_REC[i] to the ith occurrence of NGHBR_CONFIGr; otherwise, set the NGHBR_CONFIG field of NGHBR_REC[i] to ‘011’.
  – Set the NGHBR_PN field of NGHBR_REC[i] to the ith occurrence of NGHBR_PNr.
If NGHBR_SRCH_MODE \( r = '00' \) or \( '10' \) and EXT_NGHBR_LST_MSG_SEQs is not equal to CONFIG_MSG_SEQr, set SEARCH_PRIORITY field of each NGHBR_REC to ‘10’ (high) for all NGHBR_SET_SIZEs entries.

If NGHBR_SRCH_MODE \( r = '01' \) or \( '11' \), set the SEARCH_PRIORITY field of NGHBR_REC[i] to the \( i \)th occurrence of SEARCH_PRIORITYr.

If NGHBR_SRCH_MODE \( r = '00' \) or \( '01' \), set the SRCH_WIN_NGHBR field of each NGHBR_REC to SEARCH_WINs for all NGHBR_SET_SIZEs entries if SYS_PAR_MSG_SEQs is equal to CONFIG_MSG_SEQs; otherwise, set SETTING_SEARCH_WIN to ‘1’.

If NGHBR_SRCH_MODE \( r = '00' \) or \( '01' \), set the SRCH_OFFSET_NGHBR field of each NGHBR_REC to ‘000’.

If NGHBR_SRCH_MODE \( r = '10' \) or \( '11' \):
- set the SRCH_WIN_NGHBR field of NGHBR_REC[i] to the \( i \)th occurrence of SRCH_WIN_NGHBRr
- if SRCH_OFFSET_INCLr equals to ‘1’, set the SRCH_OFFSET_NGHBR field of NGHBR_REC[i] to the \( i \)th occurrence of SRCH_OFFSET_NGHBRr, and
- if SRCH_OFFSET_INCLr equals to ‘0’, set the SRCH_OFFSET_NGHBR field of each NGHBR_REC to ‘000’.

If USE_TIMINGr is equal to ‘1’, set the TIMING_INCL field of NGHBR_REC[i] to the \( i \)th occurrence of TIMING_INCLr; otherwise, set the TIMING_INCL field of NGHBR_REC to ‘0’ for all entries.

For each of the neighboring base stations contained in the General Neighbor List Message, if FREQ_FIELDS_INCLr equals ‘1’, FREQ_INCLr equals ‘1’, and NGHBR_BANDr is supported, the mobile station shall also perform the following:
- Set the NGHBR_BAND field of NGHBR_REC[i] to the \( i \)th occurrence of NGHBR_BANDr.
- Set the NGHBR_FREQ field of NGHBR_REC[i] to the \( i \)th occurrence of NGHBR_FREQr.

For each of the neighboring base stations contained in the General Neighbor List Message, if USE_TIMINGr is equal to ‘1’ and TIMING_INCLr equals ‘1’, the mobile station shall also perform the following:
- Set the NGHBR_TX_OFFSET field of NGHBR_REC[i] to the \( i \)th occurrence of NGHBR_TX_OFFSETr.
- If GLOBAL_TIMING_INCLr is equal to ‘1’, then the mobile station shall:
  - Set the NGHBR_TX_DURATION field of NGHBR_REC to GLOBAL_TX_DURATIONr for all entries.
  - Set the NGHBR_TX_PERIOD field of NGHBR_REC to GLOBAL_TX_PERIODr for all entries.
• If GLOBAL_TIMING_INCLr is equal to '0', then the mobile station shall:
  – Set the NGHBR_TX_DURATION field of NGHBR_REC[i] to the ith occurrence of
    NGHBR_TX_DURATINr.
  – Set the NGHBR_TX_PERIOD field of NGHBR_REC[i] to the ith occurrence of
    NGHBR_TX_PERIODr.

For each of the neighboring base stations contained in the General Neighbor List Message, if
FREQ_FIELDS_INCLr equals '1' and FREQ_INCLr equals '0', or if FREQ_FIELDS_INCLr
equals '0' and EXT_NGHBR_LST_MSG_SEQs is not equal to CONFIG_MSG_SEQr, the
mobile station shall also do the following:
  • Set the NGHBR_BAND field of NGHBR_REC[i] to CDMABANDs.
  • Set the NGHBR_FREQ field of NGHBR_REC[i] to CDMACHs.

The mobile station shall set the ACCESS_ENTRY_HO field of the NGHBR_REC to '0' for all
NGHBR_SET_SIZEs entries if any of the following conditions are met:
  • EXT_SYS_PARAMETERs is equal to '0'
  • NGHBR_SET_ENTRY_INFOs is equal to '0', or
  • EXT_SYS_PAR_MSG_SEQs is not equal to CONFIG_MSG_SEQs.

The mobile station shall set the ACCESS_HO_ALLOWED field of the NGHBR_REC to '0' for all
NGHBR_SET_SIZEs entries if any of the following conditions are met:
  • EXT_SYS_PARAMETERs is equal to '0'
  • NGHBR_SET_ACCESS_INFOs is equal to '0', or
  • EXT_SYS_PAR_MSG_SEQs is not equal to CONFIG_MSG_SEQs.

The mobile station shall update the idle handoff Neighbor Set (see 2.6.2.1.4) so that it
consists only of pilot offsets listed in the General Neighbor List Message. If the General
Neighbor List Message contains more pilot offsets than the mobile station can store, the
mobile station shall store the pilot offsets beginning at the start of the General Neighbor List
Message, up to the limits of the mobile station’s Neighbor Set storage capacity.

The mobile station shall set NUM_ANALOG_NGHBRs to NUM_ANALOG_NGHBRr, the
number of neighboring analog systems contained in the General Neighbor List Message. For
each of the neighboring analog systems contained in the General Neighbor List Message, the
mobile station shall perform the following:
  • Set the BAND_CLASS field of ANALOG_NGHBR_LIST[i] to the ith occurrence of
    BAND_CLASSr.
  • Set the SYS_A_B field of ANALOG_NGHBR_LIST[i] to the ith occurrence of SYS_A_Br.

For each of the neighboring base stations contained in the General Neighbor List Message,
the mobile station shall set the ADD_PILOT_REC_INCL field of NGHBR_REC[i] to the ith
occurrence of ADD_PILOT_REC_INCR. If ADD_PILOT_REC_INCR equals ‘1’, for each pilot
included in the message, the mobile station shall also perform the following:
• Set the NGHBR_PILOT_REC_TYPE field of NGHBR_PILOT_REC to
NGHBR_PILOT_REC_TYPEr.

• If NGHBR_PILOT_REC_TYPEr is equal to ‘000’. The mobile station shall:
  – Set the OTD_POWER_LEVEL field of NGHBR_PILOT_REC to
    OTD_POWER_LEVELr.

2.6.2.2.9 User Zone Identification Message
Whenever a User Zone Identification Message is received on the Paging Channel, and if the
mobile station supports Tiered Services, the mobile station shall compare the configuration
message sequence number, CONFIG_MSG_SEQr, to that stored in
USER_ZONE_ID_MSG_SEQs. If the comparison results in a match, the mobile station may
ignore the message. If the comparison results in a mismatch, then the mobile station shall
process the remaining fields in the message as follows.

The mobile station shall store the following parameters:

• Configuration message sequence number
  (CONFIG_MSG_SEQs = CONFIG_MSG_SEQr,
   USER_ZONE_ID_MSG_SEQs = CONFIG_MSG_SEQr)
• UZ_EXIT_RCVDs = UZ_EXITr

The mobile station shall set NUM_UZIDs to the number of User Zones contained in the User
Zone Identification Message.

For each User Zone contained in the User Zone Identification Message, the mobile station
shall do the following:

• Set the UZID field of UZ_REC(i) to the i\(^{th}\) occurrence of UZIDr.
• Set the UZ_REV field of the UZ_REC(i) to the i\(^{th}\) occurrence of UZ_REVr.
• Set the TEMP_SUB field of the UZ_REC(i) to the i\(^{th}\) occurrence of TEMP_SUBr.

2.6.2.2.10 Private Neighbor List Message
Whenever a Private Neighbor List Message is received on the Paging Channel, and if the
mobile station supports Tiered Services, the mobile station shall compare the configuration
message sequence number, CONFIG_MSG_SEQr, to that stored in
PRI_NGHBR_LST_MSG_SEQs. If the comparison results in a match, the mobile station may
ignore the message. If the comparison results in a mismatch, then the mobile station shall
process the remaining fields in the message as follows.

The mobile station shall store the following parameters:

• Configuration message sequence number
  (CONFIG_MSG_SEQs = CONFIG_MSG_SEQr,
   PRI_NGHBR_LST_MSG_SEQs = CONFIG_MSG_SEQr)
• Common configuration included indicator (COMMON_INCLs = COMMON_INCLr)

The mobile station shall set NUM_PRI_NGHBRs to the number of Private Neighbor base
stations contained in the Private Neighbor List Message.

For each Private Neighbor base station contained in the Private Neighbor List Message the mobile station shall do the following:

- Set the SRCH_WIN_PRI_NGHBR field of PRI_NGHBR_REC(i) to SRCH_WIN_PNr.
- Set the SID field of PRI_NGHBR_REC(i) to the i\textsuperscript{th} occurrence SIDr.
- Set the NID field of PRI_NGHBR_REC(i) to the i\textsuperscript{th} occurrence NIDr.
- Set the PRI_NGHBR_PN field of PRI_NGHBR_REC(i) to the i\textsuperscript{th} occurrence PRI_NGHBR_PNr.

- If COMMON_INCL\textsubscript{r} is equal to ‘1’, then the mobile station shall:
  - Set the BAND_CLASS field of PRI_NGHBR_REC(i) to COMMON_BAND_CLASSr.
  - Set the NGHBR_FREQ field of PRI_NGHBR_REC(i) to COMMON_NGHBR_FREQr.

- If COMMON_INCL\textsubscript{r} is equal to ‘0’, then the mobile station shall:
  - Set the BAND_CLASS field of PRI_NGHBR_REC(i) to the i\textsuperscript{th} occurrence of BAND_CLASSr.
  - Set the NGHBR_FREQ field of PRI_NGHBR_REC(i) to the i\textsuperscript{th} occurrence of NGHBR_FREQr.

- If i\textsuperscript{th} occurrence of UZID_INCL\textsubscript{r} is equal to ‘0’, then the mobile station shall set the PS_NUM_UZID field of PRI_NGHBR_REC(i) to ‘0000’.

- If i\textsuperscript{th} occurrence of UZID_INCL\textsubscript{r} is equal to ‘1’, then the mobile station shall set the PS_NUM_UZID field of PRI_NGHBR_REC(i) to the NUM_UZID\textsubscript{r} associated with the i\textsuperscript{th} occurrence of UZID_INCL\textsubscript{r}.

- For each User Zone supported by the i\textsuperscript{th} private system, the mobile station shall do the following:
  - Set the PS_UZID(j) field of PRI_NGHBR_REC(i) to the j\textsuperscript{th} occurrence of UZIDr.
  - Set the PS_UZ_REV(j) field of PRI_NGHBR_REC(i) to the j\textsuperscript{th} occurrence of UZ_REVr.
  - Set the PS_TEMP_SUB(j) field of PRI_NGHBR_REC(i) to the j\textsuperscript{th} occurrence of TEMP_SUBr.

2.6.2.2.11 Extended Global Service Redirection Message

Whenever an Extended Global Service Redirection Message is received on the Paging Channel, the configuration message sequence number, CONFIG_MSG_SEQ\textsubscript{r}, shall be compared to that stored in EXT_GLOB_SERV_REDIR_MSG_SEQ\textsubscript{s}. If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, the mobile station shall store the following parameters:
• Configuration message sequence number
  \( (\text{CONFIG\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r) \),
  \( \text{GLOB\_SERV\_REDIR\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r \),
  \( \text{EXT\_GLOB\_SERV\_REDIR\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r \)

The mobile station shall ignore the rest of the message if any of the following conditions is satisfied:

• If the subfield corresponding to the access overload class, \( \text{ACCOLC}_p \), of the mobile station is set equal to '0' in the \( \text{REDIRECT\_ACCOLC}_r \) field of the received message,

• If \( \text{MOB\_P\_REV}_p \) is not in the redirection mobile protocol revision range (i.e., \( \text{REDIRECT\_P\_REV\_INCL}_r = '1' \) and \( \text{EXCL\_P\_REV\_IND}_r = '0' \), and \( \text{MOB\_P\_REV}_p < \text{REDIRECT\_P\_MIN}_r \) or \( \text{MOB\_P\_REV}_p \geq \text{REDIRECT\_P\_MAX}_r \), or

• If the \( \text{MOB\_P\_REV}_p \) is in the excluded mobile protocol revision range (i.e., \( \text{REDIRECT\_P\_REV\_INCL}_r = '1' \) and \( \text{EXCL\_P\_REV\_IND}_r = '1' \) and \( \text{REDIRECT\_P\_MIN}_r \leq \text{MOB\_P\_REV}_p \leq \text{REDIRECT\_P\_MAX}_r \)).

Otherwise, the mobile station shall store the following parameters and then shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1):

• If \( \text{DELETE\_TMSI}_r \) is equal to '1', the mobile station shall set all the bits of \( \text{TMSI\_CODE}_s\_p \) to '1'.

• Return if fail indicator \( \text{RETURN\_IF\_FAIL}_s = \text{RETURN\_IF\_FAIL}_r \).

• Redirection record \( \text{REDIRECT\_REC}_s = \text{redirection record from received message} \)

• If \( \text{RECORD\_TYPE}_r = '00000001' \), the mobile station shall:
  - Set \( \text{CDMA\_MODE}_s \) to '1'
  - Set \( \text{DIGITAL\_REG}_s\_p \) to '00000000'
  - Max delay upon redirection \( \text{MAX\_REDIRECT\_DELAY}_s = \text{MAX\_REDIRECT\_DELAY}_r \)

2.6.2.2.12 Extended CDMA Channel List Message

Whenever an Extended CDMA Channel List Message is received on the Paging Channel, the mobile station shall compare the configuration message sequence number, \( \text{CONFIG\_MSG\_SEQ}_r \), to that stored in \( \text{EXT\_CHAN\_LST\_MSG\_SEQ}_s \). If the comparison results in a match, the mobile station may ignore the message. If the comparison results in a mismatch, then the mobile station shall process the remaining fields in the message as follows:

The mobile station shall store the following parameters:

• Configuration message sequence number
  \( (\text{CONFIG\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r) \),
  \( \text{EXT\_CHAN\_LST\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r \),
  \( \text{CHAN\_LST\_MSG\_SEQ}_s = \text{CONFIG\_MSG\_SEQ}_r \).
The mobile station shall determine the CDMA Channel (Frequency Assignment) for its Paging Channel as follows:

- If RC_QPCH_SEL_INCLr is equal to ‘1’ and the mobile station is capable of RC greater than 2 or capable of supporting Quick Paging Channel, the mobile station shall eliminate those channels with RC_QPCH_HASH_INDr = ‘0’ from the CDMA channel list and use the hash algorithm specified in 2.6.7.1 and the number of channels whose RC_QPCH_HASH_INDr is equal to ‘1’ in the Extended CDMA Channel List Message to determine the CDMA Channel (Frequency Assignment) for its Paging Channel.

- If RC_QPCH_SEL_INCLr is equal to ‘1’ and the mobile station is not capable of RC greater than 2 and not capable of supporting Quick Paging Channel, the mobile station shall use the hash algorithm specified in 2.6.7.1 and the number of channels in the Extended CDMA Channel List Message to determine the CDMA Channel (Frequency Assignment) for its Paging Channel.

- If RC_QPCH_SEL_INCLr is equal to ‘0’, the mobile station shall use the hash algorithm specified in 2.6.7.1 and the number of channels in the Extended CDMA Channel List Message to determine the CDMA Channel (Frequency Assignment) for its Paging Channel.

If the CDMA Frequency Assignment has changed (the computed CDMA Channel is different from CDMACHs), the mobile station shall perform the following actions:

- If the stored configuration parameters is not current (see 2.6.2.2) for the corresponding base station and frequency assignment, the mobile station shall perform the following actions:
  - Set CDMACHs to the new CDMA Channel.
  - Set PAGE_CHANs to ‘1’.
  - Set PAGECHs to the Primary Paging Channel.
  - Set CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, EXT_GLOB_SERV_REDIR_MSG_SEQs, USER_ZONE_IDMSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, and ACC_MSG_SEQs to NULL.
  - Tune to the new CDMA Channel.

- Otherwise, the mobile station shall perform the following actions:
  - Set CDMACHs to the new CDMA Channel.
  - The mobile station shall use the hash algorithm specified in 2.6.7.1 to select a new Paging Channel number in the range 1 to PAGE_CHANs, where PAGE_CHANs is the value stored for the Paging Channel whose stored information is current. The mobile station shall store the new Paging Channel number as PAGECHs.

2-88
- Tune to the new CDMA Channel and shall begin monitoring the new Paging Channel.

2.6.2.3 Mobile Station Page Match Operation

The Mobile Station Page Match Operation is performed whenever the mobile station receives a General Page Message. If the mobile station receives a General Page Message that contains the IMSI or TMSI assigned to the mobile station (see [4]), the mobile station transmits a Page Response Message on the Access Channel. If the mobile station is configured to receive broadcast messages and it receives a General Page Message that contains a burst type and broadcast address that the mobile station has been configured to receive (see [4]), the mobile station performs the broadcast page procedures as described in 2.6.2.1.1.3.4.

The mobile station shall compare the configuration message sequence number, CONFIG_MSG_SEQ<sub>r</sub>, to CONFIG_MSG_SEQ<sub>s</sub>. If the comparison results in a mismatch, then the mobile station shall set CONFIG_MSG_SEQ<sub>s</sub> to CONFIG_MSG_SEQ<sub>r</sub>. The mobile station shall also compare the Access Parameters Message sequence number, ACC_MSG_SEQ<sub>r</sub>, with that stored in ACC_MSG_SEQ<sub>s</sub>. If the comparison results in a mismatch, then the mobile station shall set ACC_MSG_SEQ<sub>s</sub> to NULL (see 2.6.2.2). The mobile station shall set CURR_ACC_MSG_SEQ to ACC_MSG_SEQ<sub>s</sub>.

The mobile station shall process each record for which it declares a page match (see [4]).

If the mobile station receives a broadcast page that contains a burst type and broadcast address that the mobile station has been configured to receive, the mobile station should perform the broadcast page procedures described in 2.6.2.1.1.3.4.

If a page match is declared, the mobile station shall enter the Update Overhead Information Substate of the System Access State (see 2.6.3.2) with a page response indication within T<sub>33m</sub> seconds after the page message is received.

If a page match is declared and the mobile station determines that it should be monitoring a neighboring base station, the mobile station may perform an access entry handoff to the neighboring base station, if all of the following conditions hold:

- The neighboring base station is listed in NGHBR_REC.
- The ACCESS_ENTRY_HO field of the NGHBR_REC corresponding to the neighboring base station is equal to ‘1’.
- None of CONFIG_MSG_SEQ<sub>s</sub>, SYS_PAR_MSG_SEQ<sub>s</sub>, NGHBR_LST_MSG_SEQ<sub>s</sub>, EXT_NGHBR_LST_MSG_SEQ<sub>s</sub>, GEN_NGHBR_LST_MSG_SEQ<sub>s</sub>, CHAN_LST_MSG_SEQ<sub>s</sub>, EXT_SYS_PAR_MSG_SEQ<sub>s</sub>, EXT_CHAN_LST_MSG_SEQ<sub>s</sub>, USER_ZONE_ID_MSG_SEQ<sub>s</sub>, and PRI_NGHBR_LST_MSG_SEQ<sub>s</sub> are equal to NULL.

Otherwise, the mobile station shall not perform an access entry handoff to the neighboring base station.

The mobile station need not perform an access entry handoff to a base station operating on another frequency.
If the mobile station performs an access entry handoff, it shall follow the procedures specified in 2.6.2.1.4.2 and shall perform the access entry handoff before entering the \textit{Update Overhead Information Substate} of the \textit{System Access State} (see 2.6.3.2).

If PACA is enabled, and if the mobile station performs an access entry handoff, the mobile station shall respond to the \textit{General Page Message} first, and shall then re-originate the PACA call on the new base station.

2.6.2.4 Mobile Station Order and Message Processing Operation

During the \textit{Mobile Station Order and Message Processing Operation}, the mobile station processes all messages except overhead messages (see 2.6.2.2) and page messages (see 2.6.2.3).

The mobile station shall set CURR_ACC_MSG_SEQ to NULL.

The mobile station shall perform address matching as described in [4].

If Layer 3 receives a message that requires acknowledgement, the mobile station shall enter the \textit{Update Overhead Information Substate} of the \textit{System Access State} with an order/message response indication within T_{33m} seconds, unless otherwise specified for a particular message.

If Layer 3 receives a message that does not require acknowledgement, the mobile station shall transmit a response only if it is required by the message or order. If a response is required, the mobile station shall enter the \textit{Update Overhead Information Substate} of the \textit{System Access State} with an order/message response indication within T_{33m} seconds, unless otherwise specified for a particular message.

If the mobile station is to enter the \textit{Update Overhead Information Substate} of the \textit{System Access State} with an order/message response indication and the mobile station determines that it should be monitoring a neighboring base station, the mobile station may perform an access entry handoff to the neighboring base station, if all of the following conditions hold:

- The neighboring base station is listed in NGHBR REC.
- The ACCESS_ENTRY HO field of the NGHBR REC corresponding to the neighboring base station is equal to '1'.
- ACC_ENT_HO_ORDERs is equal to '1'.
- None of CONFIG_MSG_SEQs, SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, and EXT_SYS_PAR_MSG_SEQs are equal to NULL.

Otherwise, the mobile station shall not perform an access entry handoff to the neighboring base station.

The mobile station need not perform an access entry handoff to a base station operating on another frequency.

If the mobile station performs an access entry handoff, it shall follow the procedures specified in 2.6.2.1.4.2 and shall perform the access entry handoff before entering the
Update Overhead Information Substate of the System Access State (see 2.6.3.2). If PACA is enabled and the mobile station performs an access entry handoff, the mobile station shall respond to the order/message first and then re-originate the PACA call in the new base station.

The following directed messages and orders can be received. If any field value of the message or order is outside its permissible range, the mobile station shall send a Mobile Station Reject Order with ORDQ equal to ‘00000100’ (message field not in valid range).

1. Abbreviated Alert Order: The mobile station may alert the user.

2. Audit Order

3. Authentication Challenge Message: The mobile station shall process the message and shall respond with an Authentication Challenge Response Message as specified in 2.3.12.1.4, regardless of the value of AUTHs. The mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T32m seconds.

4. Base Station Challenge Confirmation Order: The mobile station shall process the message and shall respond with an SSD Update Confirmation Order or SSD Update Rejection Order as specified in 2.3.12.1.5. The mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T32m seconds.

5. Channel Assignment Message: The mobile station shall process the message as follows:
   - If ASSIGN_MODEr equals ‘001’, the mobile station shall perform the following actions:
     - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
     - If a CDMA channel (CDMA_FREQ) is specified in the assignment, the mobile station shall set CDMACHs = CDMA_FREQr, tune to the new Frequency Assignment, and measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2.
     - The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr).
- If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs,
  NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs,
  GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs,
  EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs,
  USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs,
  GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall set PAGE_CHAN to ‘1’ and PAGECH to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

- If ASSIGN_MODEr equals ‘101’ and FREQ_INCLr equals ‘0’, the mobile station shall perform the following actions:

  - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

  - The mobile station shall measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr), and set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2).

  - If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs,
    NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs,
    GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs,
    EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs,
    USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs,
    GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall set PAGE_CHAN to ‘1’ and PAGECH to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

If ASSIGN_MODEr equals ‘101’, FREQ_INCLr equals ‘1’, and the band class is not supported by the mobile station, the mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T33m seconds and send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station).

- If ASSIGN_MODEr equals ‘101’, FREQ_INCLr equals ‘1’, and the band class is supported by the mobile station, the mobile station shall perform the following actions:
- If the message requires acknowledgment, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.

- The mobile station shall set CDMACHs = CDMA_FREQr and CDMABANDs = BAND_CLASSr. Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr), and set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2).

- If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

- If ASSIGN_MODEr is not equal to '001' or '101', the mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T33m seconds and send a Mobile Station Reject Order with ORDQ field set to '00000010' (message not accepted in this state).

6. Data Burst Message

7. Extended Channel Assignment Message: The mobile station shall process the message as follows:

- If ASSIGN_MODEr equals '001', FREQ_INCLr equals '0', the mobile station shall perform the following actions:
  - If the message requires acknowledgment, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.
  - The mobile station shall measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2 set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr), and set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2).
- If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

- If ASSIGN_MODEr equals ‘001’, FREQ_INCLr equals ‘1’, and the band class is not supported by the mobile station, the mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T33m seconds and send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station).

- If ASSIGN_MODEr equals ‘001’, FREQ_INCLr equals ‘1’, and the band class is supported by the mobile station, the mobile station shall perform the following actions:

  - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

  - The mobile station shall set CDMACHs = CDMA_FREQr and CDMABANDs = BAND_CLASSr. The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2). Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, and set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr).

  - If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL. The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.
8. Feature Notification Message

9. Local Control Order

10. Lock Until Power-Cycled Order: The mobile station shall record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN_{P_S-P} equals the least significant four bits of ORDQ_r). After a mobile station receives this order, it shall not enter the System Access State (see 2.6.3) until it has received an Unlock Order or until after power-cycling the mobile station (i.e., after the next mobile station power-up). This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State. The mobile station should notify the user of the locked condition. The mobile station shall exit the Mobile Station Idle State and enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1). This allows the mobile station to operate in an alternate operating mode while locked.

11. Maintenance Required Order: The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSN_{P_S-P} equals the least significant four bits of ORDQ_r). If the mobile station has previously received a Lock Until Power-Cycled Order, it shall remain in the locked condition; otherwise the mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

12. PACA Message: If P_REV_IN_USE_s is less than or equal to four, and if the mobile station does not support PACA capability, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (message requires a capability that is not supported by the mobile station); otherwise, the mobile station shall process the message as follows:

- If PACA_s is equal to disabled, the mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T_{33m} seconds and shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).
- If PACA_s is equal to enabled, the mobile station shall perform the following:
  - If the purpose of the message is to respond to an Origination Message (PURPOSE_r is equal to ‘0000’), the mobile station shall enter the Update Overhead Information Substate of the System Access State with an order/message response indication within T_{33m} seconds and send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).
If the purpose of the message is to provide the queue position of the PACA call (PURPOSE_r is equal to '0001'), the mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2, corresponding to the value of PACA_TIMEOUT_s, should indicate to the user that the PACA call is still queued, and should indicate the current queue position (Q_POS_r) of the call.

- If the purpose of the message is to instruct the mobile station to re-originate the PACA call (PURPOSE_r is equal to '0010'), the mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA_TIMEOUT_s, and the mobile station shall enter the Update Overhead Information Substate of the System Access State (see 2.6.3) with a PACA response indication within T33m seconds to re-originate the PACA call.

- If the purpose of the message is to cancel the PACA call (PURPOSE_r is equal to '0011'), the mobile station shall set PACA_s to disabled and PACA_CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

13. **Registration Accepted Order:** If ORDQ_r is equal to '00000101', the mobile station shall set ROAM_INDI_s = ROAM_INDI_r and should display the roaming condition.

14. **Registration Rejected Order:** This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = '00000100'), the mobile station shall set all the bits of the TMSI_CODE_P to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

15. **Registration Request Order:** The mobile station shall process the message and perform registration procedures as specified in 2.6.5.5.2.3.

16. **Retry Order:** The mobile station shall process the message as follows:
   - If RETRY_TYPE_r is equal to ‘000’, the mobile station shall set RETRY_DELAY_s[RETRY_TYPE] to ‘0’, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
   - If RETRY_TYPE_r is equal to ‘001’, the mobile station shall perform the following:
     - If RETRY_DELAY_r is equal to ‘00000000’, then the mobile station shall set RETRY_DELAY_s to ‘0’.
     - If RETRY_DELAY_r is not equal to ‘00000000’, the mobile station shall set RETRY_DELAY_s[RETRY_TYPE_r] as follows:
       + If the most significant bit of the RETRY_DELAY_r is ‘0’, set RETRY_DELAY_UNIT_s to 1000ms. If the most significant bit of the RETRY_DELAY_r is ‘1’, set RETRY_DELAY_UNIT_s to 60000ms.
       + The mobile station shall set RETRY_DELAY_VALUE_s to the seven least significant bits of RETRY_DELAY_r.
+ The mobile station shall store the next system time 80 ms boundary +
RETRY_DELAY_VALUE_s × RETRY_DELAY_UNIT_s ms as
RETRY_DELAY_s[RETRY_TYPE_r].

17. Service Redirection Message: The mobile station shall process the message as follows:
- If the mobile station is directed to an unsupported operation mode or band class,
the mobile station shall respond with a Mobile Station Reject Order with ORDQ
equal to ‘00000110’ (message requires a capability that is not supported by the
mobile station).
- If DELETE_TMSI_r is equal to ‘1’, the mobile station shall set all the bits of
TMSI_CODE_s−p to ‘1’. The mobile station shall disable the full-TMSI timer.
- The mobile station shall set RETURN_IF_FAIL_s = RETURN_IF_FAIL_r.
- If RECORD_TYPE_r is equal to ‘00000000’, the mobile station shall enter the
System Determination Substate of the Mobile Station Initialization State with an
NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the
redirection record received in the message as REDIRECT_REC_s and shall enter
the System Determination Substate of the Mobile Station Initialization State with a
redirection indication (see 2.6.1.1).

18. Slotted Mode Order: After receiving this order, the mobile station shall set
SLOTTED_s to YES. The mobile station shall disable the TMS_Slotted timer.

19. SSD Update Message: The mobile station shall process the message and shall
respond with a Base Station Challenge Order as specified in 2.3.12.1.5. The mobile
station shall enter the Update Overhead Information Substate of the System Access
State with an order/message response indication within T32m seconds.

20. Status Request Message: The mobile station shall process the message. If
P_REV_IN_USE_s is less than or equal to three, the mobile station shall respond
with a Status Response Message. If P_REV_IN_USE_s is greater than three, the
mobile station shall respond with an Extended Status Response Message. The
mobile station shall enter the Update Overhead Information Substate of the System
Access State with an order/message response indication within T33m seconds. If
the message does not specify any qualification information (QUAL_INFO_TYPE_r is
equal to ‘00000000’), the mobile station shall include the requested information
records in the response. If the message specifies a band class (QUAL_INFO_TYPE_r
is equal to ‘00000001’), the mobile station shall only include the requested
information records for the specified band class (BAND_CLASS_s) in the response. If
the message specifies a band class and an operating mode (QUAL_INFO_TYPE_r is
equal to ‘00000010’), the mobile station shall only include the requested
information records for the specified band class (BAND_CLASS_s) and operating
mode (OP_MODE_r) in the response. If the message specifies a band class or a band
class and an operating mode which is not supported by the mobile station, the
mobile station shall send a Mobile Station Reject Order with ORDQ set to ‘00000110’
(message requires a capability that is not supported by the mobile station). If the
response to this message exceeds the allowable length, the mobile station shall
send a Mobile Station Reject Order with ORDQ set to ‘00001000’ (response message
would exceed the allowable length). If the message specifies an information record
which is not supported by the mobile station for the specified band class and
operating mode, the mobile station shall send a Mobile Station Reject Order with
ORDQ set to ‘00001001’ (information record is not supported for the specified band
class and operating mode).

21. TMSI Assignment Message: The mobile station shall store the TMSI zone and code
as follows:

- The mobile station shall store the length of the TMSI zone field by setting
  ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr.

- The mobile station shall store the assigning TMSI zone number by setting the
  ASSIGNING_TMSI_ZONE_LENs-p least significant octets of
  ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and

- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to
  TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIMEs-p
to TMSI_EXP_TIMEr. The mobile station shall disable the full-TMSI timer. The
mobile station shall then respond with a TMSI Assignment Completion Message
within T56m seconds.

22. Unlock Order: After receiving this order, the mobile station is no longer locked. The
mobile station should notify the user that the locked condition has been removed.
The mobile station shall enter the System Determination Substate of the Mobile
Station Initialization State with an unlock indication (see 2.6.1.1).

23. User Zone Reject Message

The mobile station shall ignore all other messages and orders.

2.6.2.5 Mobile Station Origination Operation

The Mobile Station Origination Operation is performed when the mobile station is directed by
the user to initiate a call, or if the Mobile Station Idle State is entered with NDSS_ORIGs
enabled.

If the mobile station is directed by the user to initiate a call, the mobile station shall
perform the following:

- If PACA_s is equal to enabled, the mobile station shall set PACA_s to disabled and
  PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the
  user that the PACA call has been canceled.

- The mobile station shall set CURR_ACC_MSG_SEQ to NULL.

The mobile station shall enter the Update Overhead Information Substate of the System
Access State (see 2.6.3) with an origination indication within T33m seconds.
2.6.2.6 Mobile Station Message Transmission Operation

Support of this operation is optional. If the mobile station supports the *Mobile Station Message Transmission Operation*, the operation is performed when the user directs the mobile station to transmit a *Data Burst Message*.

If the mobile station supports this operation, the mobile station shall set CURR_ACC_MSG_SEQ to NULL.

If the mobile station supports this operation, the mobile station shall enter the *Update Overhead Information Substate* of the *System Access State* (see 2.6.3.2) with a message transmission indication within $T_{33m}$ seconds.

2.6.2.7 Mobile Station Power-Down Operation

The *Mobile Station Power-Down Operation* is performed when the user directs the mobile station to power down.

The mobile station shall update stored parameters and perform other registration procedures as specified in 2.6.5.5.2.4.

If no power-down registration is performed (see 2.6.5.5.2.4), the mobile station may power down.

2.6.2.8 Mobile Station PACA Cancel Operation

The *Mobile Station PACA Cancel Operation* is performed when the user directs the mobile station to cancel a PACA call.

If PACA$_S$ is equal to enabled, the mobile station shall perform the following:

- The mobile station shall set PACA$_S$ to disabled.
- The mobile station shall set PACACANCEL to ‘0’, if PACACANCEL is equal to ‘1’.
- The mobile station shall disable the PACA state timer.
- The mobile station should indicate to the user that the PACA call has been canceled.
- The mobile station shall set CURR_ACC_MSG_SEQ to NULL.
- The mobile station shall enter the *Update Overhead Information Substate* of the *System Access State* (see 2.6.3) with a PACA cancel indication within $T_{33m}$ seconds.

2.6.3 System Access State

In this state, the mobile station sends messages to the base station on the r-csch and receives messages from the base station on the f-csch.

As illustrated in Figure 2.6.3-1, the *System Access State* consists of the following substates:

- *Update Overhead Information Substate* - In this substate, the mobile station monitors the Paging Channel until it has a current set of overhead messages.
- *Mobile Station Origination Attempt Substate* - In this substate, the mobile station sends an *Origination Message* to the base station.
- **Page Response Substate** - In this substate, the mobile station sends a *Page Response Message* to the base station.

- **Mobile Station Order/Message Response Substate** - In this substate, the mobile station sends a response to a message received from the base station.

- **Registration Access Substate** - In this substate, the mobile station sends a *Registration Message* to the base station.

- **Mobile Station Message Transmission Substate** - In this substate, the mobile station sends a *Data Burst Message* to the base station.

- **PACA Cancel Substate** - In this substate, the mobile station sends a *PACA Cancel Message* to the base station.

*Figure 2.6.3-1. System Access State*

2.6.3.1 Access Procedures

2.6.3.1.1 Access Attempts

The mobile station transmits on the Access Channel using a random access procedure. Many parameters of the random access procedure are supplied by the base station in the *Access Parameters Message*. The random access procedure is described in [4] and [3].
If Layer 3 receives an indication from Layer 2 that the system access is denied, the mobile station shall update its registration variables using SID_s, NID_s, REG_ZONE_s, and ZONE_TIMER_s that were stored from the first base station to which the mobile station sent an Access Probe, as specified in 2.6.5.5.3.2, and enter the **System Determination Substate** of the **Mobile Station Initialization State** with an access denied indication (see 2.6.1.1).

If Layer 3 receives an indication from Layer 2 that the system is lost, the mobile station shall update its registration variables using SID_s, NID_s, REG_ZONE_s, and ZONE_TIMER_s that were stored from the first base station to which the mobile station transmitted an Access Probe, as specified in 2.6.5.5.3.2 and enter the **System Determination Substate** of the **Mobile Station Initialization State** with a system lost indication (see 2.6.1.1).

### 2.6.3.1.2 Reserved

### 2.6.3.1.3 Handoffs

While in the **System Access State**, the mobile station shall continue its pilot search (see 2.6.3.1.3.1), and may perform access handoffs (see 2.6.3.1.3.2) and/or access probe handoffs (see 2.6.3.1.3.3).

If the mobile station performs access handoffs and/or access probe handoffs, the mobile station shall maintain the following variables:

- **CURRENT_ACTIVE_PILOT_s**
- **PREVIOUS_ACTIVE_PILOT_s**
- **FIRST_ACTIVE_PILOT_s**

Upon entering the **System Access State** the mobile station shall set **CURRENT_ACTIVE_PILOT_s**, **PREVIOUS_ACTIVE_PILOT_s** and **FIRST_ACTIVE_PILOT_s** to NULL. Prior to starting an access attempt, the mobile station shall set **CURRENT_ACTIVE_PILOT_s** and **PREVIOUS_ACTIVE_PILOT_s** to NULL. When the mobile station selects a base station for transmission of an access probe, the mobile station shall proceed as follows:

- If **CURRENT_ACTIVE_PILOT_s** is not the same as the pilot of the selected base station, the mobile station shall set **PREVIOUS_ACTIVE_PILOT_s** to the value of **CURRENT_ACTIVE_PILOT_s**.
- The mobile station shall set **CURRENT_ACTIVE_PILOT_s** to the identity of the pilot corresponding to the selected base station.
- If **FIRST_ACTIVE_PILOT_s** is NULL, the mobile station shall set **FIRST_ACTIVE_PILOT_s** to the value of **CURRENT_ACTIVE_PILOT_s**.

Before the mobile station transmits an access probe to a new base station, the mobile station shall update parameters based on the **System Parameters Message**, the **Access Parameters Message** and the **Extended System Parameters Message** on the associated new Paging Channel and process parameters from the messages (see 2.6.2.2.1, 2.6.2.2.2, and 2.6.2.2.5). The mobile station shall update parameters based on the **Neighbor List Message**.
Extended Neighbor List Message, or the General Neighbor List Message on the associated new Paging Channel and process parameters from the message (see 2.6.2.2.3, 2.6.2.2.7, and 2.6.2.2.8). If the mobile station receives the User Zone Identification Message or the Private Neighbor List Message, the mobile station shall update parameters based on these messages on the associated new Paging Channel and process parameters from the messages (see 2.6.2.2.9 and 2.6.2.2.10). If the mobile station receives a Global Service Redirection Message (see 2.6.2.2.6) which directs the mobile station away from the new base station, the mobile station shall not access the new base station. If the mobile station receives an Extended Global Service Redirection Message (see 2.6.2.2.11) which directs the mobile station away from the new base station, the mobile station shall not access the new base station. The mobile station shall process these messages only once after each access handoff.

2.6.3.1.3.1 Pilot Search

The following sets of pilot offsets are defined for a mobile station in the System Access State. Each pilot offset is a member of only one set.

- **Active Set**: The pilot offset of the Forward CDMA Channel whose Paging Channel is being monitored.
- **Neighbor Set**: The pilots that are not currently in the Active Set and are likely candidates for access handoff or access probe handoff. The members of the Neighbor Set are specified in the Neighbor List Message, the Extended Neighbor List Message, and the General Neighbor List Message.
- **Remaining Set**: The set of all possible pilot offsets in the current system (integer multiples of PILOT_INCs) on the current CDMA Frequency Assignment, excluding the pilots in the Neighbor Set and the Active Set.

2.6.3.1.3.2 Access Handoff

The mobile station is permitted to perform an access handoff to use the Paging Channel with the best pilot strength and an associated Access Channel. The mobile station is permitted to perform an access handoff when waiting for a response from the base station or before sending a response to the base station. An access handoff is permitted after an access attempt while the mobile station is in the Page Response Substate or the Mobile Station Origination Attempt Substate.

When the mobile station declares a loss of the Paging Channel while waiting for a response from the base station in the Page Response Substate or in the Mobile Station Origination Attempt Substate, the mobile station shall perform an access handoff, if all of the following conditions hold:

- The pilot corresponding to the new base station is in the list ACCESS_HO_LIST.
- ACCESS_HOs is equal to ‘1’, and
- The mobile station is not already in the process of performing an access attempt.

When the mobile station declares a loss of the Paging Channel, after receiving a message but before responding to that message while in the Page Response Substate or in the Mobile
Station Origination Attempt Substate, the mobile station shall perform an access handoff if the following conditions hold:

- The pilot corresponding to the new base station is in the list ACCESS_HO_LIST,
- ACCESS_HOs is equal to ‘1’,
- ACCESS_HO_MSG_RSPs is equal to ‘1’, and
- The mobile station is not already in the process of performing an access attempt.

When the mobile station declares an insufficiency of the Paging Channel, while waiting for a response from the base station in the Page Response Substate or in the Mobile Station Origination Attempt Substate, the mobile station may perform an access handoff if the following conditions hold:

- The pilot corresponding to the new base station is in the list ACCESS_HO_LIST,
- ACCESS_HOs is equal to ‘1’, and
- The mobile station is not already in the process of performing an access attempt.

When the mobile station declares an insufficiency of the Paging Channel, after receiving a message but before responding to that message while in the Page Response Substate or in the Mobile Station Origination Attempt Substate, the mobile station may perform an access handoff if all of the following conditions hold:

- The pilot corresponding to the new base station is in the list ACCESS_HO_LIST,
- ACCESS_HOs is equal to ‘1’,
- ACCESS_HO_MSG_RSPs is equal to ‘1’, and
- The mobile station is not already in the process of performing an access attempt.

If ACCESS_PROBE_HOs is equal to ‘0’ and ACCESS_HOs is equal to ‘1’, and the mobile station declares a loss of the Paging Channel during an access attempt, after sending at least one complete access probe, the mobile station may monitor other Paging Channels which are in ACCESS_HO_LIST for T42m seconds after the loss of the Paging Channel on which the access attempt was made.

2.6.3.1.3.3 Access Probe Handoff

The mobile station is permitted to perform an access probe handoff when the mobile station is in the Page Response Substate or the Mobile Station Origination Attempt Substate.

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3 Insufficiency of the Paging Channel is implementor-defined.

4 Insufficiency of the Paging Channel is implementor-defined.

5 The mobile station would be waiting for a response to the message transmitted in the access probe.
The mobile station may perform an access probe handoff during an access attempt to a pilot in ACCESS_HO_LIST when the message being sent is the *Origination Message* or the *Page Response Message*, if all of the following conditions hold:

- ACCESS_PROBE_HO is equal to ‘1’,
- The mobile station is in the *Page Response Substate* or the *Mobile Station Origination Attempt Substate*, and
- The mobile station has performed fewer than (MAX_NUM_PROBE_HO +1) access probe handoffs during the current access attempt.

The mobile station may also perform an access probe handoff during an access attempt to a pilot in ACCESS_HO_LIST when the message being sent is a message other than the *Origination Message* or the *Page Response Message*, if all of the preceding conditions hold and ACC_PROBE_HO_OTHER_MSG is equal to ‘1’.

The mobile station may also perform an access probe handoff during an access attempt to a pilot not in ACCESS_HO_LIST when the message being sent is the *Origination Message* or the *Page Response Message*, if all of the following conditions hold:

- ACC_HO_LIST_UPD is equal to ‘1’,
- ACCESS_PROBE_HO is equal to ‘1’,
- The new pilot is stronger than any pilot in ACCESS_HO_LIST,
- The new pilot has the corresponding ACCESS_HO_ALLOWED field in the NGHBR_REC equal to ‘1’,
- Inclusion of the new pilot in ACCESS_HO_LIST does not cause the Access Channel message to exceed the maximum capsule size,
- Inclusion of the new pilot in ACCESS_HO_LIST does not cause the number of members to exceed N13m,
- The mobile station is in the *Page Response Substate* or the *Mobile Station Origination Attempt Substate*, and
- The mobile station has performed fewer than (MAX_NUM_PROBE_HO +1) access probe handoffs during the current access attempt.

The mobile station may also perform an access probe handoff during an access attempt to a pilot not in ACCESS_HO_LIST when the message being sent is a message other than the *Origination Message* or the *Page Response Message*, if all of the preceding conditions hold and ACC_PROBE_HO_OTHER_MSG is equal to ‘1’.

If the above conditions are met, the mobile station may perform an access probe handoff when the mobile station declares a loss of the Paging Channel (see 2.6.2.1.1.4); the mobile station may also perform an access probe handoff after getting an indication that the TA
timer expired (see [4]) and the mobile station declares an insufficiency of the Paging Channel\(^6\).

If the mobile station performs an access probe handoff, the mobile station shall suspend the access attempt on the old pilot and shall restart the access attempt on the new pilot (i.e. starting with the first probe of the first probe sequence of the access sub-attempt), as specified in [4]. The mobile station shall record the identity of the pilots to which access probes have been transmitted within the current access attempt.

The mobile station shall not reset its access probe handoff count until the access attempt ends.

Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to cancel the access attempt if the length of the message to be sent exceeds MAX_CAP_SIZE of the new base station. The mobile station may monitor other Paging Channels which are in ACCESS_HO_LIST for \(T_{42m}\) seconds after aborting the access attempt\(^7\).

### 2.6.3.1.4 System Access State Exit Procedures

Upon exiting the System Access State, the mobile station shall direct Layer 2 to cancel (see [4]) any access attempt in progress and discard the associated message. The mobile station shall then disable the System Access State timer.

### 2.6.3.1.5 Reserved

### 2.6.3.1.6 Full-TMSI Timer

Whenever the mobile station sends its full TMSI, the mobile station enables a timer, called the full-TMSI timer. If the full-TMSI timer expires, the mobile station deletes the TMSI by setting all of the bits in the TMSI_CODEs-p field to ‘1’.

The mobile station shall maintain the full-TMSI timer. The mobile station shall provide a means for enabling or disabling the full-TMSI timer.

If the mobile station sends a message with an address including the ASSIGNING_TMSI_ZONEs-p and the full-TMSI timer is disabled, the mobile station shall enable the full-TMSI timer with a duration equal to \(T_{69m} + 2.56 \times 2^i\) seconds where \(i\) is equal to SLOT_CYCLE_INDEXs.

### 2.6.3.1.7 Monitoring Pilots

The mobile station assists the base station in the Traffic Channel assignment process by monitoring and reporting (see [4]) the pilot strength of the pilot in the mobile station’s Paging Channel Active Set (see 2.6.3.1.3.1). The mobile station can also monitor and report (see [4]) other pilots on the same frequency; in such cases, the mobile station shall create

\(^6\) Insufficiency of the Paging Channel is implementor-defined.

\(^7\) The mobile station would be waiting for a response to the message transmitted in the access probe.
ACCESS_HO_LIST and OTHER_REPORTED_LIST and shall monitor the pilots on those lists, if any.

For each monitored pilot, the mobile station shall record the pilot PN phase and the pilot strength PS, using the most recent measurements from the searcher element (see [2]), as they become available. The mobile station shall identify each pilot through its pilot PN phase (the phase of the pilot PN sequence, in units of one chip, relative to the zero offset pilot PN sequence of the pilot (see 2.6.6.2.4)). The mobile station shall determine the pilot strength, PS, as specified in 2.6.6.2.2.

2.6.3.1.7.1 Generation of the Initial Access Handoff List

ACCESS_HO_LIST is created immediately before transmitting the first access probe after entering the System Access State. When it is created, ACCESS_HO_LIST is defined as a set of at most N_{13m} pilots, having the greatest pilot strength in comparison with other qualifying pilots and for which the following apply:

- The strength of each member exceeds T_ADD.
- Each member, other than the Active Set pilot, has the corresponding ACCESS_HO_ALLOWED field in the NGHBR_REC equal to ‘1’.
- The Active Set pilot that the mobile station monitors when the mobile station enters the System Access State is a member.
- All members can be contained in the Access Channel message without exceeding the maximum capsule size.

2.6.3.1.7.2 Update of the Access Handoff List

When the mobile station performs an access probe handoff to a pilot which was not previously included in ACCESS_HO_LIST (see 2.6.3.1.3.3), it adds the pilot to ACCESS_HO_LIST.

If ACC_HO_LIST_UPD$_8$ is equal to ‘1’, the mobile station can update ACCESS_HO_LIST, as follows:

- The mobile station can add one or more new pilots other than the Active Set pilot to ACCESS_HO_LIST before transmitting an access probe.
- The mobile station can also drop from ACCESS_HO_LIST pilots to which access probes have not been transmitted since entering the System Access State and whose strength have fallen below T_ADD.

When it is updated before transmitting a subsequent access probe, ACCESS_HO_LIST is defined as a set of at most N_{13m} pilots, having the greatest pilot strength in comparison with other qualifying pilots and for which the following apply:

- The strength of each member to which access probes have not been transmitted exceeds T_ADD.
• Each member other than the pilot to which the first access probe in the System Access State was transmitted has the corresponding ACCESS_HO_ALLOWED field in the NGHBR_REC equal to ‘1’.
• The Active Set pilot to which the next access probe is to be transmitted is a member.
• All pilots to which access probes have been transmitted since entering the System Access State are members.
• All members can be contained in the Access Channel message without exceeding the maximum capsule size.

2.6.3.1.7.3 Generation of the Other Reported List
OTHER_REPORTED_LIST is defined as a set of no more than N_{13m} minus the number of pilots in ACCESS_HO_LIST pilots, having the greatest pilot strength in comparison with other qualifying pilots and for which the following apply:
• The strength of each member exceeds T_ADD.
• No member is included in ACCESS_HO_LIST.
• All members can be contained in the Access Channel message without exceeding the maximum capsule size.

2.6.3.1.7.4 Update of OTHER_REPORTED_LIST
Before transmitting each access probe, the mobile station shall generate OTHER_REPORTED_LIST according to section 2.6.3.1.7.3, using the most recent pilot strength information available from its searcher element (see [2]). If the mobile station updates ACCESS_HO_LIST before transmitting an access probe, it shall update OTHER_REPORTED_LIST after updating ACCESS_HO_LIST.

2.6.3.1.8 Paging Channel Monitoring
When in the System Access State, the mobile station shall monitor the Paging Channel at all times.

The mobile station shall set a timer for T_{72m} seconds, when it begins to monitor the Paging Channel and whenever it gets an indication that a valid message was received on the Paging Channel, whether addressed to the mobile station or not (see [4]).

If the T_{72m} timer expires:
• The mobile station shall first finish transmitting the access probe in progress, if any.
• If by declaring a loss of the Paging Channel, the eligibility requirements for performing access handoff are met (see 2.6.3.1.3.2), then the mobile station shall declare a loss of the Paging Channel and perform an access handoff. If by declaring a loss of the Paging Channel, the eligibility requirements for performing access probe handoff are met (see 2.6.3.1.3.3), then the mobile station may declare a loss of the Paging Channel and perform an access probe handoff. If the mobile station performs an access handoff or an access probe handoff, the mobile station restarts the Paging Channel monitoring procedure for the new base station.
• If an access attempt was in progress when the timer expired and that access attempt had already been suspended and resumed previously (see below), the mobile station shall declare a loss of the Paging Channel\(^8\) and shall disable its transmitter.

• If an access attempt was in progress when the timer expired and that access attempt had not been suspended and resumed before and the mobile station does not perform access probe handoff, the mobile station shall declare a temporary loss of the Paging Channel, shall direct Layer 2 to suspend the access attempt (see [4]), and shall perform the following:

  – The mobile station shall set the timer to \((T_{40m}-T_{72m})\) seconds.

  – If the mobile station receives an indication that a valid message on the Paging Channel, whether addressed to the mobile station or not, was received (see [4]) prior to the expiration of the \((T_{40m}-T_{72m})\) timer, the mobile station shall re-enable the transmitter, shall direct Layer 2 to resume operation from the beginning of the interrupted access probe sequence of the access sub-attempt (see [4]), and shall transmit the first probe of the new access probe sequence immediately after re-enabling the transmitter.

  – If the \((T_{40m}-T_{72m})\) timer expires, the mobile station shall direct Layer 2 to cancel any access attempt (see 2.1.1.2.2 of TIA/EIA/IS-2000-4.) and shall declare a loss of the Paging Channel.

• If an access attempt was not in progress when the timer expired and the mobile station does not perform access handoff, the mobile station shall perform the following:

  – The mobile station shall set the timer to \((T_{40m}-T_{72m})\) seconds.

  – If the \((T_{40m}-T_{72m})\) timer expires, the mobile station shall declare a loss of the Paging Channel.

2.6.3.2 Update Overhead Information Substate

In this substate, the mobile station monitors the Paging Channel until it has received the current configuration messages. The mobile station compares sequence numbers to determine whether all of the configuration messages are up-to-date. To make sure it has the latest access parameters, the mobile station receives at least one message containing the ACC_MSG_SEQ field (except in case of a page response, since the initiating General Page Message contains ACC_MSG_SEQ), and waits, if necessary, for an Access Parameters Message.

Upon entering the Update Overhead Information Substate, the mobile station shall set the System Access State timer to a value of \(T_{41m}\) seconds. The mobile station shall set PAGED to NO.

\(^8\) Requirements for processing the loss of Paging Channel are given separately for each substate of the System Access State, in the sections describing the substates.
If the System Access State timer expires while in this substate, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

While in the Update Overhead Information Substate, the mobile station shall monitor the Paging Channel. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8), the mobile station shall perform the following:

- If PACA\textsubscript{s} is equal to enabled, the mobile station shall set PACA\textsubscript{s} to disabled and PACA\textunderscore{}CANCEL to ‘1’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- The mobile station shall declare an access attempt failure and update its registration variables as specified in 2.6.5.5.3.2.
- The mobile station shall enter the Mobile Station Idle State.

If PACA\textsubscript{s} is equal to enabled, the mobile station shall set PACA\textunderscore{}CANCEL to ‘1’ when the user directs the mobile station to cancel a PACA call.

If the mobile station receives any of the following messages, it shall process the message as follows:

1. **System Parameters Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.1).
2. **Access Parameters Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.2).
3. **Neighbor List Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.3).
4. **CDMA Channel List Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.4).
5. **Extended System Parameters Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.5).
6. **Global Service Redirection Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.6).
7. **Extended Neighbor List Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.7).
8. **General Neighbor List Message:** The mobile station shall process the parameters from the message (see 2.6.2.2.8).
9. **Lock Until Power-Cycled Order:** The mobile station shall record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN\textsubscript{Ps-p} equals the least-significant four bits of ORD\textsubscript{Q}). The mobile station should notify the user of the locked condition. The mobile station shall then enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order.
This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

10. General Page Message: If CURR_ACC_MSG_SEQ is equal to NULL, the mobile station shall set CURR_ACC_MSG_SEQ to ACC_MSG_SEQr. The mobile station shall compare CONFIG_MSG_SEQs to CONFIG_MSG_SEQr. If the comparison results in a mismatch, the mobile station shall set CONFIG_MSG_SEQs to CONFIG_MSG_SEQr. The mobile station may ignore the rest of the message. If this substate was not entered with an origination or page response indication, the mobile station may also determine whether there is a page match. If the mobile station attempts to determine whether there is a page match, it shall use the procedure as defined in 2.6.2.3. If a match is declared, the mobile station shall set PAGED to YES.

11. User Zone Identification Message: The mobile station shall process the parameters from the message (see 2.6.2.2.9).

12. Private Neighbor List Message: The mobile station shall process the parameters from the message (see 2.6.2.2.10).

13. Extended Global Service Redirection Message: The mobile station shall process the parameters from the message (see 2.6.2.2.11).

14. Extended CDMA Channel List Message: The mobile station shall process the parameters from the message (see 2.6.2.2.12).

If the mobile station receives a message which is not included in the above list, the mobile station shall ignore the message.

When the stored configuration parameters are current (see 2.6.2.2) and CURR_ACC_MSG_SEQ and ACC_MSG_SEQs are equal and are not NULL, the mobile station shall disable the System Access State timer and shall do one of the following:

- If PAGED is equal to YES, the mobile station shall determine whether the message resulting in the page match was received on the current Paging Channel. If the message was received on the current Paging Channel, the mobile station shall enter the Page Response Substate; otherwise, the mobile station shall enter the Mobile Station Idle State.

- If this substate was entered with a page response indication and the mobile station has not performed an access entry handoff, the mobile station shall determine whether the message resulting in the page match was received on the current Paging Channel. If the message was received on the current Paging Channel, the mobile station shall enter the Page Response Substate; otherwise, the mobile station shall enter the Mobile Station Idle State.

- If this substate was entered with a page response indication and the mobile station has performed an access entry handoff, the mobile station shall enter the Page Response Substate.

- If this substate was entered with a page response retransmission indication, the mobile station shall enter the Page Response Substate.
• If this substate was entered with an origination indication, the mobile station shall enter the *Mobile Station Origination Attempt Substate* with an origination indication.

• If this substate was entered with a PACA response indication, the mobile station shall enter the *Mobile Station Origination Attempt Substate* with a PACA response indication.

• If this substate was entered with an order/message response indication and the mobile station has not performed an access entry handoff, the mobile station shall determine whether the message resulting in the response was received on the current Paging Channel. If the message was received on the current Paging Channel, the mobile station shall enter the *Mobile Station Order/Message Response Substate*; otherwise, the mobile station shall discard the response and enter the *Mobile Station Idle State*.

• If this substate was entered with an order/message response indication and the mobile station has performed an access entry handoff, the mobile station shall enter the *Mobile Station Order/Message Response Substate*.

• If this substate was entered with a registration indication, the mobile station shall enter the *Registration Access Substate*.

• If this substate was entered with a message transmission indication, the mobile station shall enter the *Mobile Station Message Transmission Substate* with a message transmission indication.

• If this substate was entered with a PACA cancel indication, the mobile station shall enter the *PACA Cancel Substate*.

### 2.6.3.3 Page Response Substate

In this substate, the mobile station sends a *Page Response Message* in response to a *General Page Message* from a base station. If a base station responds to the *Page Response Message* with an authentication request, the mobile station responds in this substate.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 2 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station), Layer 3 shall indicate to Layer 2 that the type of the message is a request other than a registration request or a message transmission request (see [4]).

In the *Page Response Substate*, the mobile station shall send each message in assured mode requiring confirmation of delivery.
Upon entering the *Page Response Substate*, the mobile station shall set RLGAIN_ADJ to ‘0000’ and send a *Page Response Message*.

While in this substate, the mobile station shall monitor the Paging Channel. The mobile station may perform an access probe handoff or access handoff as described in 2.6.3.1.3.2 and 2.6.3.1.3.3. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8) during an access attempt, the mobile station may perform an access probe handoff; otherwise, it shall declare an access attempt failure and shall perform the following actions:

- The mobile station shall update its registration variables as specified in 2.6.5.5.3.2,
- The mobile station shall set SYS_PAR_MSG_SEQs and ACC_MSG_SEQs to NULL,
- If PACA is equal to enabled, the mobile station shall set PACA to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled,
- The mobile station shall disable its transmitter, and
- The mobile station shall enter the *Mobile Station Idle State*.

If the mobile station receives confirmation of delivery of any message sent by the mobile station in this substate, the mobile station shall perform an access handoff if all of the following conditions hold:

- The mobile station declares a loss of the Paging Channel, and
- The mobile station is permitted to perform an access handoff (see 2.6.3.1.3.2), and there are pilots other than the active pilot in the access handoff list (see 2.6.3.1.3.2).

If the mobile station declares a loss of the Paging Channel and does not perform an access handoff, the mobile station shall perform the following:

- The mobile station shall set SYS_PAR_MSG_SEQs and ACC_MSG_SEQs to NULL,
- If PACA is equal to enabled, the mobile station shall set PACA to disabled and PACA_CANCEL to 0, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled,
- The mobile station shall disable its transmitter, and
- The mobile station shall enter the *Mobile Station Idle State*.

If PACA is equal to enabled, the mobile station shall set PACA_CANCEL to ‘1’ when the user directs the mobile station to cancel a PACA call.

If the mobile station receives confirmation of delivery of the *Page Response Message* sent in this substate, the mobile station shall update its registration variables with respect to the base station to which the first access probe was transmitted after entering the *System Access State*, as specified in 2.6.5.5.3.1.

If the *System Access State* timer expires while in this substate, the mobile station shall perform the following:
• If PACA_s is equal to enabled, the mobile station shall set PACA_s to disabled and
  PACA_CANCEL to '0', shall disable the PACA state timer, and should indicate to the
  user that the PACA call has been canceled.
• The mobile station shall set SYS_PAR_MSG_SEQ_s and ACC_MSG_SEQ_s to NULL,
  and shall enter the Mobile Station Idle State.

The mobile station shall set and disable the System Access State timer as follows:

• The mobile station shall disable the timer whenever it begins an access attempt.
• The mobile station shall set the timer to \( T_{42m} \) seconds whenever it ends an access
  attempt.
• The mobile station shall disable the timer whenever it exits the System Access State.

If the mobile station receives a Channel Assignment Message or the Extended Channel
Assignment Message, Layer 3 shall send a dedicated channel assignment indication to Layer
2 (see [4]). If the mobile station has not received confirmation of delivery of the Page
Response Message, before receiving the Channel Assignment Message or the Extended
Channel Assignment Message, the mobile station shall update its registration variables with
respect to the base station to which the first access probe was transmitted after entering
the System Access State, as specified in 2.6.5.5.3.1.

If the mobile station is to exit the System Access State as a result of processing Layer 3
fields of a message requiring an acknowledgment, the mobile station shall exit the System
Access State after Layer 3 receives an indication from Layer 2 that the acknowledgment to
the message has been sent and acknowledged.

If Layer 3 receives a message other than a Channel Assignment Message or an Extended
Channel Assignment Message with an indication from Layer 2 that an access attempt for a
message being transmitted was not terminated as a result of processing the Layer 2 fields of
the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the
message or order is outside its permissible range, the mobile station may send a Mobile
Station Reject Order with ORDQ equal to ‘00000100’ (message field not in valid range).

1. Authentication Challenge Message: The mobile station shall respond to the message
   as specified in 2.3.12.1.4, regardless of the value of AUTH_s.

2. Base Station Challenge Confirmation Order: The mobile station shall respond to the
   message as specified in 2.3.12.1.5.

3. Channel Assignment Message: The mobile station shall process the message as
   follows:
   • If ASSIGN_MODE_r equals ‘000’, the mobile station shall perform the following
     actions:
     – The mobile station shall set CH_IND_s to ‘01’.
The mobile station shall store the frame offset \(\text{FRAME\_OFFSET}_s = \text{FRAME\_OFFSET}_r\), the message encryption mode indicator \(\text{ENCRYPT\_MODE}_s = \text{ENCRYPT\_MODE}_r\), and, if \(\text{FREQ\_INCL}_r\) equals ‘1’, the Frequency Assignment \(\text{CDMACH}_s = \text{CDMA\_FREQ}_r\).

The mobile station shall set \(\text{SERV\_NEG}_s\) to disabled.

If \(\text{PACA}_s\) is equal to enabled, the mobile station shall set \(\text{PACA}_s\) to disabled and \(\text{PACA\_CANCEL}\) to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

The mobile station shall initialize \(\text{CODE\_CHAN\_LIST}\) as described in 2.6.8.

The mobile station shall enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

- If \(\text{ASSIGN\_MODE}_r\) equals ‘001’, the mobile station shall perform the following actions:
  - If \(\text{FREQ\_INCL}_r\) equals ‘1’, the mobile station shall perform the following:
    - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
    - The mobile station shall set \(\text{CDMACH}_s\) to \(\text{CDMA\_FREQ}_r\), tune to the new Frequency Assignment, and measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2.
  
  - The mobile station shall set \(\text{CONFIG\_MSG\_SEQ}_s\) and \(\text{ACC\_MSG\_SEQ}_s\) to NULL (see 2.6.2.2) and shall set \(\text{PILOT\_PN}_s\) to the pilot PN sequence offset of the strongest pilot in the list \(\text{PILOT\_PN}_r\).
  
  - If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set \(\text{SYS\_PAR\_MSG\_SEQ}_s\), \(\text{NGHBR\_LST\_MSG\_SEQ}_s\), \(\text{EXT\_NGHBR\_LST\_MSG\_SEQ}_s\), \(\text{GEN\_NGHBR\_LST\_MSG\_SEQ}_s\), \(\text{USER\_ZONE\_ID\_MSG\_SEQ}_s\), \(\text{PRI\_NGHBR\_LST\_MSG\_SEQ}_s\), \(\text{CHAN\_LST\_MSG\_SEQ}_s\), \(\text{EXT\_CHAN\_LST\_MSG\_SEQ}_s\), \(\text{EXT\_SYS\_PAR\_MSG\_SEQ}_s\), \(\text{USER\_ZONE\_ID\_MSG\_SEQ}_s\), \(\text{PRI\_NGHBR\_LST\_MSG\_SEQ}_s\), \(\text{GLOB\_SERV\_REDIR\_MSG\_SEQ}_s\), and \(\text{EXT\_GLOB\_SERV\_REDIR\_MSG\_SEQ}_s\) to NULL.
  
  - The mobile station shall set \(\text{PAGE\_CHAN}_s\) to ‘1’ and \(\text{PAGECH}_s\) to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.
− If $\text{RESPOND}_r$ is equal to ‘1’, the mobile station shall enter the *Update Overhead Information Substate* with a page response retransmission indication within $T_{34m}$ seconds after receiving the *Channel Assignment Message*.

− If $\text{RESPOND}_r$ is equal to ‘0’, the mobile station shall enter the *Mobile Station Idle State* within $T_{34m}$ seconds after receiving the *Channel Assignment Message*.

• If $\text{ASSIGN\_MODE}_r$ equals ‘010’, the mobile station shall perform the following actions:

  − If the mobile station does not support analog operation in the requested band class, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and shall remain in the *Page Response Substate*.

  − If the mobile station supports analog operation in the requested band class, the mobile station shall perform the following actions:

    + If USE ANALOG SYS $r$ equals ‘1’, the mobile station shall set SERVSYS$_S$ to SYS_A if ANALOG SYS $r$ is equal to ‘0’, or shall set SERVSYS$_S$ to SYS_B if ANALOG SYS $r$ is equal to ‘1’.

    + If PACA$_s$ is equal to enabled, the mobile station shall set PACA$_S$ to disabled and PACA$_\text{CANCEL}$ to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

    + If $\text{RESPOND}_r$ equals ‘0’, the mobile station shall enter the analog Initialization Task with a wait-for-page indication (see 2.6.1). If $\text{RESPOND}_r$ equals ‘1’, the mobile station shall enter the analog Initialization Task with a page response indication (see 2.6.1).

• If $\text{ASSIGN\_MODE}_r$ equals ‘011’, the mobile station shall perform the following actions:

  − If the mobile station does not support analog operation in the requested band class, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the *Page Response Substate*.

  − If the mobile station supports analog operation in the requested band class:

    + If PACA$_s$ is equal to enabled, the mobile station shall set PACA$_S$ to disabled and PACA$_\text{CANCEL}$ to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
+ If the analog channel type is '00', the mobile station shall store the
  system identification (SID = SID), voice mobile station attenuation code
  (VMAC = VMAC), voice channel number (ANALOG_CHAN = ANALOG_CHAN), SAT color code (S = S), and message encryption
  mode indicator (MEM = MEM), shall set DTX to '00', and shall enter the
  Confirm Initial Voice Channel Task (see 2.6.4.2) with a page response
  indication.

+ If the analog channel type is not '00':
  o If the mobile station supports narrow analog mode, the mobile station
    shall store the system identification (SID = SID), voice mobile
    station attenuation code (VMAC = VMAC), voice channel number
    (ANALOG_CHAN = ANALOG_CHAN), message encryption mode
    indicator (MEM = MEM), analog channel type (AN_CHAN_TYPE = AN_CHAN_TYPE) and the digital SAT code (DSCC = DSCC MSB × 4
    + S), shall set DTX to '00', and shall enter the Confirm Initial
    Narrow Analog Voice Channel Task (see 2.6.5.2A of IS-91) with a page
    response indication.
  o If the mobile station does not support narrow analog mode, the
    mobile station shall send a Mobile Station Reject Order with the ORDQ
    field set to '00000110' (capability not supported by the mobile station)
    and the mobile station shall remain in the Page Response Substate of
    the System Access State.

• If ASSIGN_MODE equals '100', the mobile station shall perform the following
  actions:
    − The mobile station shall set CH_IND to '01'.
    − If PACA is equal to enabled, the mobile station shall set PACA to disabled
      and PACA_CANCEL to '0', shall disable the PACA state timer, and should
      indicate to the user that the PACA call has been canceled.
    − If GRANTED_MODE equals '00', and the multiplex option and radio
      configuration combination specified in the DEFAULT_CONFIG field is not
      supported by the mobile station, the mobile station shall send a Mobile
      Station Reject Order with ORDQ field set to '00000110' (capability not
      supported by the mobile station) and remain in the Page Response Substate.
    − If FREQ_INCL equals '0', the mobile station shall perform the following
      actions:
        + The mobile station shall store the frame offset (FRAME_OFFSET = FRAME_OFFSET), the message encryption mode indicator
          (ENCRYPT_MODE = ENCRYPT_MODE), the granted mode
          (GRANTED_MODE = GRANTED_MODE), and default configuration
          (DEFAULT_CONFIG = DEFAULT_CONFIG).
        + The mobile station shall set SERV_NEG to enabled.
+ The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8 and shall then enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

− If FREQ_INCLr equals ‘1’, the mobile station shall perform the following actions:

+ If the band class is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and shall remain in the Page Response Substate.

+ If the band class is supported by the mobile station, the mobile station shall perform the following actions:

  ο The mobile station shall store the frame offset (FRAME_OFFSETs = FRAME_OFFSETr), the message encryption mode indicator (ENCRYPT_MODEs = ENCRYPT_MODEr), the bypass indicator (BYPASS_ALERT_ANSWERs = BYPASS_ALERT_ANSWERr), the granted mode (GRANTED_MODEs = GRANTED_MODEr), the default configuration (DEFAULT_CONFIGs = DEFAULT_CONFIGr), the band class (CDMABANDs = BAND_CLASSr), and the Frequency Assignment (CDMACHs = CDMA_FREQr).

  ο The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8, and shall set SERV_NEGs to enabled.

  ο The mobile station shall then tune to the new Frequency Assignment and shall enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

• If ASSIGN_MODEr equals ‘101’, the mobile station shall perform the following actions:

  − If FREQ_INCLr equals ‘0’, the mobile station shall perform the following actions:

    + If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

    + The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr).
If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.

The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

If RESPONDr is equal to ‘1’, the mobile station shall perform the following:

- If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after receiving the Channel Assignment Message.

- If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

If RESPONDr is equal to ‘0’, the mobile station shall perform the following:

- If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after receiving the Channel Assignment Message.

- If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

  - If FREQ_INCLr equals ‘1’, the mobile station shall perform the following actions:
+ If the band class is not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and shall remain in the *Page Response Substate*.

+ If the band class is supported by the mobile station, the mobile station shall perform the following actions:

  o If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

  o The mobile station shall set CDMACHₜ to CDMA_FREQᵣ and CDMABANDₜ to BAND_CLASSᵣ. Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set PILOT_PNᵣ to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNᵣ), and set CONFIG_MSG_SEQᵣ and ACC_MSG_SEQᵣ to NULL (see 2.6.2.2).

  o If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQᵣ, NGHBR_LST_MSG_SEQᵣ, EXT_NGHBR_LST_MSG_SEQᵣ, USER_ZONE_ID_MSG_SEQᵣ, GEN_NGHBR_LST_MSG_SEQᵣ, CHAN_LST_MSG_SEQᵣ, EXT_CHAN_LST_MSG_SEQᵣ, EXT_SYS_PAR_MSG_SEQᵣ, USER_ZONE_ID_MSG_SEQᵣ, USER_ZONE_ID_MSG_SEQᵣ, PRI_NGHBR_LST_MSG_SEQᵣ, GLOB_SERV_REDIR_MSG_SEQᵣ, and EXT_GLOB_SERV_REDIR_MSG_SEQᵣ to NULL.

  o The mobile station shall set PAGE_CHANᵣ to ‘1’ and PAGECHᵣ to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

  o If RESPONDᵣ is equal to ‘1’, the mobile station shall perform the following:

      ◊ If the *Channel Assignment Message* does not require an acknowledgment, the mobile station shall enter the *Update Overhead Information Substate* with a page response retransmission indication within T₃₄ₘ seconds after receiving the *Channel Assignment Message*.

      ◊ If the *Channel Assignment Message* requires an acknowledgment, the mobile station shall enter the *Update Overhead Information Substate* with a page response retransmission indication within T₃₄ₘ seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the *Channel Assignment Message* has been sent and acknowledged.
If RESPOND\textsubscript{r} is equal to '0', the mobile station shall perform the following:

\begin{itemize}
  \item If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34\textsubscript{m} seconds after receiving the Channel Assignment Message.
  \item If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34\textsubscript{m} seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.
\end{itemize}

4. Data Burst Message

5. Extended Channel Assignment Message: The mobile station shall process the message as follows:

- If ASSIGN\_MODE\textsubscript{r} equals '000', the mobile station shall perform the following actions:
  - The mobile station shall set CH\_IND\textsubscript{s} to '01'.
  - If PACA\textsubscript{s} is equal to enabled, the mobile station shall set PACA\textsubscript{s} to disabled and PACA\_CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
  - If GRANTED\_MODE\textsubscript{r} equals '00', and the multiplex option and radio configuration specified in the DEFAULT\_CONFIG field are not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to '00001110' (capability not supported by the mobile station) and shall remain in the Page Response Substate.
  - If GRANTED\_MODE\textsubscript{r} is equal to '00' and DEFAULT\_CONFIG\textsubscript{r} is not equal to '100', the mobile station shall send a Mobile Station Reject Order with ORDQ field set to '00001110' (RC does not match with DEFAULT\_CONFIG\textsubscript{r}) and shall remain in the Page Response Substate if any of the following conditions is true:
    \begin{itemize}
      \item FOR\_FCH\_RC\textsubscript{r} is not equal to the RC associated with DEFAULT\_CONFIG\textsubscript{r} (see Table 3.7.2.3.2.21-2).
      \item REV\_FCH\_RC\textsubscript{r} is not equal to the RC associated with DEFAULT\_CONFIG\textsubscript{r} (see Table 3.7.2.3.2.21-2).
    \end{itemize}
  - If the mobile station does not support either of the Fundamental Channel Radio Configurations (FOR\_FCH\_RC or REV\_FCH\_RC), the mobile shall send a Mobile Station Reject Order with the ORDQ field set to '00000110' (capability not supported by the mobile station) and remain in the Page Response Substate.
If $P_{REV\_IN\_USE_s}$ is equal to or greater than 6, the mobile station shall store the Forward Fundamental Channel Radio Configuration ($FOR\_FCH\_RC_s = FOR\_FCH\_RC_r$) and the Reverse Fundamental Channel Radio Configuration ($REV\_FCH\_RC_s = REV\_FCH\_RC_r$).

If $FREQ\_INCL_r$ equals ‘0’, the mobile station shall perform the following actions:

- The mobile station shall store the frame offset ($FRAME\_OFFSET_s = FRAME\_OFFSET_r$); the message encryption mode indicator ($ENCRYPT\_MODE_s = ENCRYPT\_MODE_r$); the bypass indicator ($BYPASS\_ALERT\_ANSWER_s = BYPASS\_ALERT\_ANSWER_r$); the granted mode ($GRANTED\_MODE_s = GRANTED\_MODE_r$); the default configuration ($DEFAULT\_CONFIG_s = DEFAULT\_CONFIG_r$); and the occurrences of $PILOT\_PN$ and $PWR\_COMB$ for each included member of the Active Set.

- The mobile station shall initialize $CODE\_CHAN\_LIST$ as described in 2.6.8, and shall set $SERV\_NEG_s$ to enabled.

- The mobile station shall set $FPC\_FCH\_INIT\_SETPT_s$ to $FPC\_FCH\_INIT\_SETPT_r$, $FPC\_FCH\_CURR\_SETPT_s$ to $FPC\_FCH\_INIT\_SETPT_s$, $FPC\_FCH\_FER_s$ to $FPC\_FCH\_FER_r$, $FPC\_FCH\_MIN\_SETPT_s$ to $FPC\_FCH\_MIN\_SETPT_r$, $FPC\_FCH\_MAX\_SETPT_s$ to $FPC\_FCH\_MAX\_SETPT_r$, and $FPC\_PRI\_CHAN_s$ to ‘0’ if the mobile station supports any Radio Configuration greater than 2.

- The mobile station shall set $FPC\_SUBCHAN\_GAIN_s$ to $FPC\_SUBCHAN\_GAIN_r$.

- The mobile station shall set $RLGAIN\_ADJ_s$ to $RLGAIN\_ADJ_r$.

- The mobile station shall set $REV\_FCH\_GATING\_MODE_s$ to $REV\_FCH\_GATING\_MODE_r$.

- The mobile station shall set $REV\_PWR\_CNTL\_DELAY_s$ to $REV\_PWR\_CNTL\_DELAY_r$ if $REV\_PWR\_CNTL\_DELAY\_INCL_r$ is equal to ‘1’.

- The mobile station shall then enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

- If $FREQ\_INCL_r$ equals ‘1’, and the band class is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with $ORDQ$ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

- If $FREQ\_INCL_r$ equals ‘1’, and the band class is supported by the mobile station, the mobile station shall perform the following actions:
The mobile station shall store the frame offset \((\text{FRAME\_OFFSET}_s = \text{FRAME\_OFFSET}_r)\); the message encryption mode indicator \((\text{ENCRYPT\_MODE}_s = \text{ENCRYPT\_MODE}_r)\); the bypass indicator \((\text{BYPASS\_ALERT\_ANSWER}_s = \text{BYPASS\_ALERT\_ANSWER}_r)\); the granted mode \((\text{GRANTED\_MODE}_s = \text{GRANTED\_MODE}_r)\); the default configuration \((\text{DEFAULT\_CONFIG}_s = \text{DEFAULT\_CONFIG}_r)\); the band class \((\text{CDMABAND}_s = \text{BAND\_CLASS}_r)\); the Frequency Assignment \((\text{CDMACH}_s = \text{CDMA\_FREQ}_r)\); and the occurrences of \text{PILOT\_PN} and \text{PWR\_COMB\_IND} for each included member of the Active Set.

The mobile station shall set \text{FPC\_FCH\_INIT\_SETPT}_s to \text{FPC\_FCH\_INIT\_SETPT}_r, \text{FPC\_FCH\_CURR\_SETPT}_s to \text{FPC\_FCH\_INIT\_SETPT}_r, \text{FPC\_FCH\_FER}_s to \text{FPC\_FCH\_FER}_r, \text{FPC\_FCH\_MIN\_SETPT}_s to \text{FPC\_FCH\_MIN\_SETPT}_r, \text{FPC\_FCH\_MAX\_SETPT}_s to \text{FPC\_FCH\_MAX\_SETPT}_r, and \text{FPC\_PRI\_CHAN}_s to ‘0’ if the mobile station supports any Radio Configuration greater than 2.

The mobile station shall set \text{FPC\_SUBCHAN\_GAIN}_s to \text{FPC\_SUBCHAN\_GAIN}_r.

The mobile station shall set \text{RLGAIN\_ADJ}_s to \text{RLGAIN\_ADJ}_r.

The mobile station shall set \text{REV\_FCH\_GATING\_MODE}_s to \text{REV\_FCH\_GATING\_MODE}_r.

The mobile station shall set \text{REV\_PWR\_CNTL\_DELAY}_s to \text{REV\_PWR\_CNTL\_DELAY}_r if \text{REV\_PWR\_CNTL\_DELAY\_INCL}_r is equal to ‘1’.

The mobile station shall initialize \text{CODE\_CHAN\_LIST} as described in 2.6.8, and shall set \text{SERV\_NEG}_s to enabled.

The mobile station shall then tune to the new Frequency Assignment and shall enter the \text{Traffic Channel Initialization Substate} of the \text{Mobile Station Control on the Traffic Channel State}.

If \text{ASSIGN\_MODE}_r equals ‘001’, the mobile station shall perform the following actions:

- If \text{FREQ\_INCL}_r equals ‘0’, the mobile station shall perform the following actions:
  - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
+ The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr). If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LIST_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.

+ The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

+ If RESPOND is equal to ‘1’, the mobile station shall perform the following:
  o If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after receiving the Extended Channel Assignment Message.
  o If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.

+ If RESPOND is equal to ‘0’, the mobile station shall perform the following:
  o If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after receiving the Extended Channel Assignment Message.
  o If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.
− If \( FREQ\_INCL_r \) equals ‘1’, and the band class is not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the *Page Response Substate*.

− If \( FREQ\_INCL_r \) equals ‘1’, and the band class is supported by the mobile station, the mobile station shall perform the following actions:
  
  + If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

  + The mobile station shall set \( CDMACH_s \) to \( CDMA\_FREQ_r \) and \( CDMABAND_s \) to \( BAND\_CLASS_r \). Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set PILOT\_PNs to the pilot PN sequence offset of the strongest pilot in the list (\( PILOT\_PN_r \)), and set CONFIG\_MSG\_SEQs and ACC\_MSG\_SEQs to NULL (see 2.6.2.2).

  + If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS\_PAR\_MSG\_SEQs, NGHBR\_LST\_MSG\_SEQs, EXT\_NGHBR\_LST\_MSG\_SEQs, GEN\_NGHBR\_LST\_MSG\_SEQs, USER\_ZONE\_ID\_MSG\_SEQs, PRI\_NGHBR\_LST\_MSG\_SEQs, CHAN\_LST\_MSG\_SEQs, EXT\_CHAN\_LST\_MSG\_SEQs, EXT\_SYS\_PAR\_MSG\_SEQs, USER\_ZONE\_ID\_MSG\_SEQs, PRI\_NGHBR\_LST\_MSG\_SEQs, GLOB\_SERV\_REDIR\_MSG\_SEQs, and EXT\_GLOB\_SERV\_REDIR\_MSG\_SEQs to NULL.

  + The mobile station shall set PAGE\_CHAN_s to ‘1’ and PAGECH_s to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

  + If RESPOND_r is equal to ‘1’, the mobile station shall perform the following:

    o If the *Extended Channel Assignment Message* does not require an acknowledgment, the mobile station shall enter the *Update Overhead Information Substate* with a page response retransmission indication within \( T_{34m} \) seconds after receiving the *Extended Channel Assignment Message*.

    o If the *Extended Channel Assignment Message* requires an acknowledgment, the mobile station shall enter the *Update Overhead Information Substate* with a page response retransmission indication within \( T_{34m} \) seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the *Extended Channel Assignment Message* has been sent and acknowledged.
+ If RESPOND<sub>r</sub> is equal to ‘0’, the mobile station shall perform the following:

  0 If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T<sub>34m</sub> seconds after receiving the Extended Channel Assignment Message.

  0 If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T<sub>34m</sub> seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.

• If ASSIGN<sub>r</sub>_MODE equals ‘010’, the mobile station shall perform the following actions:

  – If the mobile station does not support analog operation in the requested band class, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

  – If the mobile station supports analog operation in the requested band class, the mobile station shall perform the following actions:

    + If PACA<sub>s</sub> is equal to enabled, the mobile station shall set PACA<sub>s</sub> to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

    + If RESPOND<sub>r</sub> equals ‘0’, and USE_ANALOG_SYS<sub>r</sub> equals ‘1’, the mobile station shall set SERVSYS<sub>s</sub> to SYS_A if ANALOG_SYS<sub>r</sub> is equal to ‘0’, or set SERVSYS<sub>s</sub> to SYS_B if ANALOG_SYS<sub>r</sub> is equal to ‘1’. The mobile station shall then enter the analog Initialization Task with a wait-for-page indication (see 2.6.1).

    + If RESPOND<sub>r</sub> equals ‘1’, and USE_ANALOG_SYS<sub>r</sub> equals ‘1’, the mobile station shall set SERVSYS<sub>s</sub> to SYS_A if ANALOG_SYS<sub>r</sub> is equal to ‘0’, or set SERVSYS<sub>s</sub> to SYS_B if ANALOG_SYS<sub>r</sub> is equal to ‘1’. The mobile station shall then enter the analog Initialization Task with a page response indication (see 2.6.1).

    + If RESPOND<sub>r</sub> equals ‘0’, and USE_ANALOG_SYS<sub>r</sub> equals ‘0’ the mobile station shall enter the analog Initialization Task with a wait for page indication (see 2.6.1).

    + If RESPOND<sub>r</sub> equals ‘1’, and USE_ANALOG_SYS<sub>r</sub> equals ‘0’ the mobile station shall enter the analog Initialization Task with a page response indication (see 2.6.1).

• If ASSIGN<sub>r</sub>_MODE equals ‘011’, the mobile station shall perform the following actions:
If the mobile station does not support analog operation in the requested band class, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the *Page Response Substate*.

If the mobile station supports analog operation in the requested band class, and the analog channel type is ‘00’, the mobile station shall store the system identification (\(\text{SID}_s = \text{SID}_t\)), voice mobile station attenuation code (\(\text{VMAC}_s = \text{VMAC}_t\)), voice channel number (\(\text{ANALOG\_CHAN}_s = \text{ANALOG\_CHAN}_t\)), SAT color code (\(\text{SCC}_s = \text{SCC}_t\)), and message encryption mode indicator (\(\text{MEM}_s = \text{MEM}_t\)), shall set DTXs to ‘00’, and shall enter the Confirm Initial Voice Channel Task (see 2.6.4.2) with a page response indication. If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA\_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

If the mobile station supports analog operation in the requested band class, the analog channel type is not ‘00’:

+ If the mobile supports narrow analog mode, the mobile station shall store the system identification (\(\text{SID}_s = \text{SID}_t\)), voice mobile station attenuation code (\(\text{VMAC}_s = \text{VMAC}_t\)), voice channel number (\(\text{ANALOG\_CHAN}_s = \text{ANALOG\_CHAN}_t\)), message encryption mode indicator (\(\text{MEM}_s = \text{MEM}_t\)), analog channel type (\(\text{AN\_CHAN\_TYPE}_s = \text{AN\_CHAN\_TYPE}_t\)), and the digital SAT code (\(\text{DSCC}_s = \text{DSCC\_MSB}_t \times 4 + \text{SCC}_t\)), shall set DTXs to ‘00’, and shall enter the Confirm Initial Narrow Analog Voice Channel Task (see 2.6.5.2A of IS-91) with a page response indication. If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA\_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

+ If the mobile station does not support narrow analog mode, the mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and the mobile station shall remain in the *Page Response Substate of the System Access State*.

If ASSIGN\_MODE\(_r\) equals ‘100’, the mobile station shall perform the following actions:

− If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA\_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

− If GRANTED\_MODE\(_r\) equals ‘00’ and the multiplex option and radio configuration specified in the DEFAULT\_CONFIG\(_r\) field are not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and shall remain in the *Page Response Substate*. 

2-126
If GRANTED_MODE_r equals ‘00’ and DEFAULT_CONFIG_r is not equal to ‘100’, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00001110’ (RC does not match with DEFAULT_CONFIG) and shall remain in the Page Response Substate if one of the following conditions is true:

+ FOR_RC_r is not equal to the RC associated with DEFAULT_CONFIG_r as specified in Table 3.7.2.3.2.21-2.
+ REV_RC_r is not equal to the RC associated with DEFAULT_CONFIG_r as specified in Table 3.7.2.3.2.21-2.

If the mobile station does not support either of the Radio Configurations (FOR_RC or REV_RC), the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

If CH_IND_r = ‘01’ and the mobile station does not support Fundamental Channel, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

If CH_IND_r = ‘10’ and the mobile station does not support the Dedicated Control Channel, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

If CH_IND_r = ‘11’ and the mobile station does not support the Dedicated Control Channel and Fundamental Channel concurrently, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

If FREQ_INCL_r equals ‘1’ and if the band class (BAND_CLASS_r) is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Page Response Substate.

If the mobile station does not send a Mobile Station Reject Order as specified above, it shall continue to perform the actions specified below.

If FREQ_INCL_r equals ‘1’, the mobile station shall set

+ CDMABAND_s = BAND_CLASS_r
+ CDMACH_s = CDMA_FREQ_r

The mobile station shall store the bypass indicator (BYPASS_ALERT_ANSWER_s = BYPASS_ALERT_ANSWER_r).

The mobile station shall store granted mode (GRANTED_MODE_s = GRANTED_MODE_r).

The mobile station shall store the default configuration (DEFAULT_CONFIG_s = DEFAULT_CONFIG_r).
The mobile station shall store the Forward Traffic Channel Radio Configuration (FOR_RC_S = FOR_RC_R) and the Reverse Traffic Channel Radio Configuration (REV_RC_S = REV_RC_R).

The mobile station shall store the frame offset (FRAME_OFFSET_S = FRAME_OFFSET_R).

The mobile station shall store the message encryption mode indicator (ENCRYPT_MODE_S = ENCRYPT_MODE_R).

The mobile station shall store the Forward power control subchannel relative gain [FPC_SUBCHAN_GAIN_S = FPC_SUBCHAN_GAIN_R].

The mobile station shall set RLGAIN_ADJ_S to RLGAIN_ADJ_R.

The mobile station shall set REV_FCH_GATING_MODE_S to REV_FCH_GATING_MODE_R.

The mobile station shall set REV_PWR_CNTL_DELAY_S to REV_PWR_CNTL_DELAY_R if REV_PWR_CNTL_DELAY_INCL_R is equal to ‘1’.

The mobile station shall store the channel indicator (CH_IND_S = CH_IND_R) and the mobile station shall perform the following actions:

+ If CH_IND_R equals ‘01’, the mobile station shall set FPC_FCH_INIT_SETPT_S to FPC_FCH_INIT_SETPT_R, FPC_FCH_CURR_SETPT_S to FPC_FCH_INIT_SETPT_S, FPC_FCH_FER_S to FPC_FCH_FER_R, FPC_FCH_MIN_SETPT_S to FPC_FCH_MIN_SETPT_R, FPC_FCH_MAX_SETPT_S to FPC_FCH_MAX_SETPT_R, and FPC_PRI_CHAN_S to ‘0’ if the mobile station supports any Radio Configuration greater than 2. Then for each included member of the Active Set, the mobile station shall store the following:

  o Set the PILOT_PN field to PILOT_PN_R.

  o Set the ADD_PILOT_REC_INCL field to ADD_PILOT_REC_INCL_R. If ADD_PILOT_REC_INCL_R equals ‘1’, the mobile station shall store the following:

    ◊ Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPE_R.

    ◊ If PILOT_REC_TYPE_R equals ‘000’, the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVEL_R.

  o Set the PWR_COMB_IND field to PWR_COMB_IND_R.

  o Set the CODE_CHAN_FCH field to CODE_CHAN_FCH_R.

  o Set the QOF_MASK_ID_FCH field to QOF_MASK_ID_FCH_R.
If CH_IND_r equals ‘10’, the mobile station shall set FPC_DCCH_INIT_SETPTs to FPC_DCCH_INIT_SETPT_r, FPC_DCCH_CURR_SETPTs to FPC_DCCH_INIT_SETPT_r, FPC_DCCH_MIN_SETPTs to FPC_DCCH_MIN_SETPT_r, FPC_DCCH_MAX_SETPTs to FPC_DCCH_MAX_SETPT_r, and FPC_PRI_CHANs to ‘1’ if the mobile station supports any Radio Configuration greater than 2.

Then for each included member of the Active Set, the mobile station shall store the following:

- Set the PILOT_PN to PILOT_PNr.
- Set the ADD_PILOT_REC_INCL field to ADD_PILOT_REC_INCr. If ADD_PILOT_REC_INCL is equal to ‘1’, the mobile station shall store the following:
  - Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPEr.
  - If PILOT_REC_TYPEr equals ‘000’, the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVELr.
- Set the PWR_COMB_IND field to PWR_COMB_INDr.
- Set the CODE_CHAN_FCH field to CODE_CHAN_FCHr.
- Set the QOF_MASK_ID_FCH field to QOF_MASK_ID_FCHr.
- Set the DCCH_INCL field to DCCH_INCLr. If DCCH_INCLr equals ‘1’, the mobile station shall store the following:
  - Set the CODE_CHAN_DCCH field to CODE_CHAN_DCCHr.
  - Set the QOF_MASK_ID_DCCH field to QOF_MASK_ID_DCCHr.

If CH_INDr equals ‘11’, the mobile station shall set FPC_FCH_INIT_SETPTs to FPC_FCH_INIT_SETPT_r, FPC_FCH_CURR_SETPTs to FPC_FCH_INIT_SETPT_r, FPC_FCH_MIN_SETPTs to FPC_FCH_MIN_SETPT_r, FPC_FCH_MAX_SETPTs to FPC_FCH_MAX_SETPT_r, FPC_DCCH_INIT_SETPTs to FPC_DCCH_INIT_SETPT_r, FPC_DCCH_CURR_SETPTs to FPC_DCCH_INIT_SETPT_r, FPC_DCCH_FERs to FPC_DCCH_FERr, FPC_DCCH_MIN_SETPTs to FPC_DCCH_MIN_SETPT_r, FPC_DCCH_MAX_SETPTs to FPC_DCCH_MAX_SETPT_r, and FPC_PRI_CHANs to FPC_PRI_CHANr. Then for each included member of the Active Set, the mobile station shall store the following:

- Set the PILOT_PN to PILOT_PNr.
- Set the ADD_PILOT_REC_INCL field to ADD_PILOT_REC. If ADD_PILOT_REC_INCL is equal to ‘1’, the mobile station shall store the following:
  - Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPEr.
If PILOT_REC_TYPE equals ‘000’, the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVEL.

- Set the PWR_COMB_IND field to PWR_COMB_IND.

- Set the CODE_CHAN_FCH field to CODE_CHAN_FCH.

- Set the QOF_MASK_ID_FCH field to QOF_MASK_ID_FCH.

- Set the CODE_CHAN_DCCH field to CODE_CHAN_DCCH.

- Set the QOF_MASK_ID_DCCH field to QOF_MASK_ID_DCCH.

- The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8, and shall set SERV_NEG to enabled.

- If FREQ_INCL equals ‘1’, the mobile station shall then tune to the new frequency assignment.

- The mobile station shall then enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

6. Feature Notification Message

7. Local Control Order

8. Lock Until Power-Cycled Order: The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN_P equals the least significant four bits of ORDQ).

9. Maintenance Required Order: The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSN_P equals the least significant four bits of ORDQ). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

10. Registration Accepted Order: If ORDQ = ‘00000101’, the mobile station shall set ROAM_IND = ROAM_IND and should display the roaming condition.

11. Registration Rejected Order: This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = ‘00000100’), the mobile station shall set all the bits of the TMSI_CODE_P to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

12. Release Order: If NDSS_ORIGS is equal to enabled, the mobile station shall set NDSS_ORIGS to disabled, and should indicate to the user that the call origination...
has been canceled. The mobile station shall enter the Mobile Station Idle State or the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1). If the mobile station enters the Mobile Station Idle State, and if PACAS is equal to enabled, the mobile station shall set PACAS to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

13. Retry Order: The mobile station shall process the message as follows:

- If RETRY_TYPE_r is equal to ‘000’, the mobile station shall set RETRY_DELAY_s[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
- If RETRY_TYPE_r is equal to ‘001’, the mobile station shall perform the following:
  - If RETRY_DELAY_r is equal to ‘00000000’, then the mobile station shall set RETRY_DELAY_s[RETRY_TYPE_r] to 0.
  - If RETRY_DELAY_r is not equal to ‘00000000’, the mobile station shall set RETRY_DELAY_s[RETRY_TYPE_r] as follows:
    + If the most significant bit of the RETRY_DELAY_r is ‘0’, set RETRY_DELAY_UNIT_s to 1000ms. If the most significant bit of the RETRY_DELAY_r is ‘1’, set RETRY_DELAY_UNIT_s to 60000ms.
    + The mobile station shall set RETRY_DELAY_VALUE_s to the seven least significant bits of RETRY_DELAY_r.
    + The mobile station shall store the next system time 80 ms boundary + RETRY_DELAY_VALUE_s × RETRY_DELAY_UNIT_s ms as RETRY_DELAY_s[RETRY_TYPE_r].

14. Service Redirection Message: The mobile station shall process the message as follows:

- If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a Mobile Station Reject Order with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).
- If DELETE_TMSI_r is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODE_s-p to ‘1’. The mobile station shall disable the full-TMSI timer.
- The mobile station shall set RETURN_IF_FAIL_s = RETURN_IF_FAIL_r.
- If RECORD_TYPE_r is equal to ‘00000000’, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the redirection record received in the message as REDIRECT_REC_s and shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).

15. SSD Update Message: The mobile station shall respond to the message as specified in 2.3.12.1.5.
16. **Status Request Message**: The mobile station shall disable the System Access State timer and respond to the message. If \( P_{\text{REV\_IN\_USE}} \) is less than or equal to three, the mobile station shall respond with a **Status Response Message**. If \( P_{\text{REV\_IN\_USE}} \) is greater than three, the mobile station shall respond with an **Extended Status Response Message**. If the message does not specify any qualification information (\( \text{QUAL\_INFO\_TYPE}_r \) is equal to '00000000'), the mobile station shall include the requested information records in the response. If the message specifies a band class (\( \text{QUAL\_INFO\_TYPE}_r \) is equal to '00000001'), the mobile station shall only include the requested information records for the specified band class (\( \text{BAND\_CLASS}_r \)) in the response. If the message specifies a band class and an operating mode (\( \text{QUAL\_INFO\_TYPE}_r \) is equal to '00000010'), the mobile station shall only include the requested information records for the specified band class (\( \text{BAND\_CLASS}_r \)) and operating mode (\( \text{OP\_MODE}_r \)) in the response. If the message specifies a band class or a band class and an operating mode which is not supported by the mobile station, the mobile station shall send a **Mobile Station Reject Order** with \( \text{ORDQ} \) set to '00000110' (message requires a capability that is not supported by the mobile station). If the response to this message exceeds the allowable length, the mobile station shall send a **Mobile Station Reject Order** with \( \text{ORDQ} \) set to '00001000' (response message would exceed the allowable length). If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a **Mobile Station Reject Order** with \( \text{ORDQ} \) set to '00001001' (information record is not supported for the specified band class and operating mode).

17. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code as follows:
   - The mobile station shall store the length of the TMSI zone field by setting \( \text{ASSIGNING\_TMSI\_ZONE\_LEN}_s-p \) to \( \text{TMSI\_ZONE\_LEN}_r \);
   - The mobile station shall store the assigning TMSI zone number by setting the \( \text{ASSIGNING\_TMSI\_ZONE\_LEN}_s-p \) least significant octets of \( \text{ASSIGNING\_TMSI\_ZONE}_s-p \) to \( \text{TMSI\_ZONE}_r \), and
   - The mobile station shall store the TMSI code by setting \( \text{TMSI\_CODE}_s-p \) to \( \text{TMSI\_CODE}_r \).

   The mobile station shall set the TMSI expiration time by setting \( \text{TMSI\_EXP\_TIME}_s-p \) to \( \text{TMSI\_EXP\_TIME}_r \). The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a **TMSI Assignment Completion Message** within \( T_{56m} \) seconds.

18. **User Zone Reject Message**

19. **Any other message**: If the mobile station receives any other message specified in Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all other messages. If the mobile station performs an access probe handoff or access handoff and receives any of the following messages, it shall process the message as specified in 2.6.3.1.3:
1. **System Parameters Message**
2. **Access Parameters Message**
3. **Neighbor List Message**
4. **Extended System Parameters Message**
5. **Extended Neighbor List Message**
6. **General Neighbor List Message**
7. **Global Service Redirection Message**
8. **Extended Global Service Redirection Message**

### 2.6.3.4 Mobile Station Order/Message Response Substate

In this substate, the mobile station sends a message that is a response to a message received from the base station. If the base station responds to the mobile station’s message with an authentication request, the mobile station responds in this substate.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 2 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station), Layer 3 shall indicate to Layer 2 that the type of the message is a request other than a registration request or a message transmission request (see [4]).

In the **Mobile Station Order/Message Response Substate**, the mobile station shall send each message in assured mode requiring confirmation of delivery.

Upon entering the **Mobile Station Order/Message Response Substate**, the mobile station shall send the response message.

While in this substate, the mobile station shall monitor the Paging Channel. If the mobile station declares a loss of the Paging Channel (see 2.6.2.1.1.4), the mobile station shall perform the following:

- If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- The mobile station shall declare an access attempt failure and update its registration variables as specified in 2.6.5.3.2.
- The mobile station shall disable its transmitter.
- The mobile station shall enter the **Mobile Station Idle State**.
If the mobile station receives confirmation of delivery of any message sent by the mobile station in this substate, it shall send a response in this substate if required, and shall then enter the Mobile Station Idle State.

If PACA_s is equal to enabled, the mobile station shall set PACA_CANCEL to ‘1’ when the user directs the mobile station to cancel a PACA call.

If the mobile station is to exit the System Access State as a result of processing Layer 3 fields of a message requiring an acknowledgment, the mobile station shall exit the System Access State after Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.

If Layer 3 receives a message with an indication from Layer 2 that an access attempt for a message being transmitted was not terminated as a result of processing the Layer 2 fields of the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the message or order is outside its permissible range, the mobile station may send a Mobile Station Reject Order with ORDQ equal to ‘00000100’ (message field not in valid range).

1. Authentication Challenge Message: The mobile station shall respond to the message as specified in 2.3.12.1.4, regardless of the value of AUTH_s.

2. Base Station Challenge Confirmation Order: The mobile station shall respond to the message as specified in 2.3.12.1.5.

3. Data Burst Message

4. Feature Notification Message

5. Local Control Order

6. Lock Until Power-Cycled Order: The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN_Ps-p equals the least significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

7. Maintenance Required Order: The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSNs-P equals the least significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

8. Registration Accepted Order: If ORDQr = ‘00000101’, the mobile station shall set ROAM_INDIs = ROAM_INDIr and should display the roaming condition.

9. Registration Rejected Order: This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received
order specifies to delete the TMSI (ORDQ = ‘00000100’), the mobile station shall set all the bits of the TMSI_CODEs-p to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

10. **Retry Order**: The mobile station shall process the message as follows:

- If RETRY_TYPE_r is equal to ‘000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
- If RETRY_TYPE_r is equal to ‘001’, the mobile station shall perform the following:
  - If RETRY_DELAY_r is equal to ‘00000000’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPE_r] to 0.
  - If RETRY_DELAY_r is not equal to ‘00000000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE_r] as follows:
    + If the most significant bit of the RETRY_DELAY_r is ‘0’, set RETRY_DELAY_UNITs to 1000ms. If the most significant bit of the RETRY_DELAY_r is ‘1’, set RETRY_DELAY_UNITs to 60000ms.
    + The mobile station shall set RETRY_DELAY_VALUE_s to the seven least significant bits of RETRY_DELAY_r.
    + The mobile station shall store the next system time 80 ms boundary + RETRY_DELAY_VALUE_s × RETRY_DELAY_UNIT_s ms as RETRY_DELAYs[RETRY_TYPE_r].

11. **Service Redirection Message**: The mobile station shall process the message as follows:

- If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a Mobile Station Reject Order with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).
- If DELETE_TMSI_r is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall disable the full-TMSI timer.
- The mobile station shall set RETURN_IF_FAIL_s = RETURN_IF_FAIL_r.
- If RECORD_TYPE_r is equal to ‘00000000’, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the redirection record received in the message as REDIRECT_RECs and shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).

12. **SSD Update Message**: The mobile station shall respond to the message as specified in 2.3.12.1.5.
13. **Status Request Message:** The mobile station shall disable the System Access State timer and respond to the message. If $P_{REV\_IN\_USE}\_s$ is less than or equal to three, the mobile station shall respond with a Status Response Message. If $P_{REV\_IN\_USE}\_s$ is greater than three, the mobile station shall respond with an Extended Status Response Message. If the message does not specify any qualification information ($QUAL\_INFO\_TYPE_r$ is equal to '00000000'), the mobile station shall include the requested information records in the response. If the message specifies a band class ($QUAL\_INFO\_TYPE_r$ is equal to '00000001'), the mobile station shall only include the requested information records for the specified band class ($BAND\_CLASS_r$) in the response. If the message specifies a band class and an operating mode ($QUAL\_INFO\_TYPE_r$ is equal to '00000010'), the mobile station shall only include the requested information records for the specified band class ($BAND\_CLASS_r$) and operating mode ($OP\_MODE_r$) in the response. If the message specifies a band class or a band class and an operating mode which is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00000110' (message requires a capability that is not supported by the mobile station). If the response to this message exceeds the allowable length, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00001000' (response message would exceed the allowable length). If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00001001' (information record is not supported for the specified band class and operating mode).

14. **TMSI Assignment Message:** The mobile station shall store the TMSI zone and code as follows:
   - The mobile station shall store the length of the TMSI zone field by setting $ASSIGNING\_TMSI\_ZONE\_LEN_s-p$ to $TMSI\_ZONE\_LEN_r$.
   - The mobile station shall store the assigning TMSI zone number by setting the $ASSIGNING\_TMSI\_ZONE\_LEN_s-p$ least significant octets of $ASSIGNING\_TMSI\_ZONE_s-p$ to $TMSI\_ZONE_r$, and
   - The mobile station shall store the TMSI code by setting $TMSI\_CODE_s-p$ to $TMSI\_CODE_r$.

The mobile station shall set the TMSI expiration time by setting $TMSI\_EXP\_TIME_s-p$ to $TMSI\_EXP\_TIME_r$. The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a TMSI Assignment Completion Message within $T_{56m}$ seconds.

15. **Any other message:** If the mobile station receives any other message specified in Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all other messages.
2.6.3.5 Mobile Station Origination Attempt Substate

In this substate, the mobile station sends an *Origination Message*. If the base station responds to the *Origination Message* with an authentication request, the mobile station responds in this substate.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 3 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station), Layer 3 shall indicate to Layer 2 that the type of the message is a request other than a registration request or a message transmission request (see [4]).

In the *Mobile Station Origination Attempt Substate*, the mobile station shall send each message in assured mode requiring confirmation of delivery.

Upon entering the *Mobile Station Origination Attempt Substate*, the mobile station shall set RLGAIN_ADJs to ‘0000’ and perform the following:

- If the substate was entered with an origination indication, the mobile station shall send the *Origination Message* as an r-csch request.

- If the substate was entered with a PACA response indication, the mobile station shall send the *Origination Message* as an r-csch response using the access procedures specified in 2.6.3.1. The mobile station shall include the dialed digits from the previous origination attempt in the *Origination Message*.

- If the origination is a result of NDSS_ORIGs being equal to enabled, the mobile station shall include in the *Origination Message* the dialed digits recorded from the previous origination attempt.

- The mobile station shall include in the *Origination Message* as many of the dialed digits as possible without exceeding the message capsule size. When calculating the number of dialed digits to be included in the *Origination Message*, the mobile station shall assume the following if P_REV_IN_USEs is greater than three:
  - The number of additional reported pilots (NUM_ADD_PILOTS) is equal to five (see 2.6.3.1.7 and 2.7.1.3.1.3) so that up to five additional pilots may be reported in any access probe, and
  - The number of alternative service option numbers (NUM_ALT_SO) is less than or equal to the maximum alternative service option numbers (MAX_NUM_ALT_SOs).

- If PACAs is equal to enabled, the mobile station shall set the PACA_REORIG field of the *Origination Message* to ‘1’; otherwise, the mobile station shall set the field to ‘0’.
While in this substate, the mobile station shall monitor the Paging Channel. The mobile station may perform an access probe handoff or an access handoff as described in 2.6.3.1.3.2 and 2.6.3.1.3.3. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8) during an access attempt, the mobile station may perform an access probe handoff; otherwise, it shall declare an access attempt failure and shall perform the following:

- The mobile station shall set SYS_PAR_MSG_SEQs and ACC_MSG_SEQs to NULL.
- If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- If NDSS_ORIGs is equal to enabled, the mobile station shall set NDSS_ORIGs to disabled, and should indicate to the user that the call origination is canceled.
- The mobile station shall update its registration variables as specified in 2.6.5.5.3.2.
- The mobile station shall disable its transmitter and enter the Mobile Station Idle State.

If the mobile station receives confirmation of delivery of any message sent by the mobile station in this substate, the mobile station shall perform an access handoff if all of the following conditions hold:

- The mobile station declares a loss of the Paging Channel.
- The mobile station is permitted to perform an access handoff (see 2.6.3.1.3.2) and there are pilots other than the active pilot in the access handoff list (see 2.6.3.1.3.2).

If the mobile station declares a loss of the Paging Channel and does not perform an access handoff, the mobile station shall perform the following:

- The mobile station shall set SYS_PAR_MSG_SEQs and ACC_MSG_SEQs to NULL.
- If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- If NDSS_ORIGs is equal to enabled, the mobile station shall set NDSS_ORIGs to disabled, and should indicate to the user that the call origination is canceled.
- The mobile station shall disable its transmitter and enter the Mobile Station Idle State.

If the mobile station receives confirmation of delivery of the Origination Message, the mobile station shall update its registration variables with respect to the base station to which the first access probe was transmitted after entering the System Access State as specified in 2.6.5.5.3.1.

The mobile station shall set and disable the System Access State timer as follows:

- The mobile station shall disable the timer whenever it begins an access attempt.
• The mobile station shall set the timer to $T_{42m}$ seconds whenever it ends an access attempt.
• The mobile station shall disable the timer whenever it exits the System Access State.

If the System Access State timer expires while in this substate, the mobile station shall perform the following:

• If PACA$_s$ is equal to enabled, the mobile station shall set PACA$_s$ to disabled and PACA_CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
• If NDSS.ORIG$_s$ is equal to enabled, the mobile station shall set NDSS.ORIG$_s$ to disabled, and should indicate to the user that the call origination is canceled.
• The mobile station shall set SYS_PAR_MSG_SEQ$_s$ and ACC_MSG_SEQ$_s$ to NULL and enter the Mobile Station Idle State.

If the mobile station is directed by the user to disconnect the call, the mobile station shall perform the following actions:

• Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress.
• The mobile station shall send a Release Order (normal release).
• After receiving confirmation of delivery of the Release Order, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1).

If the mobile station is directed by the user to power off, the mobile station shall perform the following actions:

• Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress.
• The mobile station shall send a Release Order (with power-down indication).
• After receiving confirmation of delivery of the Release Order, the mobile station shall perform power-down registration procedures (see 2.6.5.1.2).
• The mobile station may power off.

If the mobile station receives a Channel Assignment Message or the Extended Channel Assignment Message, Layer 3 shall send a dedicated channel assignment indication to Layer 2 (see [4]). If the mobile station has not received confirmation of delivery of the Origination Message before receiving the Channel Assignment Message or the Extended Channel Assignment Message, the mobile station shall update its registration variables with respect to the base station to which the first access probe was transmitted after entering the System Access State, as specified in 2.6.5.3.1.

If the mobile station is to exit the System Access State as a result of processing Layer 3 fields of a message requiring an acknowledgment, the mobile station shall exit the System Access State after Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.
If Layer 3 receives a message other than a *Channel Assignment Message* or an *Extended Channel Assignment Message* with an indication from Layer 2 that an access attempt for a message being transmitted was not terminated as a result of processing the Layer 2 fields of the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the message or order is outside its permissible range, the mobile station may send a *Mobile Station Reject Order* with ORDQ equal to ‘00000100’ (message field not in valid range).

1. **Authentication Challenge Message**: The mobile station shall respond to the message as specified in 2.3.12.1.4, regardless of the value of AUTHS.

2. **Base Station Challenge Confirmation Order**: The mobile station shall respond to the message as specified in 2.3.12.1.5.

3. **Channel Assignment Message**: The mobile station shall process the message as follows:
   - If ASSIGN_MODEr equals ‘000’, the mobile station shall perform the following actions:
     - The mobile station shall set CH_INDs to ‘01’.
     - The mobile station shall store the frame offset (FRAME_OFFSETS = FRAME_OFFSETr), the message encryption mode indicator (ENCRYPT_MODES = ENCRYPT_MODEr), and, if FREQ_INCLr equals ‘1’, the Frequency Assignment (CDMACHs = CDMA_FREQr).
     - If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.
     - The mobile station shall initialize the CODE_CHAN_LIST as described in 2.6.8, shall set SERV_NEGs to disabled, and shall enter the *Traffic Channel Initialization Substate* of the *Mobile Station Control on the Traffic Channel State*.
   - If ASSIGN_MODEr equals ‘001’, the mobile station shall perform the following actions:
     - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
     - If a CDMA channel (CDMA_FREQ) is specified in the assignment, the mobile station shall set CDMACHs = CDMA_FREQr, tune to the new Frequency Assignment, and measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2.
     - The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list.
If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LIST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.

The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

If RESPONDr is equal to ‘1’, the mobile station shall enter the Update Overhead Information Substate with an origination indication.

If ASSIGN_MODEr equals ‘010’, the mobile station shall perform the following actions:

- If the mobile station does not support analog operation in the requested band class, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and the mobile station shall remain in the Mobile Station Origination Attempt Substate.

- If the mobile station supports analog operation in the requested band class and RESPONDr equals ‘1’, the mobile station shall perform the following actions:
  + If USE_ANALOG_SYSr equals ‘0’, the mobile station shall perform the following actions:
    o If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
    o The mobile station shall enter the analog Initialization Task with an origination indication (see 2.6.1).

  + If USE_ANALOG_SYSr equals ‘1’ the mobile station shall perform the following actions:
    o The mobile station shall set SERVSYSs to SYS_A if ANALOG_SYSr is equal to ‘0’, or shall set SERVSYSs to SYS_B if ANALOG_SYSr is equal to ‘1’.
    o If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
The mobile station shall then enter the analog Initialization Task with an origination indication (see 2.6.1).

- If ASSIGN_MODEr equals ‘011’, the mobile station shall perform the following actions:
  - If the mobile station does not support analog operation in the requested band class, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and the mobile station shall remain in the Mobile Station Origination Attempt Substate.
  - If the mobile station supports analog operation in the requested band class:
    + If the analog channel type is ‘00’, the mobile station shall perform the following actions:
      o The mobile station shall store the system identification (SIDs = SIDr), the voice mobile station attenuation code (VMACs = VMACr), the voice channel number (ANALOG_CHANs = ANALOG_CHANr), the SAT color code (SCCs = SCCr), and the message encryption mode indicator (MEMs = MEMr).
      o The mobile station shall set DTXs to ‘00’.
      o If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.
      o The mobile station shall enter the Confirm Initial Voice Channel Task (see 2.6.4.2) with an origination indication.
    + If the analog channel type is not ‘00’, the mobile station shall perform the following actions:
      ◊ The mobile station shall store the system identification (SIDs = SIDr), the voice mobile station attenuation code (VMACs = VMACr), the voice channel number (ANALOG_CHANs = ANALOG_CHANr), the message encryption mode indicator (MEMs = MEMr), the analog channel type (AN_CHAN_TYPEs = AN_CHAN_TYPEr) and the digital SAT code (DSCC_MSBr × 4 + SCCr).
      ◊ The mobile station shall set DTXs to ‘00’.
      ◊ If PACAs is equal to enabled, the mobile station shall set PACAs to disabled, shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.
      ◊ The mobile station shall enter the Confirm Initial Narrow Analog Voice Channel Task (see [28]) with an origination indication.
0 If the mobile station does not support narrow analog mode, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000110' (capability not supported by the mobile station) and the mobile station shall remain in the Mobile Station Origination Attempt Substate of the System Access State.

- If ASSIGN_MODE r equals ‘100’, the mobile station shall perform the following actions:
  - The mobile station shall set CH_IND s to ‘01’.
  - If GRANTED_MODE r equals ‘00’, and the multiplex option or radio configuration specified in the DEFAULT_CONFIG field is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in Mobile Station Origination Attempt Substate.
  - If FREQ_INCL r equals ‘0’, the mobile station shall perform the following actions:
    + The mobile station shall store the frame offset (FRAME_OFFSET s = FRAME_OFFSET r), the message encryption mode indicator (ENCRYPT_MODE s = ENCRYPT_MODE r), the granted mode (GRANTED_MODE s = GRANTED_MODE r), and the default configuration (DEFAULT_CONFIG s = DEFAULT_CONFIG r).
    + The mobile station shall set SERV_NEG s to enabled.
    + If PACA s is equal to enabled, the mobile station shall set PACA s equal to disabled and PACA CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.
    + The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8.
    + The mobile station shall then enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.
  - If FREQ_INCL r equals ‘1’, the mobile station shall perform the following actions:
    + If the band class is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Mobile Station Origination Attempt Substate.
    + If the band class is supported by the mobile station, the mobile station shall perform the following actions:
The mobile station shall store the frame offset (FRAME_OFFSET\_s = FRAME\_OFFSET\_r), the message encryption mode indicator (ENCRYPT\_MODE\_s = ENCRYPT\_MODE\_r), the granted mode (GRANTED\_MODE\_s = GRANTED\_MODE\_r), the default configuration (DEFAULT\_CONFIG\_s = DEFAULT\_CONFIG\_r), the band class (CDMABAND\_s = BAND\_CLASS\_r), and the Frequency Assignment (CDMA\_CH\_s = CDMA\_FREQ\_r).

The mobile station shall set SERV\_NEG\_s to enabled.

If PACA\_s is equal to enabled, the mobile station shall set PACA\_s to disabled and PACA\_CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.

The mobile station shall initialize the CODE\_CHAN\_LIST as described in 2.6.8.

The mobile station shall then tune to the new Frequency Assignment and enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

* If ASSIGN\_MODE\_r equals '101', the mobile station shall perform the following actions:
  
  - If FREQ\_INCL\_r equals '0', the mobile station shall perform the following actions:
    
    + If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
    
    + The mobile station shall set CONFIG\_MSG\_SEQ\_s and ACC\_MSG\_SEQ\_s to NULL (see 2.6.2.2) and shall set PILOT\_PN\_s to the pilot PN sequence offset of the strongest pilot in the list (PILOT\_PN\_r).
    
    + If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS\_PAR\_MSG\_SEQ\_s, NGHBR\_LST\_MSG\_SEQ\_s, EXT\_NGHBR\_LST\_MSG\_SEQ\_s, GEN\_NGHBR\_LST\_MSG\_SEQ\_s, CHAN\_LST\_MSG\_SEQ\_s, EXT\_CHAN\_LST\_MSG\_SEQ\_s, EXT\_SYS\_PAR\_MSG\_SEQ\_s, USER\_ZONE\_ID\_MSG\_SEQ\_s, PRI\_NGHBR\_LST\_MSG\_SEQ\_s, GLOB\_SERV\_REDIR\_MSG\_SEQ\_s, and EXT\_GLOB\_SERV\_REDIR\_MSG\_SEQ\_s to NULL.
    
    + The mobile station shall set PAGE\_CHAN\_s to '1' and PAGECH\_s to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.
    
    + If RESPOND\_r is equal to '1', the mobile station shall perform the following:
If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after receiving the Channel Assignment Message.

If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

If RESPOND_r is equal to ‘0’, the mobile station shall perform the following:

- If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after receiving the Channel Assignment Message.
- If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

- If FREQ_INCL_r equals ‘1’, the mobile station shall perform the following actions:
  + If the band class is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Mobile Station Origination Attempt Substate.
  + If the band class is supported by the mobile station, the mobile station shall perform the following actions:
    - If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
    - The mobile station shall set CDMACH_s to CDMA_FREQ_r and CDMABAND_s to BAND_CLASS_r. Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr), and set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2).
If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.

The mobile station shall set PAGE_CHANs to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

If RESPONDr is equal to ‘1’, the mobile station shall perform the following:

◊ If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after receiving the Channel Assignment Message.

◊ If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

If RESPONDr is equal to ‘0’, the mobile station shall perform the following:

◊ If the Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after receiving the Channel Assignment Message.

◊ If the Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Channel Assignment Message has been sent and acknowledged.

4. Data Burst Message

5. Extended Channel Assignment Message: The mobile station shall process the message as follows:

• If ASSIGN_MODEr equals ‘000’, the mobile station shall perform the following actions:
The mobile station shall set CH_IND_s to ‘01’.

If P_REV_IN_USE_s is equal to or greater than six, the mobile station shall store the Forward Fundamental Channel Radio Configuration (FOR_FCH_RC_s = FOR_FCH_RC_r) and the Reverse Fundamental Channel Radio Configuration (REV_FCH_RC_s = REV_FCH_RC_r).

If FREQ_INCL_r equals ‘0’, the mobile station shall perform the following actions:

+ The mobile station shall store the frame offset (FRAME_OFFSET_s = FRAME_OFFSET_r), the message encryption mode indicator (ENCRYPT_MODE_s = ENCRYPT_MODE_r), the granted mode (GRANTED_MODE_s = GRANTED_MODE_r), the default configuration (DEFAULT_CONFIG_s = DEFAULT_CONFIG_r), and the occurrences of PILOT_PN and PWR_COMB for each included member of the Active Set.

+ The mobile station shall set SERV_NEG_s to enabled.

+ If PACA_s is equal to enabled, the mobile station shall set PACA_s equal to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.

+ The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8.

+ The mobile station shall set FPC_FCH_INIT_SETPT_s to FPC_FCH_INIT_SETPT_r, FPC_FCH_CURR_SETPT_s to FPC_FCH_CURR_SETPT_r, FPC_FCH_INIT_SETPT_s to FPC_FCH_INIT_SETPT_r, FPC_FCH_MIN_SETPT_s to FPC_FCH_MIN_SETPT_r, FPC_FCH_MAX_SETPT_s to FPC_FCH_MAX_SETPT_r, and FPC_PRI_CHAN_s to ‘0’ if the mobile station supports any Radio Configuration greater than 2.

+ The mobile station shall set FPC_SUBCHAN_GAIN_s to FPC_SUBCHAN_GAIN_r.

+ The mobile station shall set RLGAIN_ADJ_s to RLGAIN_ADJ_r.

+ The mobile station shall set REV_FCH_GATING_MODE_s to REV_FCH_GATING_MODE_r.

+ The mobile station shall set REV_PWR_CNTL_DELAY_s to REV_PWR_CNTL_DELAY_r if REV_PWR_CNTL_DELAY_INCL_r is equal to ‘1’.

+ The mobile station shall then enter the Traffic Channel Initialization Substate of the Mobile Station Control on the Traffic Channel State.

If FREQ_INCL_r equals ‘1’, the mobile station shall perform the following actions:
If the band class is not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the *Mobile Station Origination Attempt Substate*.

If the band class is supported by the mobile station, the mobile station shall perform the following actions:

- The mobile station shall store the frame offset \( \text{FRAME\_OFFSET}_s = \text{FRAME\_OFFSET}_r \); the message encryption mode indicator \( \text{ENCRIPT\_MODE}_s = \text{ENCRIPT\_MODE}_r \); the granted mode \( \text{GRANTED\_MODE}_s = \text{GRANTED\_MODE}_r \); the default configuration \( \text{DEFAULT\_CONFIG}_s = \text{DEFAULT\_CONFIG}_r \); the band class \( \text{CDMABAND}_s = \text{BAND\_CLASS}_r \); the Frequency Assignment \( \text{CDMACH}_s = \text{CDMA\_FREQ}_r \); and the occurrences of PILOT\_PN and PWR\_COMB\_IND for each included member of the Active Set.

- The mobile station shall set SERV\_NEG to enabled.

- The mobile station shall initialize CODE\_CHAN\_LIST as described in 2.6.8.

- The mobile station shall set FPC\_FCH\_INIT\_SETPT\_s to FPC\_FCH\_INIT\_SETPT\_r, FPC\_FCH\_CURR\_SETPT\_s to FPC\_FCH\_INIT\_SETPT\_r, FPC\_FCH\_FER\_s to FPC\_FCH\_FER\_r, FPC\_FCH\_MIN\_SETPT\_s to FPC\_FCH\_MIN\_SETPT\_r, FPC\_FCH\_MAX\_SETPT\_s to FPC\_FCH\_MAX\_SETPT\_r, and FPC\_PRI\_CHAN\_s to ‘0’ if the mobile station supports any Radio Configuration greater than 2.

- The mobile station shall set FPC\_SUBCHAN\_GAIN\_s to FPC\_SUBCHAN\_GAIN\_r.

- The mobile station shall set RLGAIN\_ADJ\_s to RLGAIN\_ADJ\_r.

- The mobile station shall set REV\_FCH\_GATING\_MODE\_s to REV\_FCH\_GATING\_MODE\_r.

- The mobile station shall set REV\_PWR\_CNTL\_DELAY\_s to REV\_PWR\_CNTL\_DELAY\_r if REV\_PWR\_CNTL\_DELAY\_INCL\_r is equal to ‘1’.

- The mobile station shall then tune to the new Frequency Assignment and enter the *Traffic Channel Initialization Substate* of the *Mobile Station Control on the Traffic Channel State*.

- If GRANTED\_MODE\_r equals ‘00’, and the multiplex option and radio configuration specified in the DEFAULT\_CONFIG field is not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the *Mobile Station Origination Attempt Substate*. 

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− If GRANTED_MODE_r equals ‘00’ and DEFAULT_CONFIG_r is not equal to '100', the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00001110' (RC does not match with DEFAULT_CONFIG_r) and shall remain in the Mobile Station Origination Attempt Substate if any of the following conditions is true:
  + FOR_FCH_RC_r is not equal to the Radio Configuration associated with DEFAULT_CONFIG_r (see Table 3.7.2.3.2.21-2).
  + REV_FCH_RC_r is not equal to the Radio Configuration associated with DEFAULT_CONFIG_r (see Table 3.7.2.3.2.21-2).
− If the mobile station does not support either of the Fundamental Channel Radio Configurations (FOR_FCH_RC or REV_FCH_RC), the mobile shall send a Mobile Station Reject Order with the ORDQ field set to '00000110' (capability not supported by the mobile station) and remain in the Mobile Station Origination Attempt Substate.

• If ASSIGN_MODE_r equals '001', the mobile station shall perform the following actions:
  − If FREQ_INCL_r equals ‘0’, the mobile station shall perform the following actions:
    + If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.
    + The mobile station shall set CONFIG_MSG_SEQs and ACC_MSG_SEQs to NULL (see 2.6.2.2) and shall set PILOT_PNs to the pilot PN sequence offset of the strongest pilot in the list (PILOT_PNr).
    + If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.
    + The mobile station shall set PAGE_CHAN_s to ‘1’ and PAGECH_s to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.
    + If RESPOND_r is equal to ‘1’, the mobile station shall perform the following:
If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within $T_{34m}$ seconds after receiving the Extended Channel Assignment Message.

If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within $T_{34m}$ seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.

+ If $\text{RESPOND}_r$ is equal to '0', the mobile station shall perform the following:

  o If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Mobile Station Idle State within $T_{34m}$ seconds after receiving the Extended Channel Assignment Message.

  o If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Mobile Station Idle State within $T_{34m}$ seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.

− If $\text{FREQ\_INCL}_r$ equals ‘1’, the mobile station shall perform the following actions:

  + If the band class is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Mobile Station Origination Attempt Substate.

  + If the band class is supported by the mobile station, the mobile station shall perform the following actions:

    o If the message requires acknowledgement, the mobile station shall wait until Layer 3 receives an indication from Layer 2 that the acknowledgement to the message has been sent and acknowledged.

    o The mobile station shall set $\text{CDMACH}_s$ to $\text{CDMA\_FREQ}_r$ and $\text{CDMABAND}_s$ to $\text{BAND\_CLASS}_r$. Then the mobile station shall tune to the new Frequency Assignment, measure the strength of each pilot listed in the assignment using the Neighbor Set search procedures specified in 2.6.6.2.1 and 2.6.6.2.2, set $\text{PILOT\_PN}_s$ to the pilot PN sequence offset of the strongest pilot in the list ($\text{PILOT\_PN}_r$), and set $\text{CONFIG\_MSG\_SEQ}_s$ and $\text{ACC\_MSG\_SEQ}_s$ to NULL (see 2.6.2.2).
If the mobile station has not stored configuration parameters for the Primary Paging Channel of the new base station, or if the stored information is not current (see 2.6.2.2), the mobile station shall set SYS_PAR_MSG_SEQs, NGHBR_LST_MSG_SEQs, EXT_NGHBR_LST_MSG_SEQs, GEN_NGHBR_LST_MSG_SEQs, CHAN_LST_MSG_SEQs, EXT_CHAN_LST_MSG_SEQs, EXT_SYS_PAR_MSG_SEQs, USER_ZONE_ID_MSG_SEQs, PRI_NGHBR_LST_MSG_SEQs, GLOB_SERV_REDIR_MSG_SEQs, and EXT_GLOB_SERV_REDIR_MSG_SEQs to NULL.

The mobile station shall set PAGE_CHAN to ‘1’ and PAGECHs to the Primary Paging Channel. The mobile station shall then begin monitoring the Primary Paging Channel of the selected base station.

If RESPOND equals ‘1’, the mobile station shall perform the following:

◊ If the Extended Channel Assignment Message does not require an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after receiving the Extended Channel Assignment Message.

◊ If the Extended Channel Assignment Message requires an acknowledgment, the mobile station shall enter the Update Overhead Information Substate with a page response retransmission indication within T34m seconds after Layer 3 receives an indication from Layer 2 that the acknowledgement to the Extended Channel Assignment Message has been sent and acknowledged.

- If ASSIGN_MODE equals ‘010’, the mobile station shall perform the following actions:
  - If the mobile station does not support analog operation in the requested band class, the mobile station shall send a Mobile Station Reject Order with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the Mobile Station Origination Attempt Substate.
  - If the mobile station supports analog operation in the requested band class, the mobile station shall perform the following actions:
    + If RESPOND equals ‘1’ and USE_ANALOG_SYS equals ‘0’, the mobile station shall enter the analog Initialization Task with an origination indication (see 2.6.1).
    + If RESPOND equals ‘1’ and USE_ANALOG_SYS equals ‘1’, the mobile station shall perform the following actions:
The mobile station shall set SERVSYS$_s$ to SYS_A if ANALOG_SYS$_r$ is equal to '0', or set SERVSYS$_s$ to SYS_B if ANALOG_SYS$_r$ is equal to '1'.

The mobile station shall then enter the analog Initialization Task with an origination indication (see 2.6.1).

- If ASSIGN_MODE$_r$ equals '011', the mobile station shall perform the following actions:
  - If the mobile station does not support analog operation in the requested band class, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000110' (capability not supported by the mobile station) and the mobile station shall remain in the Mobile Station Origination Attempt Substate.
  - If the mobile station supports analog operation in the requested band class, the mobile station shall perform the following actions:
    + If the analog channel type is '00', the mobile station shall perform the following actions:
      ◊ The mobile station shall store the system identification (SID$_s$ = SID$_r$), voice mobile station attenuation code (VMAC$_s$ = VMAC$_r$), voice channel number (ANALOG_CHAN$_s$ = ANALOG_CHAN$_r$), SAT color code (SCC$_s$ = SCC$_r$), and message encryption mode indicator (MEM$_s$ = MEM$_r$).
      ◊ The mobile station shall set DTX$_s$ to '00'.
      ◊ If PACA$_s$ is equal to enabled, the mobile station shall set PACA$_s$ to disabled and PACA_CANCEL to '0', shall disable the PACA state timer, and should indicate to the user that the PACA call is proceeding.
      ◊ The mobile station shall enter the Confirm Initial Voice Channel Task (see 2.6.4.2) with an origination indication.
    + If the analog channel type is not '00', the mobile station shall perform the following actions:
      ◊ The mobile station shall store the system identification (SID$_s$ = SID$_r$), voice mobile station attenuation code (VMAC$_s$ = VMAC$_r$), voice channel number (ANALOG_CHAN$_s$ = ANALOG_CHAN$_r$), message encryption mode indicator (MEM$_s$ = MEM$_r$), analog channel type (AN_CHAN_TYPE$_s$ = AN_CHAN_TYPE$_r$) and the digital SAT code (DSCC$_s$ = DSCC_MSB$_r$ \times 4 + SCC$_r$).
      ◊ The mobile station shall set DTX$_s$ to '00'.

2-152
◊ If PACA_s is equal to enabled, the mobile station shall set PACA_s to
disabled and PACA_CANCEL to '0', shall disable the PACA state
timer, and should indicate to the user that the PACA call is
proceeding.

◊ The mobile station shall enter the Confirm Initial Narrow Analog
Voice Channel Task (see 2.6.5.2A of IS-91) with an origination
indication.

ο If the mobile station does not support narrow analog mode, the
mobile station shall send a Mobile Station Reject Order with the ORDQ
field set to '00000110' (capability not supported by the mobile station)
and the mobile station shall remain in the Mobile Station Origination
Attempt Substate of the System Access State.

• If ASSIGN_MODE_r equals '100', the mobile station shall perform the following
actions:
  − If PACA_s is equal to enabled, the mobile station shall set PACA_s to disabled
   and PACACANCEL to '0', shall disable the PACA state timer, and should
   indicate to the user that the PACA call has been canceled.
  − If GRANTED_MODE_r equals '00' and the multiplex option and radio
    configuration specified in the DEFAULT_CONFIG_r field are not supported by
    the mobile station, the mobile station shall send a Mobile Station Reject Order
    with ORDQ field set to '00000110' (capability not supported by the mobile
    station) and shall remain in the Mobile Station Origination Attempt Substate.
  − If GRANTED_MODE_r equals '00' and DEFAULT_CONFIG_r is not equal to
    '100', the mobile station shall send a Mobile Station Reject Order with ORDQ
    field set to '00001110' (RC does not match with DEFAULT_CONFIG) and
    shall remain in the Mobile Station Origination Attempt Substate if one of the
    following conditions is true:
      + FOR_RC_r is not equal to the Radio Configuration associated with
        DEFAULT_CONFIG_r as specified in Table 3.7.2.3.2.21-2.
      + REV_RC_r is not equal to the Radio Configuration associated with
        DEFAULT_CONFIG_r as specified in Table 3.7.2.3.2.21-2.
  − If the mobile station does not support either of the Radio Configurations
    (FOR_RC or REV_RC), the mobile station shall send a Mobile Station Reject
    Order with the ORDQ field set to '00000110' (capability not supported by the
    mobile station) and remain in the Mobile Station Origination Attempt Substate.
  − If CH_IND_r = '01' and the mobile station does not support the Fundamental
    Channel, the mobile station shall send a Mobile Station Reject Order with the
    ORDQ field set to '00000110' (capability not supported by the mobile
    station) and remain in the Mobile Station Origination Attempt Substate.
− If CH_IND_r = ‘10’ and the mobile station does not support the Dedicated Control Channel, the mobile station shall send a **Mobile Station Reject Order** with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the **Mobile Station Origination Attempt Substate**.

− If CH_IND_r = ‘11’ and the mobile station does not support the Dedicated Control Channel and Fundamental Channel concurrently, the mobile station shall send a **Mobile Station Reject Order** with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the **Mobile Station Origination Attempt Substate**.

− If FREQ_INCL_r equals ‘1’ and if the band class (BAND_CLASS_r) is not supported by the mobile station, the mobile station shall send a **Mobile Station Reject Order** with ORDQ field set to ‘00000110’ (capability not supported by the mobile station) and remain in the **Mobile Station Origination Attempt Substate**.

− If the mobile station does not send a Mobile Station Reject Order as specified above, it shall continue to perform the actions specified below.

− If FREQ_INCL_r equals ‘1’, the mobile station shall set

  + CDMABAND_s = BAND_CLASS_r

  + CDMACH_s = CDMA_FREQ_r

− The mobile station shall store the bypass indicator (BYPASS_ALERT_ANSWER_s = BYPASS_ALERT_ANSWER_r).

− The mobile station shall store granted mode (GRANTED_MODE_s = GRANTED_MODE_r)

− The mobile station shall store the default configuration (DEFAULT_CONFIG_s = DEFAULT_CONFIG_r).

− The mobile station shall store the Forward Traffic Channel Radio Configuration (FOR_RC_s = FOR_RC_r) and the Reverse Traffic Channel Radio Configuration (REV_RC_s = REV_RC_r).

− The mobile station shall store the frame offset (FRAME_OFFSET_s = FRAME_OFFSET_r).

− The mobile station shall store the message encryption mode indicator (ENCRYPT_MODE_s = ENCRYPT_MODE_r).

− The mobile station shall store the Forward power control subchannel relative gain (FPC_SUBCHAN_GAIN_s = FPC_SUBCHAN_GAIN_r).

− The mobile station shall set RLGAIN_ADJ_s to RLGAIN_ADJ_r.

− The mobile station shall set REV_FCH_GATING_MODE_s to REV_FCH_GATING_MODE_r.

− The mobile station shall set REV_PWR_CNTL_DELAY_s to REV_PWR_CNTL_DELAY_r if REV_PWR_CNTL_DELAY_INCL_r is equal to ’1’.
The mobile station shall store the channel indicator \((\text{CH} \_\text{IND}_s = \text{CH} \_\text{IND}_r)\)
and the mobile station shall perform the following actions:

\* If \(\text{CH} \_\text{IND}_r\) equals ‘01’, the mobile station shall set
\[\text{FPC} \_\text{FCH} \_\text{INIT} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{FCH} \_\text{INIT} \_\text{SETPT}_r\],
\[\text{FPC} \_\text{FCH} \_\text{CURR} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{FCH} \_\text{INIT} \_\text{SETPT}_s\], \[\text{FPC} \_\text{FCH} \_\text{FER}_s\] to
\[\text{FPC} \_\text{FCH} \_\text{FER}_r\], \[\text{FPC} \_\text{FCH} \_\text{MIN} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{FCH} \_\text{MIN} \_\text{SETPT}_r\],
\[\text{FPC} \_\text{FCH} \_\text{MAX} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{FCH} \_\text{MAX} \_\text{SETPT}_r\], and \[\text{FPC} \_\text{PRI} \_\text{CHAN}_s\]
to ‘0’ if the mobile station supports any Radio Configuration greater than
2. Then for each included member of the Active Set, the mobile station
shall store the following:

\* Set the \[\text{PILOT} \_\text{PN}\] field to \[\text{PILOT} \_\text{PN}_r\].
\* Set the \[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INCL}\] field to \[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INCL}_r\]. If
\[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INC}_r\] equals ‘1’, the mobile station shall store the
following:

\* Set the \[\text{PILOT} \_\text{REC} \_\text{TYPE}\] field of \[\text{PILOT} \_\text{REC}\] to
\[\text{PILOT} \_\text{REC} \_\text{TYPE}_r\].
\* If \[\text{PILOT} \_\text{REC} \_\text{TYPE}_r\] equals ‘000’, the mobile station shall set the
\[\text{OTD} \_\text{POWER} \_\text{LEVEL}\] field of \[\text{PILOT} \_\text{REC}\] to
\[\text{OTD} \_\text{POWER} \_\text{LEVEL}_r\].
\* Set the \[\text{PWR} \_\text{COMB} \_\text{IND}\] field to \[\text{PWR} \_\text{COMB} \_\text{IND}_r\].
\* Set the \[\text{CODE} \_\text{CHAN} \_\text{FCH}\] field to \[\text{CODE} \_\text{CHAN} \_\text{FCH}_r\].
\* Set the \[\text{QOF} \_\text{MASK} \_\text{ID} \_\text{FCH}\] field to \[\text{QOF} \_\text{MASK} \_\text{ID} \_\text{FCH}_r\].

\* If \(\text{CH} \_\text{IND}_r\) equals ‘10’, the mobile station shall set
\[\text{FPC} \_\text{DCCH} \_\text{INIT} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{DCCH} \_\text{INIT} \_\text{SETPT}_r\],
\[\text{FPC} \_\text{DCCH} \_\text{CURR} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{DCCH} \_\text{INIT} \_\text{SETPT}_s\], \[\text{FPC} \_\text{DCCH} \_\text{FER}_s\] to
\[\text{FPC} \_\text{DCCH} \_\text{FER}_r\], \[\text{FPC} \_\text{DCCH} \_\text{MIN} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{DCCH} \_\text{MIN} \_\text{SETPT}_r\],
\[\text{FPC} \_\text{DCCH} \_\text{MAX} \_\text{SETPT}_s\] to \[\text{FPC} \_\text{DCCH} \_\text{MAX} \_\text{SETPT}_r\], and \[\text{FPC} \_\text{PRI} \_\text{CHAN}_s\]
to ‘1’ if the mobile station supports any Radio Configuration greater than
2. Then for each included member of the Active Set, the mobile station
shall store the following:

\* Set the \[\text{PILOT} \_\text{PN}\] field to \[\text{PILOT} \_\text{PN}_r\].
\* Set the \[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INCL}\] field to \[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INCL}_r\]. If
\[\text{ADD} \_\text{PILOT} \_\text{REC} \_\text{INC}_r\] is equal to ‘1’, the mobile station shall store the
following:

\* Set the \[\text{PILOT} \_\text{REC} \_\text{TYPE}\] field of \[\text{PILOT} \_\text{REC}\] to
\[\text{PILOT} \_\text{REC} \_\text{TYPE}_r\].
\* If \[\text{PILOT} \_\text{REC} \_\text{TYPE}_r\] equals ‘000’, the mobile station shall set the
\[\text{OTD} \_\text{POWER} \_\text{LEVEL}\] field of \[\text{PILOT} \_\text{REC}\] to
\[\text{OTD} \_\text{POWER} \_\text{LEVEL}_r\].
\* Set the \[\text{PWR} \_\text{COMB} \_\text{IND}\] field to \[\text{PWR} \_\text{COMB} \_\text{IND}_r\].
Set the CODE_CHAN_FCH field to CODE_CHAN_FCHr.

Set the QOF_MASK_ID_FCH field to QOF_MASK_ID_FCHr.

Set the DCCH_INCL field to DCCH_INClr. If DCCH_INClr equals ‘1’, the mobile station shall store the following:

◊ Set the CODE_CHAN_DCCH field to CODE_CHAN_DCCHr.
◊ Set the QOF_MASK_ID_DCCH field to QOF_MASK_ID_DCCHr.

+ If CH_INDr equals ‘11’, the mobile station shall set
  FPC_FCCH_INIT_SETPTs to FPC_FCCH_INIT_SETPTr,
  FPC_FCH_CURR_SETPTs to FPC_FCH_INIT_SETPTs, FPC_FCH_FERs to
  FPC_FCH_FERr, FPC_FCH_MN_SETPTs to FPC_FCH_MIN_SETPTr,
  FPC_FCH_MAX_SETPTs to FPC_FCH_MAX_SETPTr,
  FPC_DCCH_INIT_SETPTs to FPC_DCCH_INIT_SETPTr,
  FPC_DCCH_CURR_SETPTs to FPC_DCCH_INIT_SETPTs,
  FPC_DCCH_FERs to FPC_DCCH_FERr, FPC_DCCH_MIN_SETPTs to
  FPC_DCCH_MIN_SETPTs, FPC_DCCH_MAX_SETPTs to
  FPC_DCCH_MAX_SETPTs and FPC_PRI_CHANs to FPC_PRI_CHANr.
  Then for each included member of the Active Set, the mobile station shall store the following:

◊ Set the PILOT_PN to PILOT_PNr.
◊ Set the ADD_PILOT_REC_INCL field to ADD_PILOT_REC. If
  ADD_PILOT_REC_INCL is equal to ‘1’, the mobile station shall store
  the following:

◊ Set the PILOT_REC_TYPE field of PILOT_REC to
  PILOT_REC_TYPEr.
◊ If PILOT_REC_TYPEr equals ‘000’, the mobile station shall set the
  OTD_POWER_LEVEL field of PILOT_REC to
  OTD_POWER_LEVELr.

◊ Set the PWR_COMB_IND field to PWR_COMB_INDr
◊ Set the CODE_CHAN_FCH field to CODE_CHAN_FCHr.
◊ Set the QOF_MASK_ID_FCH field to QOF_MASK_ID_FCHr.
◊ Set the CODE_CHAN_DCCH field to CODE_CHAN_DCCHr.
◊ Set the QOF_MASK_ID_DCCH field to QOF_MASK_ID_DCCHr.

− The mobile station shall initialize CODE_CHAN_LIST as described in 2.6.8, and shall set SERV_NEGs to enabled.
− If FREQ_INClr equals ‘1’, the mobile station shall then tune to the new
  frequency assignment.
− The mobile station shall then enter the **Traffic Channel Initialization Substate** of the **Mobile Station Control on the Traffic Channel State**.
6. **Feature Notification Message:** If \text{RELEASE}_r \text{ is equal to } '1', the mobile station shall enter the \text{Mobile Station Idle State} or the \text{System Determination Substate} of the \text{Mobile Station Initialization State} with a release indication (see 2.6.1.1).

7. **Intercept Order:** The mobile station shall enter the \text{Mobile Station Idle State}.

8. **Local Control Order**

9. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the \text{Lock Until Power-Cycled Order} in the mobile station's semi-permanent memory (LCKRNS_{P-S} equals the least significant four bits of \text{ORDQ}_r). The mobile station should notify the user of the locked condition. The mobile station shall enter the \text{System Determination Substate} of the \text{Mobile Station Initialization State} with a lock indication (see 2.6.1.1), and shall not enter the \text{System Access State} again until after the next mobile station power-up or until it has received an \text{Unlock Order}. This requirement shall take precedence over any other mobile station requirement specifying entry to the \text{System Access State}.

10. **Maintenance Required Order:** The mobile station shall record the reason for the \text{Maintenance Required Order} in the mobile station’s semi-permanent memory (MAINTRSN_{S-P} equals the least significant four bits of \text{ORDQ}_r). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

11. **PACA Message:** If \text{P_REV_IN_USE}_s is less than or equal to four and the mobile station does not support PACA capability, the mobile station shall send a \text{Mobile Station Reject Order} with the \text{ORDQ} field set to '00000110' (message requires a capability that is not supported by the mobile station); otherwise, the mobile station shall process the message as follows:

   - If \text{PACA}_s is equal to disabled, the mobile station shall perform the following actions:
     - If the purpose of the message is to respond to an \text{Origination Message} (PURPOSE_r is equal to '0000'), the mobile station shall perform the following actions:
       + The mobile station shall set \text{PACA}_s to enabled and shall set \text{PACA_SID}_s to \text{SIDs}.
       + The mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of \text{PACA_TIMEOUT}_s.
       + The mobile station should indicate to the user that the call has been queued as a PACA call, and should indicate the current queue position (Q_POS_r) of the call.
       + The mobile station shall enter the \text{Mobile Station Idle State}.
     - If the purpose of the message is to cancel the PACA call (PURPOSE_r is equal to '0011'), the mobile station shall perform the following actions:
+ The mobile station shall set PACA\textsubscript{S} to disabled and PACA\_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

+ The mobile station shall enter the Mobile Station Idle State.

− If the purpose of the message is anything else (PURPOSE\textsubscript{r} is not equal to ‘0000’ or ‘0011’), the mobile station shall ignore the message. The mobile station shall remain in the Mobile Station Origination Attempt Substate.

• If PACA\textsubscript{S} is equal to enabled, the mobile station shall perform the following actions:

  − If the purpose of the message is to respond to an Origination Message (PURPOSE\textsubscript{r} is equal to ‘0000’), the mobile station shall perform the following actions:

    + The mobile station should indicate to the user that the PACA call is still queued, and should indicate to the user the current queue position (Q\_POS\textsubscript{r}) of the call.

    + The mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA\_TIMEOUT\textsubscript{S}.

    + The mobile station shall enter the Mobile Station Idle State.

  − If the purpose of the message is to provide the queue position of the PACA call (PURPOSE\textsubscript{r} is equal to ‘0001’), the mobile station shall perform the following actions:

    + The mobile station should indicate to the user that the PACA call is still queued, and should indicate the current queue position (Q\_POS\textsubscript{r}) of the call.

    + The mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA\_TIMEOUT\textsubscript{S}.

    + The mobile station shall enter the Mobile Station Idle State.

  − If the purpose of the message is to instruct the mobile station to re-originate the PACA call (PURPOSE\textsubscript{r} is equal to ‘0010’), the mobile station shall remain in the Mobile Station Origination Attempt Substate.

  − If the purpose of the message is to cancel the PACA call (PURPOSE\textsubscript{r} is equal to ‘0011’), the mobile station shall perform the following actions:

    + The mobile station shall set PACA\textsubscript{S} to disabled, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

    + The mobile station shall enter the Mobile Station Idle State.

12. Registration Accepted Order: If ORDQ\textsubscript{r} is equal to ‘00000101’, the mobile station shall set ROAM\_INDI\textsubscript{S} to ROAM\_INDI\textsubscript{r} and should display the roaming condition.
13. **Registration Rejected Order:** This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = ‘00000100’), the mobile station shall set all the bits of the TMSI_CODEs-p to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

14. **Release Order:** If NDSS_ORIGs is equal to enabled, the mobile station shall set NDSS_ORIGs to disabled, and should indicate to the user that the call origination has been canceled. The mobile station shall enter the Mobile Station Idle State or the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1). If the mobile station enters the Mobile Station Idle State, and if PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

15. **Reorder Order:** If NDSS_ORIGs is equal to enabled, the mobile station shall set NDSS_ORIGs to disabled, and should indicate to the user that the call origination has been canceled. If PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled. The mobile station shall enter the Mobile Station Idle State.

16. **Retry Order:** The mobile station shall process the order as follows:

   - If RETRY_TYPEr is equal to ‘000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
   - If RETRY_TYPEr is equal to ‘001’, then the mobile station shall perform the following:
     - If RETRY_DELAYr is equal to ‘00000000’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPEr] to 0.
     - If RETRY_DELAYr is not equal to ‘00000000’ the mobile station shall set RETRY_DELAYs as follows:
       + If the most significant bit of the RETRY_DELAYr is 0, set RETRY_DELAY_UNITs to 1000ms. If the most significant bit of the RETRY_DELAYr is ‘1’, set RETRY_DELAY_UNITs to 60000ms.
       + The mobile station shall set RETRY_DELAY_VALUEs to the seven least significant bits of RETRY_DELAYr.
       + The mobile station shall store the next system time 80 ms boundary + RETRY_DELAY_VALUEs × RETRY_DELAY_UNITs ms as RETRY_DELAYs[RETRY_TYPEr].
+ If NDSS_ORIGs is equal to enabled, the mobile station shall set
NDSS_ORIGs to disabled, and should indicate to the user that the call
origination has been canceled. If PACAs is equal to enabled, the mobile
station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall
disable the PACA state timer, and should indicate to the user that the
PACA call has been canceled.

+ The mobile station shall enter the Mobile Station Idle State.

17. **Service Redirection Message:** The mobile station shall process the message as
follows:

- If the mobile station is directed to an unsupported operation mode or band class,
  the mobile station shall respond with a Mobile Station Reject Order with ORDQ
equal to ‘00000110’ (message requires a capability that is not supported by the
mobile station).
- If DELETE TMSIr is equal to ‘1’, the mobile station shall set all the bits of
  TMSI_CODEs-p to ‘1’.
- The mobile station shall disable the full-TMSI timer.
- The mobile station shall set RETURN_IF_FAILs = RETURN_IF_FAILr.
- If RECORD_TYPEr is ‘00000000’, the mobile station shall set RETURN_IF_FAILs
  = RETURN_IF_FAILr, and enter the System Determination Substate of the Mobile
  Station Initialization State with an NDSS off indication (see 2.6.1.1); otherwise:
  - if REDIRECT_TYPEr is ‘0’, the mobile station shall store the redirection
    record received in the message as REDIRECT_REC and shall enter the
    System Determination Substate of the Mobile Station Initialization State
    with a redirection indication (see 2.6.1.1).
  - if REDIRECT_TYPEr is ‘1’, the mobile station shall store the redirection
    record received in the message as REDIRECT_REC and shall enable
    NDSS_ORIGs, and shall record the dialed digits. The mobile station shall
    enter the System Determination Substate of the Mobile Station Initialization
    State with a redirection indication (see 2.6.1.1).

18. **SSD Update Message:** The mobile station shall respond to the message as specified
in 2.3.12.1.5.

19. **Status Request Message:** The mobile station shall disable the System Access State
timer and respond to the message. If P_REV_IN_USEs is less than or equal to three,
the mobile station shall respond with a Status Response Message. If
P_REV_IN_USEs is greater than three, the mobile station shall respond with an
Extended Status Response Message. If the message does not specify any
qualification information (QUAL_INFO_TYPEr is equal to ‘00000000’), the mobile
station shall include the requested information records in the response. If the
message specifies a band class (QUAL_INFO_TYPEr is equal to ‘00000001’), the
mobile station shall only include the requested information records for the specified
band class (BAND_CLASSr) in the response. If the message specifies a band class
and an operating mode (QUAL_INFO_TYPEr is equal to '00000010'), the mobile
station shall only include the requested information records for the specified band
class (BAND_CLASSr) and operating mode (OP_MODEr) in the response. If the
message specifies a band class or a band class and an operating mode which are not
supported by the mobile station, the mobile station shall send a Mobile Station Reject
Order with ORDQ set to '00000110' (message requires a capability that is not
supported by the mobile station). If the response to this message exceeds the
allowable length, the mobile station shall send a Mobile Station Reject Order with
ORDQ set to '00001000' (response message would exceed the allowable length). If
the message specifies an information record which is not supported by the mobile
station for the specified band class and operating mode, the mobile station shall
send a Mobile Station Reject Order with ORDQ set to '00001001' (information record
is not supported for the specified band class and operating mode).

20. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code
as follows:

- The mobile station shall store the length of the TMSI zone field by setting
  ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr,
- The mobile station shall store the assigning TMSI zone number by setting the
  ASSIGNING_TMSI_ZONE_LENs-p least significant octets of
  ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and
- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to
  TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIMEs-p
to TMSI_EXP_TIMEr. The mobile station shall disable the full-TMSI timer. The
mobile station shall then respond with a TMSI Assignment Completion Message
within T_{56m} seconds.

21. **User Zone Reject Message**

22. **Any other message**: If the mobile station receives any other message specified in
Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all
other messages.

If the mobile station performs an access probe handoff or access handoff and receives any
of the following messages, it shall process the message as specified in 2.6.3.1.3:

1. **System Parameters Message**
2. **Access Parameters Message**
3. **Neighbor List Message**
4. **Extended System Parameters Message**
5. **Extended Neighbor List Message**
6. **General Neighbor List Message**
7. **Global Service Redirection Message**
8. **Extended Global Service Redirection Message**

2.6.3.6 Registration Access Substate

In this substate, the mobile station sends a *Registration Message*. If the base station responds with an authentication request, the mobile station responds in this substate.

Upon entering the *Registration Access Substate*, the mobile station shall send the *Registration Message*.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 2 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station) other than the *Registration Message*, Layer 3 shall indicate to Layer 2 that the type of the message is a request other than a registration request or a message transmission request (see [4]).

When transmitting an autonomous *Registration Message* (i.e., it is not sent as a response to a *Registration Request Order* received from the base station), Layer 3 shall indicate to Layer 2 that the type of the message is a request that is a registration (see [4]).

In the *Registration Access Substate*, the mobile station shall send each message in assured mode requiring confirmation of delivery.

While in this substate, the mobile station shall monitor the Paging Channel. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8), the mobile station shall perform the following:

- If PACA₈ is equal to enabled, the mobile station shall set PACA₈ to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- The mobile station shall declare an access attempt failure and update its registration variables as specified in 2.6.5.5.3.2.
- The mobile station shall disable its transmitter and enter the *Mobile Station Idle State*.

If the mobile station receives confirmation of delivery of any message sent by the mobile station in this substate, it shall then enter the *Mobile Station Idle State* unless:

- If the registration access was initiated due to a user direction to power down, the mobile station shall update registration variables as specified in 2.6.5.5.3.3 and may power down.
If the message requires a response, the mobile station shall send a response to the
message in this substate.

If the mobile station receives confirmation of delivery of the Registration Message, the
mobile station shall update its registration variables as specified in 2.6.5.5.3.1.

If the mobile station is directed by the user to originate a call, the mobile station may
process the origination request as follows:

- Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any
  access attempt in progress.
- If PACAₗ is equal to enabled, the mobile station shall set PACAₗ to disabled and
  PACACANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the
  user that the PACA call has been canceled.
- The mobile station shall enter the Mobile Station Origination Attempt Substate with
  an origination indication.

If PACAₗ is equal to enabled, the mobile station shall set PACACANCEL to ‘1’ when the
user directs the mobile station to cancel a PACA call.

If the mobile station receives a General Page Message, the mobile station may determine if
there is a page match (see 2.6.2.3). If a match is declared, the mobile station shall perform
the following:

- Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any
  access attempt in progress.
- The mobile station shall enter the Page Response Substate.

If the mobile station is to exit the System Access State as a result of processing Layer 3
fields of a message requiring an acknowledgment, the mobile station shall exit the System
Access State after Layer 3 receives an indication from Layer 2 that the acknowledgment to
the message has been sent and acknowledged.

If Layer 3 receives a message with an indication from Layer 2 that an access attempt for a
message being transmitted was not terminated as a result of processing the Layer 2 fields of
the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the
message or order is outside its permissible range, the mobile station may send a Mobile
Station Reject Order with ORDQ equal to ‘00000100’ (message field not in valid range).

1. Authentication Challenge Message: If the registration access was initiated due to a
   user direction to power down, the mobile station shall ignore the message;
   otherwise, the mobile station shall respond to the message as specified in
   2.3.12.1.4, regardless of the value of AUTHₗ.

2. Base Station Challenge Confirmation Order: If the registration access was initiated
due to a user direction to power down, the mobile station shall ignore the message;
   otherwise, the mobile station shall respond to the message as specified in
   2.3.12.1.5.
3. **Data Burst Message**

4. **Feature Notification Message**

5. **Local Control Order**

6. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN_Ps-p equals the least significant four bits of ORDQr).

   The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

7. **Maintenance Required Order:** The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSNs-p equals the least significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

8. **PACA Message:** If P_REV_IN_USEs is less than or equal to four and the mobile station does not support PACA capability, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (message requires a capability that is not supported by the mobile station); otherwise, the mobile station shall process the message as follows:

   If PACAs is equal to disabled, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).

   If PACAs is equal to enabled, the mobile station shall perform the following:

   - If the purpose of the message is to respond to an Origination Message (PURPOSEr is equal to ‘0000’), the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).

   - If the purpose of the message is to provide the queue position of the PACA call (PURPOSEr is equal to ‘0001’), the mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA_TIMEOUTs, should indicate to the user that the PACA call is still queued, and should indicate to the user the current queue position (Q_POSr) of the call.

   - If the purpose of the message is to instruct the mobile station to re-originate the PACA call (PURPOSEr is equal to ‘0010’), Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress, shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA_TIMEOUTs, and shall enter the Mobile Station Origination Attempt Substate with a PACA response indication.
• If the purpose of the message is to cancel the PACA call (PURPOSEr is equal to '0011'), the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

9. Registration Accepted Order: If ORDQr = '00000101', the mobile station shall set ROAM_INDI = ROAM_INDIr and should display the roaming condition.

10. Registration Rejected Order: This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = '00000100'), the mobile station shall set all the bits of the TMSI_CODEs-p to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

11. Release Order: If NDSS_ORIGs is equal to enabled, the mobile station shall set NDSS_ORIGs to disabled, and should indicate to the user that the call origination has been canceled. The mobile station shall enter the Mobile Station Idle State or the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1). If the mobile station enters the Mobile Station Idle State, and if PACAs is equal to enabled, the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.

12. Retry Order: The mobile station shall process the message as follows:

• If RETRY_TYPEr is equal to ‘000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.

• If RETRY_TYPEr is equal to ‘001’, the mobile station shall perform the following:
  − If RETRY_DELAYr is equal to ‘00000000’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPE]r] to 0.
  − If RETRY_DELAYr is not equal to ‘00000000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE]r] as follows:
    + If the most significant bit of the RETRY_DELAYr is ‘0’, set RETRY_DELAY_UNITs to 1000ms. If the most significant bit of the RETRY_DELAYr is ‘1’, set RETRY_DELAY_UNITs to 60000ms.
    + The mobile station shall set RETRY_DELAY_VALUEs to the seven least significant bits of RETRY_DELAYr.
    + The mobile station shall store the next system time 80 ms boundary as RETRY_DELAYs[RETRY_TYPE]r].

13. Service Redirection Message: The mobile station shall process the message as follows:
If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a *Mobile Station Reject Order* with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).

If DELETE_TMSI is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall disable the full-TMSI timer.

The mobile station shall set RETURN_IF_FAIL = RETURN_IF_FAILr.

If RECORD_TYPE is equal to ‘00000000’, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the redirection record received in the message as REDIRECT_REC and shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).

14. **SSD Update Message**: If the registration access was initiated due to a user direction to power down, the mobile station shall ignore the message. Otherwise, the mobile station shall respond to the message as specified in 2.3.12.1.5.

15. **Status Request Message**: The mobile station shall disable the System Access State timer and respond to the message. If P_REV_IN_USE is less than or equal to three, the mobile station shall respond with a *Status Response Message*. If P_REV_IN_USE is greater than three, the mobile station shall respond with an *Extended Status Response Message*. If the message does not specify any qualification information (*QUAL_INFO_TYPEr* is equal to ‘00000000’), the mobile station shall include the requested information records in the response. If the message specifies a band class (*QUAL_INFO_TYPEr* is equal to ‘00000001’), the mobile station shall only include the requested information records for the specified band class (*BAND_CLASSr*) in the response. If the message specifies a band class and an operating mode (*QUAL_INFO_TYPEr* is equal to ‘00000010’), the mobile station shall only include the requested information records for the specified band class (*BAND_CLASSr*) and operating mode (*OP_MODEr*) in the response.

If the message specifies a band class or a band class and an operating mode which are not supported by the mobile station, the mobile station shall send a *Mobile Station Reject Order* with ORDQ set to ‘00000110’ (message requires a capability that is not supported by the mobile station). If the response to this message exceeds the allowable length, the mobile station shall send a *Mobile Station Reject Order* with ORDQ set to ‘00001000’ (response message would exceed the allowable length). If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a *Mobile Station Reject Order* with ORDQ set to ‘00001001’ (information record is not supported for the specified band class and operating mode).

16. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code as follows:

...
• The mobile station shall store the length of the TMSI zone field by setting ASSIGNING_TMSI_ZONE_LEN_s-p to TMSI_ZONE_LEN_r;

• The mobile station shall store the assigning TMSI zone number by setting the ASSIGNING_TMSI_ZONE_LEN_s-p least significant octets of ASSIGNING_TMSI_ZONE_s-p to TMSI_ZONE_r, and

• The mobile station shall store the TMSI code by setting TMSI_CODE_s-p to TMSI_CODE_r.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIME_s-p to TMSI_EXP_TIME_r. The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a TMSI Assignment Completion Message within T56m seconds.

17. User Zone Reject Message

18. Any other message: If the mobile station receives any other message specified in Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all other messages.

2.6.3.7 Mobile Station Message Transmission Substate

In this substate, the mobile station sends a Data Burst Message. If the base station responds with an authentication request, the mobile station responds in this substate.

Support of this substate is optional.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 2 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station) other than the Data Burst Message, Layer 3 shall indicate to Layer 2 that the message is a request other than a registration request or a message transmission request (see [4]).

When transmitting an autonomous Data Burst Message, Layer 3 shall indicate to Layer 2 that the type of the message is a request that is a message transmission (see [4]).

In the Mobile Station Message Transmission Substate, the mobile station shall send each message in assured mode requiring confirmation of delivery.

Upon entering the Mobile Station Message Transmission Substate, the mobile station shall transmit the message as follows:

• If the mobile station entered this substate with a message transmission indication, the mobile station shall transmit the Data Burst Message to the base station.
While in this substate, the mobile station shall monitor the Paging Channel. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8), the mobile station shall perform the following:

- If PACAS is equal to enabled, the mobile station shall set PACAS to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
- The mobile station shall declare an access attempt failure and update its registration variables as specified in 2.6.5.3.2.
- The mobile station shall disable its transmitter and enter the Mobile Station Idle State.

If the mobile station receives confirmation of any message sent by the mobile station in this substate, it shall send a response in this substate if required and shall then enter the Mobile Station Idle State.

If PACAS is equal to enabled, the mobile station shall set PACA_CANCEL to ‘1’ when the user directs the mobile station to cancel a PACA call.

If the mobile station receives a General Page Message, the mobile station may determine whether there is a page match (see 2.6.2.3). If a match is declared, the mobile station shall perform the following:

- Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress.
- The mobile station shall enter the Page Response Substate.
- If the mobile station entered this substate with a message transmission indication, the mobile station may store the Data Burst Message for later transmission.

If the mobile station is to exit the System Access State as a result of processing Layer 3 fields of a message requiring an acknowledgment, the mobile station shall exit the System Access State after Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.

If Layer 3 receives a message with an indication from Layer 2 that an access attempt for a message being transmitted was not terminated as a result of processing the Layer 2 fields of the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the message or order is outside its permissible range, the mobile station may send a Mobile Station Reject Order with ORDQ equal to ‘00000100’ (message field not in valid range).

1. **Authentication Challenge Message**: The mobile station shall respond to the message as specified in 2.3.12.1.4, regardless of the value of AUTHS.

2. **Base Station Challenge Confirmation Order**: The mobile station shall respond to the message as specified in 2.3.12.1.5.

3. **Data Burst Message**

4. **Local Control Order**
5. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station's semi-permanent memory (LCKRSN_Ps-P equals the least significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

6. **Maintenance Required Order:** The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSNs-P equals the least significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

7. **PACA Message:** If P_REV_IN_USEs is less than or equal to four and the mobile station does not support PACA capability, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (message requires a capability that is not supported by the mobile station); otherwise, the mobile station shall process the message as follows:

   If PACAs is equal to disabled, the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).

   If PACAs is equal to enabled, the mobile station shall perform the following:

   - If the purpose of the message is to respond to an Origination Message (PURPOSEr is equal to ‘0000’), the mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000010’ (message not accepted in this state).

   - If the purpose of the message is to provide the queue position of the PACA call (PURPOSEr is equal to ‘0001’), the mobile station shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA_TIMEOUTs, should indicate to the user that the PACA call is still queued, and should indicate to the user the current queue position (Q_POSr) of the call.

   - If the purpose of the message is to instruct the mobile station to re-originate the PACA call (PURPOSEr is equal to ‘0010’), Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress, shall set the PACA state timer to the duration shown in Table 3.7.2.3.2.20-2 corresponding to the value of PACA_TIMEOUTs, and shall enter the Mobile Station Origination Attempt Substate with a PACA response indication.

   - If the purpose of the message is to cancel the PACA call (PURPOSEr is equal to ‘0011’), the mobile station shall set PACAs to disabled and PACA_CANCEL to ‘0’, shall disable the PACA state timer, and should indicate to the user that the PACA call has been canceled.
8. **Registration Accepted Order:** If ORDQ_r = '00000101', the mobile station shall set ROAM_INDIs = ROAM_INDIf and should display the roaming condition.

9. **Registration Rejected Order:** This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = '00000100'), the mobile station shall set all the bits of the TMSI_CODEs-p to ‘1’. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a registration rejected indication (see 2.6.1.1).

10. **Retry Order:** The mobile station shall process the message as follows:
- If RETRY_TYPE_r is equal to '000', the mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
- If RETRY_TYPE_r is equal to ‘001’, the mobile station shall perform the following:
  - If RETRY_DELAY_r is equal to ‘00000000’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPE_r] to 0.
  - If RETRY_DELAY_r is not equal to ‘00000000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE_r] as follows:
    + If the most significant bit of the RETRY_DELAY_r is ‘0’, set RETRY_DELAY_UNITs to 1000ms. If the most significant bit of the RETRY_DELAY_r is ‘1’, set RETRY_DELAY_UNITs to 60000ms.
    + The mobile station shall set RETRY_DELAY_VALUE_s to the seven least significant bits of RETRY_DELAY_r.
    + The mobile station shall store the next system time 80 ms boundary + RETRY_DELAY_VALUE_s × RETRY_DELAY_UNIT_s ms as RETRY_DELAYs[RETRY_TYPE_r].

11. **Service Redirection Message:** The mobile station shall process the message as follows:
- If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a Mobile Station Reject Order with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).
- If DELETE_TMSIf is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall disable the full-TMSI timer.
- The mobile station shall set RETURN_IF_FAIL_s = RETURN_IF_FAILr.
- If RECORD_TYPE_r is equal to ‘00000000’, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the redirection record received in the message as REDIRECT_RECs and shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).
12. **SSD Update Message**: The mobile station shall respond to the message as specified in 2.3.12.1.5.

13. **Status Request Message**: The mobile station shall disable the System Access State timer and respond to the message. If P_REV_IN_USE_s is less than or equal to three, the mobile station shall respond with a Status Response Message. If P_REV_IN_USE_s is greater than three, the mobile station shall respond with an Extended Status Response Message. If the message does not specify any qualification information (QUAL_INFO_TYPE_r is equal to ‘00000000’), the mobile station shall include the requested information records in the response. If the mobile station shall only include the requested information records for the specified band class (BAND_CLASS_s) in the response. If the message specifies a band class and an operating mode (QUAL_INFO_TYPE_r is equal to ‘00000010’), the mobile station shall only include the requested information records for the specified band class (BAND_CLASS_s) and operating mode (OP_MODE_r) in the response.

If the message specifies a band class or a band class and an operating mode which is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ set to ‘00000110’ (message requires a capability that is not supported by the mobile station). If the response to this message exceeds the allowable length, the mobile station shall send a Mobile Station Reject Order with ORDQ set to ‘00001000’ (response message would exceed the allowable length). If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a Mobile Station Reject Order with ORDQ set to ‘00001001’ (information record is not supported for the specified band class and operating mode).

14. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code as follows:

   - The mobile station shall store the length of the TMSI zone field by setting ASSIGNING_TMSI_ZONE_LEN_s-p to TMSI_ZONE_LEN_r.
   - The mobile station shall store the assigning TMSI zone number by setting the ASSIGNING_TMSI_ZONE_LEN_s-p least significant octets of ASSIGNING_TMSI_ZONE_s-p to TMSI_ZONE_r, and
   - The mobile station shall store the TMSI code by setting TMSI_CODE_s-p to TMSI_CODE_r.

   The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIME_s-p to TMSI_EXP_TIME_r. The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a TMSI Assignment Completion Message within T_{56m} seconds.

15. **Any other message**: If the mobile station receives any other message specified in Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all other messages.
2.6.3.8 PACA Cancel Substate

In this substate, the mobile station sends a **PACA Cancel Message**. If the base station responds with an authentication request, the mobile station responds in this substate.

If a message received from the base station requires a Layer 2 acknowledgment and does not require a Layer 3 response, Layer 3 shall indicate to Layer 2 that no response is outstanding (see [4]).

If a message received from the base station requires a Layer 2 acknowledgment and also a Layer 3 response, Layer 3 shall indicate to Layer 2 that a response is outstanding (see [4]).

When transmitting a response to a message received from the base station, Layer 3 shall indicate to Layer 2 that the type of the message is a response (see [4]).

When transmitting an autonomous message (i.e., a message that is not sent as a response to a message received from the base station), Layer 3 shall indicate to Layer 2 that the type of the message is a request other than a registration request or a message transmission request (see [4]).

In the **PACA Cancel Substate**, the mobile station shall send each message in assured mode requiring confirmation of delivery.

Upon entering the **PACA Cancel Substate**, the mobile station shall transmit the **PACA Cancel Message**.

While in this substate, the mobile station shall monitor the Paging Channel. If the mobile station declares a loss of the Paging Channel (see 2.6.3.1.8), it shall declare an access attempt failure and update its registration variables as specified in 2.6.5.5.3.2, disable its transmitter and enter the **Mobile Station Idle State**. If the mobile station receives confirmation of any message sent by the mobile station in this substate, it shall send a response in this substate if required and shall then enter the **Mobile Station Idle State**.

If the mobile station receives a **General Page Message**, the mobile station may determine if there is a page match (see 2.6.2.3). If a match is declared, Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to abort any access attempt in progress and shall enter the **Page Response Substate**.

If the mobile station is to exit the **System Access State** as a result of processing Layer 3 fields of a message requiring an acknowledgment, the mobile station shall exit the **System Access State** after Layer 3 receives an indication from Layer 2 that the acknowledgment to the message has been sent and acknowledged.

If Layer 3 receives a message with an indication from Layer 2 that an access attempt for a message being transmitted was not terminated as a result of processing the Layer 2 fields of the received message, the mobile station shall ignore the received message.

The following directed messages and orders can be received. If any field value of the message or order is outside its permissible range, the mobile station may send a **Mobile Station Reject Order** with ORDQ equal to ‘00000100’ (message field not in valid range).

1. **Authentication Challenge Message**: The mobile station shall respond to the message as specified in 2.3.12.1.4, regardless of the value of AUTHs.
2. **Base Station Challenge Confirmation Order:** The mobile station shall respond to the message as specified in 2.3.12.1.5.

3. **Data Burst Message**

4. **Local Control Order**

5. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station's semi-permanent memory (LCKRSN_Ps-p equals the least significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the **System Determination Substate of the Mobile Station Initialization State** with a lock indication (see 2.6.1.1), and shall not enter the **System Access State** again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the **System Access State**.

6. **Maintenance Required Order:** The mobile station shall record the reason for the Maintenance Required Order in the mobile station's semi-permanent memory (MAINTRSNs-p equals the least significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

7. **PACA Message:** The mobile station shall send a **Mobile Station Reject Order** with the ORDQ field set to '00000010' (message not accepted in this state).

8. **Registration Accepted Order:** If ORDQr = '00000101', the mobile station shall set ROAM_INDI_s = ROAM_INDI_r and should display the roaming condition.

9. **Registration Rejected Order:** This order indicates that normal service is not available on this system. The mobile station shall disable the full-TMSI timer. If the received order specifies to delete the TMSI (ORDQ = '00000100'), the mobile station shall set all the bits of the TMSI_CODEs-p to '1'. The mobile station shall enter the **System Determination Substate of the Mobile Station Initialization State** with a registration rejected indication (see 2.6.1.1).

10. **Retry Order:** The mobile station shall process the message as follows:
    - If RETRY_TYPE_r is equal to '000', the mobile station shall set RETRY_DELAY_s[RETRY_TYPE] to 0, where RETRY_TYPE is equal to '001', '010', or '011'.
    - If RETRY_TYPE_r is equal to '001', the mobile station shall perform the following:
      - If RETRY_DELAY_r is equal to '00000000', then the mobile station shall set RETRY_DELAY_s[RETRY_TYPE_r] to 0.
      - If RETRY_DELAY_r is not equal to '00000000', the mobile station shall set RETRY_DELAY_s[RETRY_TYPE_r] as follows:
        + If the most significant bit of the RETRY_DELAY_r is '0', set RETRY_DELAY_UNIT_s to 1000ms. If the most significant bit of the RETRY_DELAY_r is '1', set RETRY_DELAY_UNIT_s to 60000ms.
+ The mobile station shall set RETRY_DELAY_VALUEs to the seven least
  significant bits of RETRY_DELAYr.

+ The mobile station shall store the next system time 80 ms boundary +
  RETRY_DELAY_VALUEs × RETRY_DELAY_UNITs ms as
  RETRY_DELAYs[RETRY_TYPEr].

11. **Service Redirection Message**: The mobile station shall process the message as
    follows:
    - If the mobile station is directed to an unsupported operation mode or band class,
      the mobile station shall respond with a *Mobile Station Reject Order* with ORDQ
      equal to ‘00000110’ (message requires a capability that is not supported by the
      mobile station).
    - If DELETE_TMSI r is equal to ‘1’, the mobile station shall set all the bits of
      TMSI_CODEs-p to ‘1’. The mobile station shall disable the full-TMSI timer.
    - The mobile station shall set RETURN_IF_FAIL s = RETURN_IF_FAILr.
    - If RECORD_TYPE r is equal to ‘00000000’, the mobile station shall enter the
      *System Determination Substate* of the *Mobile Station Initialization State*
      with an
      NDSS off indication (see 2.6.1.1); otherwise, the mobile station shall store the
      redirection record received in the message as REDIRECT_REC s and shall enter
      the *System Determination Substate* of the *Mobile Station Initialization State*
      with a
      redirection indication (see 2.6.1.1).

12. **SSD Update Message**: The mobile station shall respond to the message as specified
    in 2.3.12.1.5.

13. **Status Request Message**: The mobile station shall disable the *System Access State*
    timer and respond to the message. If P_REV_IN_USE s is less than or equal to three,
    the mobile station shall respond with a *Status Response Message*. If
    P_REV_IN_USE s is greater than three, the mobile station shall respond with an
    *Extended Status Response Message*. If the message does not specify any
    qualification information (QUAL_INFO_TYPE r is equal to ‘00000000’), the mobile
    station shall include the requested information records in the response. If the
    message specifies a band class (QUAL_INFO_TYPE r is equal to ‘00000001’), the
    mobile station shall only include the requested information records for the specified
    band class (BAND_CLASS r) in the response. If the message specifies a band class
    and an operating mode (QUAL_INFO_TYPE r is equal to ‘00000010’), the mobile
    station shall only include the requested information records for the specified band
    class (BAND_CLASS r) and operating mode (OP_MODE r) in the *Status Response*
    Message.

    If the message specifies a band class or a band class and an operating mode which
    is not supported by the mobile station, the mobile station shall send a *Mobile Station*
    *Reject Order* with ORDQ set to ‘00000110’ (message requires a capability that is not
    supported by the mobile station). If the response to this message exceeds the
    allowable length, the mobile station shall send a *Mobile Station Reject Order* with
    ORDQ set to ‘00001000’ (response message would exceed the allowable length). If
the message specifies an information record which is not supported by the mobile
station for the specified band class and operating mode, the mobile station shall
send a Mobile Station Reject Order with ORDQ set to ‘00001001’ (information record
is not supported for the specified band class and operating mode).

14. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code
as follows:

- The mobile station shall store the length of the TMSI zone field by setting
  ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr.
- The mobile station shall store the assigning TMSI zone number by setting the
  ASSIGNING_TMSI_ZONE_LENs-p least significant octets of
  ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and
- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to
  TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIMEs-p
to TMSI_EXP_TIMEr. The mobile station shall disable the full-TMSI timer. The
mobile station shall then respond with a TMSI Assignment Completion Message
within T56m seconds.

15. **Any other message**: If the mobile station receives any other message specified in
Table 3.7.2.3-1, it shall ignore all Layer 3 fields. The mobile station shall ignore all
other messages.

2.6.4 Mobile Station Control on the Traffic Channel State

In this state, the mobile station communicates with the base station using the Forward and
Reverse Traffic Channels.

As illustrated in Figure 2.6.4-1, the **Mobile Station Control on the Traffic Channel State**
consists of the following substates:

- **Traffic Channel Initialization Substate** - In this substate, the mobile station verifies
  that it can receive the Forward Traffic Channel and begins transmitting on the
  Reverse Traffic Channel.
- **Waiting for Order Substate** - In this substate, the mobile station waits for an Alert
  With Information Message.
- **Waiting for Mobile Station Answer Substate** - In this substate, the mobile station
  waits for the user to answer the call.
- **Conversation Substate** - In this substate, the mobile station exchanges Traffic
  Channel frames with the base station in accordance with the current service
  configuration. The mobile station may perform the gating operation of Reverse Pilot
  Channel.
- **Release Substate** - In this substate, the mobile station disconnects the call.
Traffic Channel Initialization Substate (2.6.4.2)

Mobile station terminated call and Layer 3 receives a forward dedicated channel acquired indication from Layer 2

Warning for Order Substate (2.6.4.3.1)

Receives a Maintenance Order or an Alert With Information Message

Waiting for Mobile Station Answer Substate (2.6.4.3.2)

Receives a Maintenance Order or an Alert With Information Message*

Conversation Substate (2.6.4.4)

Mobile station user answers call

Receives Alert With Information Message

Release Substate (2.6.4.5)

Mobile station user initiates disconnect or mobile station receives Release Order

System Determination Substate of the Mobile Station Initialization State

Note: Not all state transitions are shown.

*If SIGNAL_TYPE is equal to '01' or '10' or if the Signal Information Record is not included.
2.6.4.1 Special Functions and Actions

The mobile station performs special functions and actions in one or more of the substates of the Mobile Station Control on the Traffic Channel State.

2.6.4.1.1 Forward Traffic Channel Power Control

The mobile station uses FPC_MODE_NO_SCHs as FPC_MODEs except during the forward Supplemental Channel assignment interval. During the forward Supplemental Channel assignment interval, the mobile station uses FPC_MODE_SCHs as FPC_MODEs.

To support Forward Traffic Channel power control, the mobile station reports frame error rate statistics to the base station. If the base station enables periodic reporting, the mobile station reports frame error rate statistics at specified intervals. If the base station enables threshold reporting, the mobile station reports frame error rate statistics when the frame error rate reaches a specified threshold.\(^9\)

The mobile station shall maintain the following frame counters:

- A counter (TOT_FRAMES) for the total number of frames received on the Forward Fundamental Channel.
- A counter (BAD_FRAMES) for the number of bad frames detected on the Forward Fundamental Channel.
- A counter (DCCH_TOT_FRAMES) for the total number of frames received on the Forward Dedicated Control Channel, when the Dedicated Control Channel is assigned.
- A counter (DCCH_BAD_FRAMES) for the total number of bad frames received on the Forward Dedicated Control Channel, when the Dedicated Control Channel is assigned.

The mobile station shall maintain the following counters for each Supplemental Channel assigned, if FOR_SCH_FER_REPs is equal to ‘1’:

- A counter (SCH_TOT_FRAMES) for the number of frames received on the assigned Supplemental Channel.
- A counter (SCH_BAD_FRAMES) for the number of bad frames received on the assigned Supplemental Channel.

The mobile station shall increment the counter by 1 at every 20 ms interval if a 20ms frame or at least one 5ms frame is received from the Forward Fundamental Channel or Dedicated Control Channel:

\(^9\) Periodic reporting and threshold reporting may be independently enabled or disabled by the base station.
If the received frame is from the Fundamental Channel, the mobile station shall perform the following:
- Increment TOT_FRAMES by 1.
- If the received 20ms frame is bad or one of the 5ms frames is bad, the mobile station shall increment BAD_FRAMES by 1.

If the received frame is from the Forward Dedicated Control Channel, the mobile station shall perform the following:
- Increment DCCH_TOT_FRAMES by 1.
- If the received 20ms frame is bad or one of the 5ms frames is bad, the mobile station shall increment DCCH_BAD_FRAMES by 1.

If either
- PWR_THRESH_ENABLE is equal to ‘1’ and if one of the following conditions is true:
  + The Fundamental Channel carries the Power Control Subchannel [FPC_PRI_CHAN = '0'], and BAD_FRAMES is equal to PWR_REP_THRESH or
  + The Dedicated Control Channel carries the Power Control Subchannel [FPC_PRI_CHAN = '1'], and DCCH_BAD_FRAMES is equal to PWR_REP_THRESH.

- PWR_PERIOD_ENABLE is equal to ‘1’ and if one of the following conditions is true:
  + The Fundamental Channel carries the Power Control Subchannel [FPC_PRI_CHAN = '0'], and TOT_FRAMES is equal to \(\lceil(2(\text{PWR_REP_FRAMES}/2) \times 5)\rceil\), or
  + The Dedicated Control Channel carries the Power Control Subchannel [FPC_PRI_CHAN = '1'], and DCCH_TOT_FRAMES is equal to \(\lceil(2(\text{PWR_REP_FRAMES}/2) \times 5)\rceil\).

then the mobile station shall send a Power Measurement Report Message to the base station. The mobile station should send the Power Measurement Report Message in unassured mode. After sending a Power Measurement Report Message, the mobile station shall set TOT_FRAMES, BAD_FRAMES to zero, and if the Dedicated Control Channel is assigned, shall set DCCH_TOT_FRAMES and DCCH_BAD_FRAMES to zero. The mobile station shall not increment the counters for a period of PWR_REP_DELAY \(\times 4\) frames following the first transmission of the message.

If FPC_PRI_CHAN is equal to ‘0’ and TOT_FRAMES is equal to \(\lceil(2(\text{PWR_REP_FRAMES}/2) \times 5)\rceil\), the mobile station shall perform the following:
- Set TOT_FRAMES and BAD_FRAMES to zero.
– Set DCCH_TOT_FRAMESs and DCCH_BAD_FRAMESs to zero, if the Dedicated
Control Channel is assigned.

• If FPC_PRI_CHANs is equal to '1' and DCCH_TOT_FRAMESs is equal to
\[\left\lfloor \frac{PWR_REP_FRAMEs}{2} \right\rfloor \times 5\], the mobile station shall set
TOT_FRAMEs, BAD_FRAMEs, DCCH_TOT_FRAMEs, and DCCH_BAD_FRAMEs
to zero.

For each received frame from an assigned Supplemental Channel, the mobile station shall
perform the following, if FOR_SCH_FER_REPs is equal to '1':

• Increment SCH_TOT_FRAMEs by 1.

• If the received frame is bad, increment SCH_BAD_FRAMEs by 1.

At the end of a burst on each assigned Supplemental Channel, if FOR_SCH_FER_REPs is
equal to '1', the mobile station shall report the total number of frames received on this
Supplemental Channel (SCH_TOT_FRAMESs) and the bad frames detected
(SCH_BAD_FRAMESs) with the fields SCH_PWR_MEAS_FRAMES and
SCH_ERRORS_DETECTED in the Power Measurement Report Message respectively. After
sending the Power Measurement Report Message for the Supplemental Channel, the mobile
station shall set SCH_TOTAL_FRAMESs and SCH_BAD_FRAMESs of the reported SCH to
zero.

If both Forward Fundamental Channel and the Forward Dedicated Control Channel are
assigned to the mobile station and the mobile station supports the Radio Configurations
greater than two, the mobile station shall perform the following:

• The mobile station shall set FPC_DELTA_SETPTs to (FPC_FCH_CURR_SETPTs –
FPC_DCCH_CURR_SETPTs).

• For each received frame, if |FPC_FCH_CURR_SETPTs – FPC_DCCH_CURR
_SETPTs – FPC_DELTA_SETPTs| is equal to or greater than its assigned threshold
FPC_SETPT_THRESHs, the mobile station shall send the Outer Loop Report Message
requiring acknowledgment to the base station, and the mobile station shall then set
FPC_DELTA_SETPTs to (FPC_FCH_CURR_SETPTs – FPC_DCCH_CURR_SETPTs).

For each of the supplemental channels assigned to the mobile station and FPC_MODEs is
set to '000', the mobile station shall perform the following:

• The mobile station shall set FPC_DELTA_SCH_SETPTs to
(FPC_FCH_CURR_SETPTs – FPC_SCH_CURR_SETPTs) if FPC_PRI_CHANs is equal to
'0'.

• The mobile station shall set FPC_DELTA_SCH_SETPTs to
(FPC_DCCH_CURR_SETPTs – FPC_SCH_CURR_SETPTs) if FPC_PRI_CHANs is equal to
'1'.

2-179
For each received frame, if FPC_PRI_CHAN is equal to '0' and
\[|FPC_FCH_CURR_SETPT - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT|\] is equal to or greater than its assigned threshold
FPC_SETPT_THRESH_SETPT, the mobile station shall send the Outer Loop Report Message in assured mode, and the mobile station shall then set
FPC_DELTA_SCH_SETPT to \((FPC_FCH_CURR_SETPT - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT)\).

For each received frame, if FPC_PRI_CHAN is equal to '1' and
\[|FPC_DCCH_CURR_SETPT - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT|\] is equal to or greater than its assigned threshold
FPC_SETPT_THRESH_SETPT, the mobile station shall send the Outer Loop Report Message in assured mode, and the mobile station shall then set
FPC_DELTA_SCH_SETPT to \((FPC_DCCH_CURR_SETPT - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT)\).

If the Supplemental channels are assigned to the mobile station and FPC_MODE is set to '001' or '010', for each additional Forward Supplemental Channel other than the Forward Supplemental Channel specified by FPC_SEC_CHAN, the mobile station shall perform the following:

- The mobile station shall set FPC_DELTA_SCH_SETPT to \((FPC_SCH_CURR_SETPT[FPC_SEC_CHAN] - FPC_SCH_CURR_SETPT)\) for the Supplemental Channel.
- For each received frame, if \[|FPC_SCH_CURR_SETPT[FPC_SEC_CHAN] - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT|\] is equal to or greater than its assigned threshold FPC_SETPT_THRESH_SETPT, the mobile station shall send the Outer Loop Report Message in assured mode, and the mobile station shall then set
FPC_DELTA_SCH_SETPT to \((FPC_SCH_CURR_SETPT[FPC_SEC_CHAN] - FPC_SCH_CURR_SETPT - FPC_DELTA_SCH_SETPT)\).

2.6.4.1.1.1 Forward Traffic Channel Power Control Initialization

To initialize Forward Traffic Channel power control, the mobile station shall set TOT_FRAMESs, BAD_FRAMESs, DCCH_TOT_FRAMESs, and DCCH_BAD_FRAMESs to zero.

The mobile station shall initialize the frame counters SCH_TOT_FRAMESs and SCH_BAD_FRAMESs for each assigned Supplemental Channel to zero. The mobile station shall initialize FOR_SCH_FER_REPs to zero.

2.6.4.1.1.2 Processing the Power Control Parameters Message

The mobile station shall store the following parameters from the Power Control Parameters Message:

- Power control reporting threshold \((PWR_REP_THRESH = PWR_REP_THRESH)\)
- Power control reporting frame count \((PWR_REP_FRAMES = PWR_REP_FRAMES)\)
- Threshold report mode indicator \((PWR_THRESH_ENABLE = PWR_THRESH_ENABLE)\)
• Periodic report mode indicator
  \( (\text{PWR}_\text{PERIOD}_\text{ENABLE}_s = \text{PWR}_\text{PERIOD}_\text{ENABLE}_r) \)

• Power report delay \( (\text{PWR}_\text{REP}_\text{DELAY}_s = \text{PWR}_\text{REP}_\text{DELAY}_r) \)

The mobile station shall set \( \text{TOT}_\text{FRAMES}_s \) and \( \text{BAD}_\text{FRAMES}_s \) to zero.

2.6.4.1.1.3 Processing the Power Control Message

The mobile station shall send a Mobile Station Reject Order with the \( \text{ORDQ} \) field set to '00000110' (message requires a capability that is not supported by the mobile station) if any of the following conditions are detected:

• If the mobile station does not support any Radio Configuration greater than 2 and \( \text{FPC}_\text{MODE}_r \) is not supported by the mobile station.
• If the mobile station does not support Supplemental Channel and \( \text{FPC}_\text{MODE}_r \) is set to the '001' or '010'.
• If \( \text{PWR}_\text{_CNTL}_\text{STEP}_r \) corresponds to a power control step size (see [2]) is not supported by the mobile station.

The mobile station shall send a Mobile Station Reject Order with the \( \text{ORDQ} \) field set to '00000111' (message cannot be handled by the current mobile station configuration) if any of the following conditions are detected:

• \( \text{FPC}_\text{_PRI}_\text{CHAN}_r \) is set to '1' and only the Fundamental Channel is assigned.
• \( \text{FPC}_\text{_PRI}_\text{CHAN}_r \) is set to '0' and only the Dedicated Control Channel is assigned.

If none of the above conditions are true, the mobile station shall process the message as follows at the action time (see 2.6.4.1.5) specified in the message:

• The mobile station shall store the power control step size \( (\text{PWR}_\text{_CNTL}_\text{STEP}_s = \text{PWR}_\text{_CNTL}_\text{STEP}_r) \).
• If \( \text{FPC}_\text{INCL}_r \) is equal to '1', the mobile station shall perform the following:
  - The mobile station shall set \( \text{FPC}_\text{MODE}_\text{NO}_\text{SCH}_s = \text{FPC}_\text{MODE}_r \).
  - The mobile station shall set \( \text{FPC}_\text{MODE}_s = \text{FPC}_\text{MODE}_\text{NO}_\text{SCH}_s \) if there is no forward Supplemental Channel burst in progress (see 2.6.6.2.5.1.1).
  - The mobile station shall set \( \text{FPC}_\text{PRI}_\text{CHAN}_s \) to \( \text{FPC}_\text{PRI}_\text{CHAN}_r \).
  - If \( \text{FPC}_\text{OLPC}_\text{FCH}_\text{INCL}_r \) is equal to '1', the mobile station shall:
    + Set \( \text{FPC}_\text{FCH}_\text{FER}_s \) to \( \text{FPC}_\text{FCH}_\text{FER}_r \).
    + If \( \text{FPC}_\text{FCH}_\text{MIN}_\text{SETPT}_r \) is not equal to '11111111', set \( \text{FPC}_\text{FCH}_\text{MIN}_\text{SETPT}_s \) to \( \text{FPC}_\text{FCH}_\text{MIN}_\text{SETPT}_r \); otherwise, set \( \text{FPC}_\text{FCH}_\text{MIN}_\text{SETPT}_s \) to \( \text{FPC}_\text{FCH}_\text{CURR}_\text{SETPT}_s \).
    + If \( \text{FPC}_\text{FCH}_\text{MAX}_\text{SETPT}_r \) is not equal to '11111111', set \( \text{FPC}_\text{FCH}_\text{MAX}_\text{SETPT}_s \) to \( \text{FPC}_\text{FCH}_\text{MAX}_\text{SETPT}_r \); otherwise, set \( \text{FPC}_\text{FCH}_\text{MAX}_\text{SETPT}_s \) to \( \text{FPC}_\text{FCH}_\text{CURR}_\text{SETPT}_s \).
– If FPC_OLPC_DCCH_INCL is equal to ‘1’, the mobile station shall:
  + Set FPC_DCCH_FERs to FPC_DCCH_FERr.
  + If FPC_DCCH_MIN_SETPTr is not equal to ‘11111111’, set FPC_DCCH_MIN_SETPTs to FPC_DCCH_MIN_SETPTr; otherwise, set FPC_DCCH_MIN_SETPTs to FPC_DCCH_CURR_SETPTs.
  + If FPC_DCCH_MAX_SETPTr is not equal to ‘11111111’, set FPC_DCCH_MAX_SETPTs to FPC_DCCH_MAX_SETPTr; otherwise, set FPC_DCCH_MAX_SETPTs to FPC_DCCH_CURR_SETPTs.
– If FPC_INCL is equal to ‘1’ and FPC_MODE is equal to ‘001’ or ‘010’, the mobile station shall:
  + Set FPC_SEC_CHANs to FPC_SEC_CHANr.
– If NUMSUPr is not equal to ‘00’, for each Supplemental Channel included in the message, the mobile station shall:
  + Set SCH_IDs to SCH_IDr.
  + Set FPC_SCH_FERS[SCH_IDs] to FPC_SCH_FERr.
  + If FPC_SCH_MIN_SETPTr is not equal to ‘11111111’, set FPC_SCH_MIN_SETPTs[SCH_IDs] to FPC_SCH_MIN_SETPTr; otherwise, set FPC_SCH_MIN_SETPTs[SCH_IDs] to FPC_SCH_CURR_SETPTs.
  + If FPC_SCH_MAX_SETPTr is not equal to ‘11111111’, set FPC_SCH_MAX_SETPTs[SCH_IDs] to FPC_SCH_MAX_SETPTr; otherwise, set FPC_SCH_MAX_SETPTs[SCH_IDs] to FPC_SCH_CURR_SETPTs.
– If FPC_THRESH_INCL is equal to ‘1’, the mobile station shall set FPC_SETPT_THRESHs to FPC_SETPT_THRESHr.
– If FPC_THRESH_SCH_INCL is equal to ‘1’, the mobile station shall set FPC_SETPT_THRESH_SCHs to FPC_SETPT_THRESH_SCHr.

• If RPC_INCLr is equal to ‘1’ and the mobile station supports any Radio Configuration greater than 2, the mobile station shall perform the following:
  – If RPC_ADJ_REC_TYPE is equal to ‘0000’, the mobile station shall update the Reverse Channel Adjustment Gain Table (see [2]) containing an offset relative to the Reverse Pilot Channel power for each reverse link code channel received in this message.
  – If RPC_ADJ_REC_TYPE is equal to ‘0001’ or ‘0010’, the mobile station shall update the Reverse Link Attribute Adjustment Gain Table (see [2]) containing an offset relative to the Reverse Pilot Channel power for each transmission rate, frame length, coding type received in this message.

2.6.4.1.2 Service Configuration and Negotiation

During Traffic Channel operation, the mobile station and base station communicate through the exchange of Forward and Reverse Traffic Channel frames. The mobile station
and base station use a common set of attributes for building and interpreting Traffic Channel frames. This set of attributes, referred to as a service configuration, consists of both negotiable and non-negotiable parameters.

The set of negotiable service configuration parameters consists of the following:

1. **Forward and Reverse Multiplex Options**: These control the way in which the information bits of the Forward and Reverse Traffic Channel frames, respectively, are divided into various types of traffic, such as signaling traffic, primary traffic and secondary traffic. A multiplex option together with a radio configuration specifies the frame structures and transmission rates (see [3]). The multiplex options which support Supplemental Code Channel transmission and Supplemental Channel transmission on the Forward and Reverse Traffic Channels are included in [3]. Multiplex Options 3 through 16 also indicate the capability for supporting Supplemental Code Channel transmission on the Forward and Reverse Traffic Channels. Invocation of Supplemental Code Channel operation on the Forward or Reverse Traffic Channels occurs by the *Supplemental Channel Request Message*, the *Supplemental Channel Assignment Message*, and the *General Handoff Direction Message*. Invocation of Supplemental Channel operation on the Forward or Reverse Traffic Channels occurs by the *Supplemental Channel Request Mini Message*, the *Extended Supplemental Channel Assignment Message*, the *Forward Supplemental Channel Assignment Mini Message*, Universal Handoff Direction Message, and the *Reverse Supplemental Channel Assignment Mini Message*. The multiplex option used for the Forward Traffic Channel can be the same as that used for the Reverse Traffic Channel, or it can be different.

2. **Forward and Reverse Traffic Channel Configurations**: These include the Radio Configurations and other necessary attributes for the Forward and Reverse Traffic Channels. The Traffic Channel Configuration used can be different for the Forward and Reverse Traffic Channels or it can be the same.

3. **Forward and Reverse Traffic Channel Transmission Rates**: These are the transmission rates actually used for the Forward and Reverse Traffic Channels respectively. The transmission rates for the Forward Traffic Channel can include all of the transmission rates supported by the radio configuration associated with the Forward Traffic Channel multiplex option, or a subset of the supported rates. Similarly, the transmission rates used for the Reverse Traffic Channel can include all rates supported by the radio configuration associated with the Reverse Traffic Channel multiplex option, or a subset of the supported rates. The transmission rates used for the Forward Traffic Channel can be the same as those used for the Reverse Traffic Channel, or they can be different.

4. **Service Option Connections**: These are the services in use on the Traffic Channel. There can be multiple service option connections. It is also possible that there is no service option connection, in which case the mobile station uses the Reverse Traffic Channel as follows:
   - Sends null traffic on the Reverse Fundamental Channel, if the Fundamental Channel is present.
- Sends signaling traffic on the Reverse Traffic Channel where r-dsch is mapped to.

Associated with each service option connection are a service option, a Forward Traffic Channel traffic type, a Reverse Traffic Channel traffic type, and a service option connection reference. The associated service option formally defines the way in which traffic bits are processed by the mobile station and base station. The associated Forward and Reverse Traffic Channel traffic types specify the types of traffic used to support the service option. A service option can require the use of a particular type of traffic, such as primary or secondary, or it can accept more than one traffic type. A service option can be one-way, in which case it can be supported on the Forward Traffic Channel only or the Reverse Traffic Channel only. Alternatively, a service option can be two-way, in which case it can be supported on the Forward and Reverse Traffic Channels simultaneously. Connected service options can also invoke operation on Supplemental Code Channels in either one or both of the Forward and Reverse Traffic Channels by negotiating a multiplex option that supports operation on Supplemental Code Channels (see [3] for Multiplex options applicable to Supplemental Code Channels), and by using the appropriate Supplemental Code Channel related messages (i.e., the Supplemental Channel Request Message, the Supplemental Channel Assignment Message, and the General Handoff Direction Message). After Supplemental Code Channels have been assigned by the base station, the connected service option can transmit primary and/or secondary traffic on Supplemental Code Channels. Connected service options can also invoke operation on Supplemental Channels in either one or both of the Forward and Reverse Traffic Channels by negotiating a multiplex option that supports operation on Supplemental Channels (see [3] for Multiplex Options applicable to Supplemental Channel) and by using the appropriate Supplemental Channel related messages (i.e., the Supplemental Channel Request Mini Message, the Extended Supplemental Channel Assignment Message, the Forward Supplemental Channel Assignment Mini Message, and the Universal Handoff Direction Message). After Supplemental Channels have been assigned by the base station, the connected service option can transmit primary and/or secondary traffic on Supplemental Channels. The associated service option connection reference provides a means for uniquely identifying the service option connection. The reference serves to resolve ambiguity when there are multiple service option connections in use.

The non-negotiable service configuration parameters are sent from the base station to the mobile stations only, and consists of the following:

1. **Reverse Pilot Gating Rate**: This controls the way in which the reverse pilot is gated on the Reverse Pilot Channel. The base station specifies the reverse pilot gating rate to be used in the Service Connect Message, the General Handoff Direction Message, and the Universal Handoff Direction Message.

2. **Forward and Reverse Power Control Parameters**: These consist of forward power control operation mode, outer loop power control parameters (Ex. target frame error rate, minimum Eb/Nt setpoint, and maximum Eb/Nt setpoint) for the Forward
Fundamental Channel and Forward Dedicated Control Channel, and Power Control Subchannel indicator which indicates where the mobile station is to perform the primary inner loop estimation and the base station is to multiplex the Power Control Subchannel.

3. *Logical to Physical Mapping:* This is a table of logical to physical mapping entries, consisting of service reference identifier, logical resource, physical resource, forward flag, reverse flag, and priority.

The mobile station can request a default service configuration associated with a service option at call origination, and can request new service configurations during Traffic Channel operation. A requested service configuration can differ greatly from its predecessor or can be very similar. For example, the mobile station can request a service configuration in which all of the service option connections are different from those of the existing configuration; or the mobile station can request a service configuration in which the existing service option connections are maintained with only minor changes, such as a different set of transmission rates or a different mapping of service option connections to Forward and Reverse Traffic Channel traffic types.

If the mobile station requests a service configuration that is acceptable to the base station, they both begin using the new service configuration. If the mobile station requests a service configuration that is not acceptable to the base station, the base station can reject the requested service configuration or propose an alternative service configuration. If the base station proposes an alternative service configuration, the mobile station can accept or reject the base station’s proposed service configuration, or propose yet another service configuration. This process, called service negotiation, ends when the mobile station and the base station find a mutually acceptable service configuration, or when either the mobile station or the base station rejects a service configuration proposed by the other.

It is also possible for the base station to request a default service configuration associated with a service option when paging the mobile station and to request new service configurations during Traffic Channel operation. The service negotiation proceeds as described above, but with the roles of the mobile station and base station reversed.

For CDMA mode operation in Band Class 0, the mobile station and base station can also use an alternative method for negotiating a service configuration known as service option negotiation. Service option negotiation is similar to service negotiation, but offers less flexibility for specifying the attributes of the service configuration. During service option negotiation, the base station or the mobile station specifies only which service option is to be used. There is no facility for explicitly specifying the multiplex options, traffic types or transmission rates to be used on the Forward and Reverse Traffic Channels in conjunction with the service option. Instead, implicit service configuration attributes are assumed. In particular, the Forward and Reverse multiplex options and transmission rates are assumed to be the default multiplex options and transmission rates associated with the requested service option, and the traffic type for both the Forward and Reverse Traffic Channels is assumed to be primary traffic; furthermore, a service configuration established using service option negotiation is restricted to having only a single service option connection.
At mobile station origination and termination, the type of negotiation to use, either service negotiation or service option negotiation, is indicated in the Channel Assignment Message. Service negotiation is always used after the mobile station receives an Extended Channel Assignment Message. If a CDMA-to-CDMA hard handoff occurs during the call, the type of negotiation to use following the handoff is indicated in the Extended Handoff Direction Message, the General Handoff Direction Message, or the Universal Handoff Direction Message.

For CDMA mode operation in band classes other than Band Class 0, only service negotiation is to be used.

The following messages are used to support service negotiation:

1. **Service Request Message**: The mobile station can use this message to propose a service configuration, or to accept or reject a service configuration proposed in a Service Response Message. The base station can use this message to propose a service configuration, or to reject a service configuration proposed in a Service Response Message.

2. **Service Response Message**: The mobile station can use this message to accept or reject a service configuration proposed in a Service Request Message, or to propose an alternative service configuration. The base station can use this message to reject a service configuration proposed in a Service Request Message, or to propose an alternative service configuration.

3. **Service Connect Message**: The base station can use this message to accept a service configuration proposed in a Service Request Message or Service Response Message, and to instruct the mobile station to begin using the service configuration.

4. **Service Connect Completion Message**: The mobile station can use this message to acknowledge the transition to a new service configuration.

5. **Service Option Control Message**: The mobile station and base station can use this message to invoke service-option-specific functions.

6. **Extended Channel Assignment Message**: The base station can use this message to accept or reject the initial service configuration proposed by the mobile station in an Origination Message or a Page Response Message.

The following messages are used to support service option negotiation:

1. **Service Option Request Order**: The mobile station and base station can use this message either to request a service option or to suggest an alternative service option.

2. **Service Option Response Order**: The mobile station and base station can use this message to accept or to reject a service option request.

3. **Service Option Control Order**: The mobile station and base station can use this message to invoke service option specific functions.

The following messages are used to support both service negotiation and service option negotiation:
1. **Origination Message**: The mobile station can use this message to propose an initial service configuration.

2. **Channel Assignment Message**: The base station can use this message to accept or to reject the initial service configuration proposed by the mobile station in an *Origination Message* or a *Page Response Message* and to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used during the call.

3. **Extended Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff.

4. **General Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff. The base station can use this message to accept a service configuration proposed in a *Service Request Message* or *Service Response Message*. The base station can also use this message to instruct the mobile station to begin using the service configuration.

5. **General Page Message**: The base station can use this message to propose an initial service configuration.

6. **Page Response Message**: The mobile station can use this message to accept or to reject the initial service configuration proposed by the base station in a *General Page Message*, or to propose an alternative initial service configuration.

7. **Status Request Message**: The base station can use this message to request service capability information from the mobile station.

8. **Status Response Message**: The mobile station can use this message to return the service capability information requested by the base station in a *Status Request Message*.

9. **Extended Status Response Message**: The mobile station can use this message to return the service capability information requested by the base station in a *Status Request Message*.

10. **Universal Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff. The base station can use this message to accept a service configuration proposed in a *Service Request Message* or *Service Response Message*. The base station can also use this message to instruct the mobile station to begin using the service configuration.

2.6.4.1.2.1 Use of Variables

2.6.4.1.2.1.1 Maintaining the Service Request Sequence Number

The mobile station shall maintain a service request sequence number variable, SERV_REQ_NUMS, for use with service negotiation. Upon entering the Mobile Station Control on the Traffic Channel State, the mobile station shall set SERV_REQ_NUMS to 0.
Each time the mobile station sends a new Service Request Message, it shall set the SERV_REQ_SEQ field of the message to the current value of SERV_REQ_NUMs, and shall then set SERV_REQ_NUMs equal to (SERV_REQ_NUMs + 1) modulo 8.

2.6.4.1.2.1.2 Maintaining the Service Negotiation Indicator Variable

The mobile station shall maintain a service negotiation indicator variable, SERV_NEGs, to indicate which type of negotiation to use, either service negotiation or service option negotiation. The mobile station shall set SERV_NEGs to enabled whenever service negotiation is to be used, and shall set SERV_NEGs to disabled whenever service option negotiation is to be used. The precise rules for setting SERV_NEGs are specified in 2.6.4.2 and 2.6.6.2.5.1.

For CDMA operation in band classes other than Band Class 0, the mobile station shall set SERV_NEGs to enabled.

2.6.4.1.2.1.3 Maintaining the Service Option Request Number

The mobile station shall maintain a service option request number variable, SO_REQs, for use with service option negotiation. The mobile station shall set SO_REQs to a special value, NULL, if the mobile station does not have an outstanding service option request. If the mobile station has an outstanding service option request, the mobile station shall set SO_REQs to the number of the service option associated with the outstanding request.

2.6.4.1.2.2 Service Subfunctions

As illustrated in Figure 2.6.4.1.2.2-1, the mobile station supports service configuration and negotiation by performing the following set of service subfunctions:

- **Normal Service Subfunction** - While this subfunction is active, the mobile station processes service configuration requests from the user and from the base station.

- **Waiting for Service Request Message Subfunction** - While this subfunction is active, the mobile station waits to receive a Service Request Message.

- **Waiting for Service Response Message Subfunction** - While this subfunction is active, the mobile station waits to receive a Service Response Message.

- **Waiting for Service Connect Message Subfunction** - While this subfunction is active, the mobile station waits to receive a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record.

- **Waiting for Service Action Time Subfunction** - While this subfunction is active, the mobile station waits for the action time associated with a new service configuration and then sends a Service Connect Completion Message, or a Handoff Completion Message accordingly.

- **SO Negotiation Subfunction** - While this subfunction is active, the mobile station supports service option negotiation with the base station. This subfunction is only used while operating in Band Class 0.
The *SO Negotiation Subfunction* supports service option negotiation. All of the other service subfunctions support service negotiation.

At any given time during Traffic Channel operation, only one of the service subfunctions is active. For example, when the mobile station first enters the *Traffic Channel Initialization Substate* of the *Mobile Station Control on the Traffic Channel State*, the *Normal Service Subfunction*, the *Waiting for Service Connect Message Subfunction* or the *SO Negotiation Subfunction* is active. Each of the other service subfunctions may become active in response to various events which occur during the Traffic Channel substates. Typically, the mobile station processes events pertaining to service configuration and negotiation in accordance with the requirements for the active service subfunction, however, some Traffic Channel substates do not allow for the processing of certain events pertaining to service configuration and negotiation, or specify requirements for processing such events which supersede the requirements of the active service subfunction.
Figure 2.6.4.1.2.2-1. Mobile Station Service Subfunctions
2.6.4.1.2.2.1 Normal Service Subfunction

While this subfunction is active, the mobile station processes service configuration requests from the user and from the base station.

While the Normal Service Subfunction is active, the mobile station shall perform the following:

- The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The mobile station shall discard any Forward Traffic Channel frame which has a format that is not supported by the mobile station. The mobile station may discard any type of Forward Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- To initiate service negotiation for a new service configuration, the mobile station shall send a Service Request Message to propose the new service configuration. The mobile station shall activate the Waiting for Service Response Message Subfunction.

- For any service option connection that is part of the current service configuration, the mobile station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.

- If SERV_NEGs changes from enabled to disabled (see 2.6.6.2.5.1), the mobile station shall activate the SO Negotiation Subfunction.

- If the mobile station receives one of the following service negotiation messages, the mobile station shall process the message according to the specified requirements:

  1. Service Connect Message:

     If the mobile station accepts the service configuration specified in the message, the mobile station shall activate the Waiting for Service Action Time Subfunction; otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000111’) within T56m seconds.

  2. Service Option Control Message: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the mobile station shall interpret the action time of the message as specified in 2.6.4.1.5, and shall process the message in accordance with the requirements for the service option; otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000111’) within T56m seconds.

  3. Service Request Message: The mobile station shall process the message as follows:

     - If the purpose of the message is to reject a proposed service configuration, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000010’) within T56m seconds.
– If the purpose of the message is to propose a service configuration, the mobile station shall process the message as follows:

+ If the mobile station accepts the proposed service configuration, the mobile station shall send a Service Response Message to accept the proposed service configuration within $T_{59m}$ seconds. The mobile station shall activate the Waiting for Service Connect Message Subfunction.

+ If the mobile station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the mobile station shall send a Service Response Message to reject the proposed service configuration within $T_{59m}$ seconds.

+ If the mobile station does not accept the proposed service configuration and has an alternative service configuration to propose, the mobile station shall send a Service Response Message to propose the alternative service configuration within $T_{59m}$ seconds. The mobile station shall activate the Waiting for Service Request Message Subfunction.

4. Service Response Message: The mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000010’) within $T_{56m}$ seconds.

5. General Handoff Direction Message: If the SCR_INCLUDED field is included in this message and is set to ‘1’:

   If the mobile station has not rejected this message, the mobile station shall activate the Waiting for Service Action Time Subfunction.

6. Universal Handoff Direction Message: If the SCR_INCLUDED field is included in this message and is set to ‘1’:

   If the mobile station has not rejected this message, the mobile station shall activate the Waiting for Service Action Time Subfunction.

   • If the mobile station receives one of the following service option negotiation messages, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000010’) within $T_{56m}$ seconds:

      1. Service Option Request Order
      2. Service Option Response Order
      3. Service Option Control Order

2.6.4.1.2.2.2 Waiting for Service Request Message Subfunction

While this subfunction is active, the mobile station waits to receive a Service Request Message.

Upon activation of the Waiting for Service Request Message Subfunction, the mobile station shall set the subfunction timer for $T_{68m}$ seconds.

While the Waiting for Service Request Message Subfunction is active, the mobile station shall perform the following:
If the subfunction timer expires, the mobile station shall activate the *Normal Service Subfunction*.

The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The mobile station shall discard any Forward Traffic Channel frame which has a format that is not supported by the mobile station. The mobile station may discard any type of Forward Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

The mobile station shall not initiate service negotiation for a new service configuration.

For any service option connection that is part of the current service configuration, the mobile station may send a *Service Option Control Message* to invoke a service option specific function in accordance with the requirements for the associated service option.

If SERV_NEG$_S$ changes from enabled to disabled (see 2.6.6.2.5.1), the mobile station shall activate the *SO Negotiation Subfunction*.

If the mobile station receives one of the following service negotiation messages, the mobile station shall process the message according to the specified requirements:

1. *Service Connect Message*:

   If the mobile station has not rejected this message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall activate the *Normal Service Subfunction*.

2. *Service Option Control Message*: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the mobile station shall interpret the action time of the message as specified in 2.6.4.1.5, and shall process the message in accordance with the requirements for the service option; otherwise, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = ‘00000111’) within T$_{56m}$ seconds.

3. *Service Request Message*: The mobile station shall process the message as follows:

   - If the purpose of the message is to reject a proposed service configuration, the mobile station shall activate the *Normal Service Subfunction*.

   - If the purpose of the message is to propose a service configuration, the mobile station shall process the message as follows:

     + If the mobile station accepts the proposed service configuration, the mobile station shall send a *Service Response Message* to accept the proposed service configuration within T$_{59m}$ seconds. The mobile station shall activate the *Waiting for Service Connect Message Subfunction*.
+ If the mobile station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the mobile station shall send a *Service Response Message* to reject the proposed service configuration within $T_{59m}$ seconds. The mobile station shall activate the *Normal Service Subfunction*.

+ If the mobile station does not accept the proposed service configuration and has an alternative service configuration to propose, the mobile station shall send a *Service Response Message* to propose the alternative service configuration within $T_{59m}$ seconds. The mobile station shall reset the subfunction timer for $T_{68m}$ seconds.

4. *Service Response Message*: The mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000010') within $T_{56m}$ seconds.

5. *General Handoff Direction Message*: If the SCR_INCLUDED field is included in this message and is set to ‘1’:
   
   If the mobile station has not rejected this message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall activate the *Normal Service Subfunction*.

6. *Universal Handoff Direction Message*: If the SCR_INCLUDED field is included in this message and is set to ‘1’:
   
   If the mobile station has not rejected this message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall activate the *Normal Service Subfunction*.

   • If the mobile station receives one of the following service option negotiation messages, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000010') within $T_{56m}$ seconds:
     
     1. *Service Option Request Order*
     2. *Service Option Response Order*
     3. *Service Option Control Order*

2.6.4.1.2.2.2.3 Waiting for Service Response Message Subfunction

While this subfunction is active, the mobile station waits to receive a *Service Response Message*.

Upon activation of the *Waiting for Service Response Message Subfunction*, the mobile station shall set the subfunction timer for $T_{68m}$ seconds.

While the *Waiting for Service Response Message Subfunction* is active, the mobile station shall perform the following:

• If the subfunction timer expires, the mobile station shall activate the *Normal Service Subfunction*. 
• The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The mobile station shall discard any Forward Traffic Channel frame which has a format that is not supported by the mobile station. The mobile station may discard any type of Forward Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

• The mobile station shall not initiate service negotiation for a new service configuration.

• For any service option connection that is part of the current service configuration, the mobile station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.

• If SERV_NEG changes from enabled to disabled (see 2.6.6.2.5.1), the mobile station shall activate the SO Negotiation Subfunction.

• If the mobile station receives one of the following service negotiation messages, the mobile station shall process the message according to the specified requirements:

1. Service Connect Message:

   If the mobile station accepts the service configuration specified in the message, the mobile station shall activate the Waiting for Service Action Time Subfunction; otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000111’) within T56m seconds and shall activate the Normal Service Subfunction.

2. Service Option Control Message: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the mobile station shall interpret the action time of the message as specified in 2.6.4.1.5, and shall process the message in accordance with the requirements for the service option; otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000111’) within T56m seconds.

3. Service Request Message: The mobile station shall process the message as follows:

   - If the purpose of the message is to reject a proposed service configuration, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000010’) within T56m seconds.

   - If the purpose of the message is to propose a service configuration, the mobile station shall discontinue processing the service configuration requested by the user and shall process the message as follows:
+ If the mobile station accepts the proposed service configuration, the mobile station shall send a Service Response Message to accept the proposed service configuration within T59m seconds. The mobile station shall activate the Waiting for Service Connect Message Subfunction.

+ If the mobile station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the mobile station shall send a Service Response Message to reject the proposed service configuration within T59m seconds. The mobile station shall activate the Normal Service Subfunction.

+ If the mobile station does not accept the proposed service configuration and has an alternative service configuration to propose, the mobile station shall send a Service Response Message to propose the alternative service configuration within T59m seconds. The mobile station shall activate the Waiting for Service Request Message Subfunction.

4. Service Response Message: The mobile station shall process the message as follows:

- If the service request sequence number (SERV_REQ_SEQ) from the message does not match the sequence number of the Service Request Message for which the mobile station is expecting a response, the mobile station shall not process the other Layer-3 fields of the message.

- If the purpose of the message is to reject the service configuration proposed in the corresponding Service Request Message, the mobile station shall activate the Normal Service Subfunction. The mobile station may indicate to the user that the requested service configuration has been rejected.

- If the purpose of the message is to propose a service configuration, the mobile station shall process the message as follows:

  + If the mobile station accepts the proposed service configuration, the mobile station shall send a Service Request Message to accept the proposed service configuration within T59m seconds. The mobile station shall activate the Waiting for Service Connect Message Subfunction.

  + If the mobile station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the mobile station shall send a Service Request Message to reject the proposed service configuration within T59m seconds. The mobile station shall activate the Normal Service Subfunction.

  + If the mobile station does not accept the proposed service configuration and has an alternative service configuration to propose, the mobile station shall send a Service Request Message to propose the alternative service configuration within T59m seconds. The mobile station shall reset the subfunction timer for T68m seconds.

5. General Handoff Direction Message: If the SCR_INCLUDED field is included in
This message and is set to ‘1’:

If the mobile station has not rejected this message, the mobile station shall activate the Waiting for Service Action Time Subfunction; otherwise, the mobile station shall activate the Normal Service Subfunction.

6. **Universal Handoff Direction Message**: If the SCR_INCLUDED field is included in this message and is set to ‘1’:

If the mobile station has not rejected this message, the mobile station shall activate the Waiting for Service Action Time Subfunction; otherwise, the mobile station shall activate the Normal Service Subfunction.

- If the mobile station receives one of the following service option negotiation messages, the mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000010’) within T56m seconds:
  1. **Service Option Request Order**
  2. **Service Option Response Order**
  3. **Service Option Control Order**

2.6.4.1.2.2.4 Waiting for Service Connect Message Subfunction

While this subfunction is active, the mobile station waits to receive a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record.

Upon activation of the Waiting for Service Connect Message Subfunction, the mobile station shall set the subfunction timer for T65m seconds.

While the Waiting for Service Connect Message Subfunction is active, the mobile station shall perform the following:

- If the subfunction timer expires, the mobile station shall activate the Normal Service Subfunction.

- The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The mobile station shall discard any Forward Traffic Channel frame which has a format that is not supported by the mobile station. The mobile station may discard any type of Forward Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- The mobile station shall not initiate service negotiation for a new service configuration.

- For any service option connection that is part of the current service configuration, the mobile station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.
- If SERV_NEG changes from enabled to disabled (see 2.6.2.5.1), the mobile station shall activate the *SO Negotiation Subfunction*.

- If the mobile station receives one of the following service negotiation messages, the mobile station shall process the message according to the specified requirements:

  1. **Service Connect Message:**
     
     If the mobile station accepts the service configuration specified in the message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000111') within T56m seconds and shall activate the *Normal Service Subfunction*.

  2. **Service Option Control Message:** If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the mobile station shall interpret the action time of the message as specified in 2.6.4.1.5, and shall process the message in accordance with the requirements for the service option; otherwise, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000111') within T56m seconds.

  3. **Service Request Message:** The mobile station shall process the message as follows:
     
     - If the purpose of the message is to reject a proposed service configuration, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000010') within T56m seconds.
     
     - If the purpose of the message is to propose a service configuration, the mobile station shall process the message as follows:
       
       + If the mobile station accepts the proposed service configuration, the mobile station shall send a *Service Response Message* to accept the proposed service configuration within T59m seconds. The mobile station shall reset the subfunction timer for T65m seconds.

       + If the mobile station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the mobile station shall send a *Service Response Message* to reject the proposed service configuration within T59m seconds. The mobile station shall activate the *Normal Service Subfunction*.

       + If the mobile station does not accept the proposed service configuration and has an alternative service configuration to propose, the mobile station shall send a *Service Response Message* to propose the alternative service configuration within T59m seconds. The mobile station shall activate the *Waiting for Service Request Message Subfunction*.

  4. **Service Response Message:** The mobile station shall send a *Mobile Station Reject Order* (ORDQ = '00000010') within T56m seconds.
5. **General Handoff Direction Message:** If the SCR_INCLUDED field is included in this message and is set to ‘1’:
   
   If the mobile station has not rejected this message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall activate the *Normal Service Subfunction*.

6. **Universal Handoff Direction Message:** If the SCR_INCLUDED field is included in this message and is set to ‘1’:

   If the mobile station has not rejected this message, the mobile station shall activate the *Waiting for Service Action Time Subfunction*; otherwise, the mobile station shall activate the *Normal Service Subfunction*.

   - If the mobile station receives one of the following service option negotiation messages, the mobile station shall send a *Mobile Station Reject Order* (ORDQ = ‘00000010’) within T56m seconds:
     
     1. *Service Option Request Order*
     2. *Service Option Response Order*
     3. *Service Option Control Order*

2.6.4.1.2.2.5 *Waiting for Service Action Time Subfunction*

While this subfunction is active, the mobile station waits for the action time associated with a new service configuration. If the action time was specified by a *Service Connect Message*, the mobile station shall send the *Service Connect Completion Message* at the action time.

While the *Wait for Service Action Time Subfunction* is active, the mobile station shall perform the following:

- Prior to the action time associated with the *Service Connect Message*, *General Handoff Direction Message*, or *Universal Handoff Direction Message* containing a service configuration record, the mobile station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The mobile station shall discard any Forward Traffic Channel frame which has a format that is not supported by the mobile station. The mobile station may discard any type of Forward Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.
At the action time associated with the Service Connect Message, General Handoff Direction Message or Universal Handoff Direction Message containing a service configuration record, the mobile station shall process the received Service Configuration Record as specified in 2.6.4.1.14, shall process the received Non-negotiable Service Configuration Record (if included) as specified in 2.6.4.1.15, and shall begin to use the service configuration specified by the Service Connect Message, General Handoff Direction Message or Universal Handoff Direction Message containing a service configuration record as the current service configuration and shall begin to process Forward and Reverse Traffic Channel frames accordingly. If the action time was specified by a Service Connect Message, the mobile station shall send a Service Connect Completion Message within $T_{56m}$ seconds after the action time. The mobile station shall exit this subfunction and activate the Normal Service Subfunction.

- The mobile station shall not initiate service negotiation for a new service configuration.
- For any service option connection that is part of the current or pending service configuration, the mobile station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.
- If SERV_NEGs changes from enabled to disabled (see 2.6.6.2.5.1), the mobile station shall activate the SO Negotiation Subfunction.
- If the mobile station receives one of the following service negotiation messages, the mobile station shall process the message according to the specified requirements:
  1. Service Connect Message: The mobile station shall send a Mobile Station Reject Order (ORDQ = '00000010') within $T_{56m}$ seconds.
  2. Service Option Control Message: If the service option connection specified by the message is part of the current or pending service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the mobile station shall interpret the action time of the message as specified in 2.6.4.1.5, and shall process the message in accordance with the requirements for the service option; otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = '00000111') within $T_{56m}$ seconds.
  3. Service Request Message: The mobile station shall send a Mobile Station Reject Order (ORDQ = '00000010') within $T_{56m}$ seconds.
  4. Service Response Message: The mobile station shall send a Mobile Station Reject Order (ORDQ = '00000010') within $T_{56m}$ seconds.
  5. General Handoff Direction Message: If the SCR_INCLUDED field is included in this message and is set to ‘1’:
     If the mobile station has not rejected this message, the mobile station shall remain in this subfunction until the action time specified in the message, and
shall begin to use the service configuration specified by the General Handoff Direction Message at the action time.

6. Universal Handoff Direction Message: If the SCR_INCLUDED field is included in this message and is set to ‘1’:

If the mobile station has not rejected this message, the mobile station shall remain in this subfunction until the action time specified in the message, and shall begin to use the service configuration specified by the Universal Handoff Direction Message at the action time.

- If the mobile station receives one of the following service option negotiation messages, the mobile station shall send a Mobile Station Reject Order (ORDQ = '00000010') within T56m seconds:
  1. Service Option Request Order
  2. Service Option Response Order
  3. Service Option Control Order

2.6.4.1.2.2.6 SO Negotiation Subfunction

The SO Negotiation Subfunction is only supported for mobile stations operating in Band Class 0.

Upon activation of the SO Negotiation Subfunction, the mobile station shall delete from the current service configuration any service option connection which does not use primary traffic on both the Forward and Reverse Traffic Channels.

While the SO Negotiation Subfunction is active, the mobile station shall perform the following:

- If the current service configuration includes a service option connection, the mobile station shall process the received primary traffic bits in accordance with the requirements for the service option associated with the service option connection; otherwise, the mobile station shall discard the received primary traffic bits.

- If the current service configuration includes a service option connection, the mobile station shall transmit primary traffic bits in accordance with the requirements for the service option associated with the service option connection; otherwise, the mobile station shall transmit null traffic on the Reverse Fundamental Channel, if the Fundamental Channel is present or transmit power control bits on the Reverse Pilot Channel, if only the Dedicated Control Channel is present.

- If the current service configuration includes a service option connection, the mobile station may send a Service Option Control Order to invoke a service option specific function in accordance with the requirements for the service option associated with the service option connection.

- To initiate service option negotiation, the mobile station shall set SO_REQs to the number of the requested service option and shall send a Service Option Request Order containing the requested service option number.
If SERV_NEGs changes from disabled to enabled (see 2.6.6.2.5.1), the mobile station shall set SO_REQs to NULL and shall activate the Normal Service Subfunction.

If the mobile station receives a Service Option Request Order, it shall process the order as follows:

- If the mobile station accepts the requested service option, the mobile station shall set SO_REQs to NULL and shall send a Service Option Response Order accepting the requested service option within T_{58m} seconds. The mobile station shall interpret the message action time of the Service Option Request Order in accordance with the requirements for the requested service option and the mobile station shall begin using the service configuration implied by the requested service option in accordance with those requirements. The implied service configuration shall include the default Forward and Reverse multiplex options and radio configurations associated with the requested service option, and shall include one service option connection for which the service option connection reference is 1, the service option is the requested service option, and the Forward and Reverse Traffic Channel types are both primary traffic.

- If the mobile station does not accept the requested service option and has an alternative service option to request, the mobile station shall set SO_REQs to the alternative service option number and shall send a Service Option Request Order requesting the alternative service option within T_{58m} seconds.

- If the mobile station does not accept the requested service option and does not have an alternative service option to request, the mobile station shall set SO_REQs to NULL and shall send a Service Option Response Order to reject the request within T_{58m} seconds. The mobile station shall continue to use the current service configuration.

If the mobile station receives a Service Option Response Order, it shall process the order as follows:

- If the service option number specified in the order is equal to SO_REQs, the mobile station shall set SO_REQs to NULL. The mobile station shall interpret the message action time of the Service Option Response Order in accordance with the requirements for the specified service option, and the mobile station shall begin using the service configuration implied by the specified service option in accordance with those requirements. The implied service configuration shall include the default Forward and Reverse multiplex options radio configurations associated with the specified service option, and shall include one service option connection for which the service option connection reference is 1, the service option is the specified service option, and the Forward and Reverse Traffic Channel types are both primary traffic.

- If the order indicates a service option rejection, the mobile station shall set SO_REQs to NULL. The mobile station shall continue to use the current service configuration.
– If the order does not indicate a service option rejection and the service option specified in the order is not equal to SO_REQs, the mobile station shall set SO_REQs to NULL and shall send a Mobile Station Reject Order (ORDQ = '00000100') within T58m seconds. The mobile station shall continue to use the current service configuration.

- If the mobile station receives a Service Option Control Order, it shall process the order as follows:
  - If the current service configuration includes a service option connection, the mobile station shall interpret the message action time of the Service Option Control Order in accordance with the requirements for the service option associated with the service option connection and the mobile station shall process the Service Option Control Order in accordance with those requirements;
  - otherwise, the mobile station shall send a Mobile Station Reject Order (ORDQ = '00000001') within T56m seconds.

- If the mobile station receives one of the following service negotiation messages, the mobile station shall send a Mobile Station Reject Order (ORDQ = '00000010') within T56m seconds:
  1. Service Connect Message
  2. Service Option Control Message
  3. Service Request Message
  4. Service Response Message

### 2.6.4.1.3 Ordering of Messages

The Layer 2 protocol does not guarantee delivery of messages in any order. If the mobile station requires that the base station receive a set of messages in a certain order, the mobile station shall send each message in assured mode requiring confirmation of delivery and shall wait for the confirmation of delivery of each message before transmitting the next message in the set.

### 2.6.4.1.4 Processing the In-Traffic System Parameters Message

The mobile station shall store the following parameters from the In-Traffic System Parameters Message:

- System identification (SIDₜ = SIDᵣ)
- Network identification (NIDₜ = NIDᵣ)
- Search window size for the Active Set and the Candidate Set (SRCH_WINₐₛ = SRCH_WINₐᵣ)
- Search window size for the Neighbor Set (SRCH_WINₙₛ = SRCH_WINₙᵣ)
- Search window size for the Remaining Set (SRCH_WINᵣₛ = SRCH_WINᵣᵣ)
- Pilot detection threshold (T_ADDₛ = T_ADDᵣ)
• Pilot drop threshold \( T_{\text{DROP}} = T_{\text{DROP}_{r}} \)

• Active Set versus Candidate Set comparison threshold \( T_{\text{COMP}} = T_{\text{COMP}_{r}} \)

• Drop timer value \( T_{\text{TDROP}} = T_{\text{TDROP}_{r}} \)

• Maximum age for retention of Neighbor Set members \( \text{NGHBR\_MAX\_AGE}_{s} = \text{NGHBR\_MAX\_AGE}_{r} \)

• Protocol revision level \( \text{P\_REV}_{s} = \text{P\_REV}_{r} \), and protocol revision level currently in use \( \text{P\_REV\_IN\_USE}_{s} = \min (\text{P\_REV}_{s}, \text{MOB\_P\_REV}_{p} \text{ of the current band class}) \)

• Slope of the handoff add/drop criterion \( \text{SOFT\_SLOPE}_{s} = \text{SOFT\_SLOPE}_{r} \)

• Intercept of the handoff add criterion \( \text{ADD\_INTERCEPT}_{s} = \text{ADD\_INTERCEPT}_{r} \)

• Intercept of the handoff drop criterion \( \text{DROP\_INTERCEPT}_{s} = \text{DROP\_INTERCEPT}_{r} \)

• If included, Reverse Supplemental Code Channel or Reverse Supplemental Channel neighbor pilot strength measurement transmission threshold offset threshold \( T_{\text{MULCHAN}} = T_{\text{MULCHAN}_{r}} \)

• If included, Reverse Supplemental Code Channel beginning of transmission preamble length \( \text{BEGIN\_PREAMBLE}_{s} = \text{BEGIN\_PREAMBLE}_{r} \)

• If included, Reverse Supplemental Code Channel discontinuous transmission resumption preamble length \( \text{RESUME\_PREAMBLE}_{s} = \text{RESUME\_PREAMBLE}_{r} \)

• If included, Slotted Timer \( T_{\text{SLOTTED}} = T_{\text{SLOTTED}_{r}} \)

If the mobile station supports packet data service options, the mobile station shall store the packet data services zone identifier \( \text{PACKET\_ZONE\_ID}_{s} = \text{PACKET\_ZONE\_ID}_{r} \).

The mobile station shall determine its roaming status (see 2.6.5.3). The mobile station should indicate to the user whether the mobile station is roaming.

2.6.4.1.5 Message Action Times

A Forward Traffic Channel message without a USE\_TIME field or with a USE\_TIME field set to ‘0’ has an implicit action time. A message that has its USE\_TIME field set to ‘1’ has an explicit action time that is specified in the ACTION\_TIME field of the message.

A message with an explicit action time is called a pending message.

Unless otherwise specified, a message having an implicit action time shall take effect no later than the first 80 ms boundary (relative to System Time) occurring at least 80 ms after the end of the frame containing the last bit of the message. A message with an explicit action time, except for a Power Up Function Message, shall take effect when System Time (in 80 ms units) modulo 64 becomes equal to the message’s ACTION\_TIME field. A Power Up Function Message shall take effect ACTION\_TIME\_FRAME frames after the time when System Time (in 80 ms units) modulo 64 becomes equal to the message’s ACTION\_TIME field. The difference in time between ACTION\_TIME and the end of the frame containing the last bit of the message shall be at least 80 ms.

The mobile station shall support two pending messages at any given time, not including pending Service Option Control Orders or Service Option Control Messages. The number of
pending Service Option Control Orders or Service Option Control Messages that the mobile station is required to support is specific to the service option (see the relevant service option description). In addition, the mobile station shall support one pending Power Up Function Message.

2.6.4.1.6 Long Code Transition Request Processing

The mobile station performs these procedures upon receiving a Long Code Transition Request Order.

If the Long Code Transition Request Order requests a transition to the private long code, and the mobile station is able to generate the private long code (see 2.3.12.3), and the mobile station accepts the request, the mobile station shall send a Long Code Transition Response Order (ORDQ = '00000011') within T_{56m} seconds. The mobile station shall use the private long code on both the Forward Traffic Channel and the Reverse Traffic Channel. The mobile station shall begin using the private long code using the explicit action time (see 2.6.4.1.5) specified in the message. The mobile station should indicate to the user that the voice privacy mode is active. If the Long Code Transition Request Order requests a private long code transition, and the mobile station is not able to generate the private long code or the mobile station does not accept the request, the mobile station shall send a Long Code Transition Response Order (ORDQ = '00000010') within T_{56m} seconds.

If the Long Code Transition Request Order requests a transition to the public long code and the mobile station accepts the request, the mobile station shall send a Long Code Transition Response Order (ORDQ = '00000010') within T_{56m} seconds. The mobile station shall use the public long code on both the Forward Traffic Channel and the Reverse Traffic Channel. The mobile station shall begin using the public long code using the explicit action time (see 2.6.4.1.5) specified in the message. The mobile station should indicate to the user that the voice privacy mode is inactive. If the Long Code Transition Request Order requests a public long code transition, and the mobile station does not accept the request, the mobile station shall send a Long Code Transition Response Order (ORDQ = '00000011') within T_{56m} seconds.

2.6.4.1.7 Power Up Function (PUF)

Figure 2.6.4.1.7-1 illustrates the general structure of a PUF attempt. A PUF pulse is the interval during which the mobile station transmits at the specified power level while executing the Power Up Function.

A PUF probe is one or more consecutive Traffic Channel frames. A PUF probe consists of three parts: PUF setup, PUF pulse, and PUF recovery. PUF_SETUP_SIZE is the duration of the PUF setup part, in power control groups. PUF_PULSE_SIZE is the duration of the PUF pulse, in power control groups. The PUF recovery period occupies the remainder of the last frame of the PUF probe.

A PUF attempt is a sequence of PUF probes sent by the mobile station in response to a Power Up Function Message. A PUF attempt begins at an offset frame boundary within 80 ms of the ACTION_TIME specified in the Power Up Function Message. A PUF attempt can be terminated in one of four ways:
- The mobile station receives a *Power Up Function Completion Message*.
- The mobile station has transmitted the maximum number of PUF probes specified in the *Power Up Function Message*.
- The mobile station has transmitted the maximum number of probes allowed at its maximum output power.
- The mobile station receives a new *Power Up Function Message*.

![Figure 2.6.4.1.7-1. Structure of PUF Attempt](image)

2.6.4.1.7.1 Processing the Power Up Function Message

The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000110’ (message requires a capability that is not supported by the mobile station) if any of the following conditions are detected:

- PUF_FREQ_INCL is set to 1 and PUF_BAND_CLASS is not supported by the mobile station.
- PUF_FREQ_INCL is set to 1 and the mobile station is unable to re-tune to the PUF Target Frequency during (PUF_SETUP_SIZE + 1) power control groups.
- \text{MOB\_P\_REV}_p is not equal to five and the mobile station does not support the Power Up Function.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00001100' (invalid Frequency Assignment), if the Frequency Assignment specified in the message is the same as the Serving Frequency (\text{PUF\_FREQ\_INCL}_r is equal to '1', \text{PUF\_BAND\_CLASS}_r is equal to \text{CDMABAND}_s and \text{PUF\_CDMA\_FREQ}_r is equal to \text{CDMACH}_s).

If the mobile station is processing a PUF probe, the mobile station shall wait for the PUF probe to complete. It shall then terminate the current PUF attempt. The mobile station shall store the following parameters:

- Maximum number of PUF probes transmitted at full power level (\text{MAX\_PWR\_PUF}_s = \text{MAX\_PWR\_PUF}_r + 1)
- Total number of PUF probes (\text{TOTAL\_PUF\_PROBES}_s = \text{TOTAL\_PUF\_PROBES}_r + 1)
- PUF interval (\text{PUF\_INTERVAL}_s = \text{PUF\_INTERVAL}_r)
- Number of PUF setup power control groups (\text{PUF\_SETUP\_SIZE}_s = \text{PUF\_SETUP\_SIZE}_r + 1)
- Number of PUF pulse power control groups (\text{PUF\_PULSE\_SIZE}_s = \text{PUF\_PULSE\_SIZE}_r + 1)
- Power increase of initial PUF pulse (\text{PUF\_INIT\_PWR}_s = \text{PUF\_INIT\_PWR}_r)
- Power increase for each successive PUF pulse (\text{PUF\_PWR\_STEP}_s = \text{PUF\_PWR\_STEP}_r)
- Frequency included indicator (\text{PUF\_FREQ\_INCL}_s = \text{PUF\_FREQ\_INCL}_r)

If \text{PUF\_FREQ\_INCL}_s equals '1', the mobile station shall store the following:

- PUF probe Target Frequency CDMA Channel number (\text{PUF\_TF\_CDMACH}_s = \text{PUF\_CDMA\_FREQ}_r)
- PUF probe Target Frequency CDMA band class (\text{PUF\_TF\_CDMABAND}_s = \text{PUF\_BAND\_CLASS}_r)

The mobile station shall set \text{CURRENT\_PUF\_PROBE}_s equal to 0.

The mobile station shall then begin the PUF attempt at the time specified in 2.6.4.1.7.2.

2.6.4.1.7.2 Power Up Function Procedures

The mobile station shall process the initial PUF probe beginning at the start of the frame which starts \text{ACTION\_TIME\_FRAME}_r \times 20 \text{ ms} + \text{FRAME\_OFFSET}_s \times 1.25 \text{ ms} after the System Time specified by \text{ACTION\_TIME}_r. The mobile station shall process additional PUF probes beginning at intervals of \text{PUF\_INTERVAL}_s frames from the beginning of the initial PUF probe.

The mobile station shall transmit the PUF probes as described in 2.6.4.1.7.2.1 and 2.6.4.1.7.2.2.
2.6.4.1.7.2.1 PUF Probe On Serving Frequency
The mobile station shall process each PUF probe as follows:

- The mobile station shall use closed loop power control procedures as specified in [2].
- The mobile station shall use the gated output procedures specified in [2].
- The mobile station shall control its mean output power as specified in [2].
- The mobile station shall monitor its output power during the PUF pulse, and should monitor its output power at least once during each power control group of the PUF pulse. If the mobile station detects that the transmit power level specified in of [2] is equal to or greater than the maximum power output of the mobile station at any time during a PUF pulse, the mobile station shall decrement MAX_PWR_PUFs by one for that PUF pulse.
- The mobile station shall transmit the traffic channel preamble for the duration of the PUF probe on the Reverse Fundamental Code Channel.

After the processing of each PUF probe, the mobile station shall increment CURRENT_PUF_PROBES by 1. If MAX_PWR_PUFs is equal to 0, the mobile station shall terminate the PUF attempt. If CURRENT_PUF_PROBES equal to TOTAL_PUF_PROBES, the mobile station shall terminate the PUF attempt.

2.6.4.1.7.2.2 PUF Probe On PUF Target Frequency
The mobile station shall process each PUF probe as follows:

- The mobile station shall use closed loop power control procedures as specified in [2].
- The mobile station shall use the gated output procedures specified in [2].
- The mobile station shall control its mean output power as specified in [2].
- The mobile station shall store the following Serving Frequency parameters from its current configuration:
  - CDMA Band Class (PUF_SF_CDMABANDs = CDMABANDs)
  - Frequency assignment (PUF_SF_CDMACHs = CDMACHs)
- The mobile station shall monitor its output power during the PUF pulse, and should monitor its output power at least once during each power control group of PUF pulse. If the mobile station detects that the transmit power level specified in [2] is equal to or greater than the maximum power output of the mobile station at any time during a PUF pulse, the mobile station shall decrement the MAX_PWR_PUFs by one for that PUF pulse.
- At the beginning of the PUF probe, the mobile station shall disable its transmitter, stop processing the Forward Supplemental Code Channel (if any), or the Forward Supplemental Channel (if any), disable all corrections to the mobile station time reference (see [2]), tune to the CDMA channel specified by PUF_TF_CDMACHs, and PUF_TF_CDMABANDs and re-enable its transmitter.
The mobile station shall transmit the traffic channel preamble on the Reverse Fundamental Code Channel during the PUF pulse at PUF\_TX\_PWRs.

The mobile station should disable its transmitter immediately after the end of the PUF pulse, and shall disable its transmitter before the end of the first power control group after the PUF pulse. It shall then tune to its assigned CDMA channel as given by CDMACH\_S and CDMABAND\_S.

If the interval between the time that the mobile station tunes to the PUF Target Frequency and the time that it re-tunes to the Serving Frequency is equal to or greater than \((N_{2m} \times 0.02)\) seconds, the mobile station shall wait to receive a period of \((N_{3m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC\_PRI\_CHAN\_S.

The mobile station shall then re-enable its transmitter and re-enable any adjustments to the mobile station time reference.

If the Forward Supplemental Code Channel assignment has not expired while the mobile station has tuned to the PUF Target Frequency, then the mobile station shall resume processing the Forward Supplemental Code Channels after re-tuning to the Serving Frequency.

If the Forward Supplemental Channel assignment has not expired while the mobile station has tuned to the PUF Target Frequency, then the mobile station shall resume processing the Forward Supplemental Channels after re-tuning to the Serving Frequency.

If the Reverse Supplemental Code Channel assignment has not expired while the mobile station has tuned to the PUF Target Frequency, then the mobile station may resume transmitting the Reverse Supplemental Code Channels after re-tuning to the Serving Frequency.

If the Reverse Supplemental Channel assignment has not expired while the mobile station has tuned to the PUF Target Frequency, then the mobile station may resume transmitting the Reverse Supplemental Code Channels after re-tuning to the Serving Frequency.

After the processing of each PUF probe, the mobile station shall increment CURRENT\_PUF\_PROBE\_S by one. If MAX\_PWR\_PUF\_S is equal to 0, the mobile station shall terminate the PUF attempt. If CURRENT\_PUF\_PROBE\_S is equal to TOTAL\_PUF\_PROBE\_S, the mobile station shall terminate the PUF attempt.

### 2.6.4.1.7.3 Processing the Power Up Function Completion Message

The mobile station shall terminate any PUF attempt no later than the completion of the current probe in progress and shall discard any pending Power Up Function Message. If LOC\_IND\_T is equal to ‘1’, the mobile station may store the following parameters:

- Mobile Station Latitude (MS\_LAT\_S = MS\_LAT\_T)
- Mobile Station Longitude (MS\_LONG\_S = MS\_LONG\_T)
- Time stamp (MS\_LOC\_TSTAMP\_S = MS\_LOC\_TSTAMP\_T)
2.6.4.1.8 Forward Traffic Channel Supervision

When in the *Mobile Station Control on the Traffic Channel State*, the mobile station shall continuously monitor the Forward Channel, except:

- During a PUF probe in which it transmits on a PUF target frequency (see 2.6.4.1.7),
- During a search of pilots on a CDMA Candidate Frequency (see 2.6.6.2.8.3),
- During a search of analog frequencies (see 2.6.6.2.10).

The mobile station shall monitor the physical channel corresponding to FPC_PRI_CHAN_s.

If the mobile station receives a period of \((N_{2m} \times 20)\) ms with insufficient signal quality (e.g. bad frames) on the physical channel corresponding to FPC_PRI_CHAN_s, it shall disable its transmitter. Thereafter, if the mobile station receives a period of \((N_{3m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN_s, then the mobile station should re-enable its transmitter.

The mobile station shall establish a Forward Traffic Channel fade timer. The timer shall be enabled when the mobile station first enables its transmitter when in the *Traffic Channel Initialization Substate* of the *Mobile Station Control on the Traffic Channel State*. The fade timer shall be reset for \(T_{5m}\) seconds whenever the mobile station receives a period of \((N_{3m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN_s. The mobile station shall disable the fade timer when it tunes to a PUF target frequency, and shall re-enable the fade timer at the end of the PUF probe. If the timer expires, the mobile station shall disable its transmitter and declare a loss of the Forward Traffic Channel.

The mobile station also enables, disables, and resets the fade timer when it performs a hard handoff or a periodic search, as described in 2.6.6.2.8 and 2.6.6.2.10.

2.6.4.1.9 Processing the Extended Release Message and the Extended Release Mini Message

- Upon receiving the *Extended Release Message* or the *Extended Release Mini Message*, the mobile station shall process the message as follows:
  - If the mobile station determines that the configuration specified by CH_INDr is not valid, the mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000111’ (message can not be handled by the current mobile station configuration) and the mobile station shall not perform the remaining procedures in this section.
  - If the physical channels indicated by the two least significant bits of CH_INDr includes all the physical channels (FCH, DCCH, or both) currently being processed by the mobile station, the mobile station shall perform the following:
    + Enter the *Release Substate* with a base station extended release indication if the message is the *Extended Release Message*.
    + Enter the *Release Substate* with a base station extended release with mini message indication if the message is the *Extended Release Mini Message*.
  - Otherwise, the mobile station shall perform the following:
If the received message is the *Extended Release Message*, the mobile station shall send an *Extended Release Response Message* to the base station. If the received message is the *Extended Release Mini Message*, the mobile station shall send an *Extended Release Response Mini Message* to the base station.

The mobile station shall update CH_INDs as follows: If the least significant bit of CH_INDr equals ‘1’, the mobile station shall set CH_INDs = ‘10’; if the second most significant bit of CH_INDr equals ‘1’, the mobile station shall set CH_INDs = ‘01’.

If CH_INDr is equal to ‘001’ or ‘101’, the mobile station shall set FPC_PRI_CHANs to ‘1’ at the action time of the message.

If CH_INDr is equal to ‘010’, the mobile station shall set FPC_PRI_CHANs to ‘0’ at the action time of the message.

If the least significant bit of CH_INDr equals ‘1’, then the mobile station shall stop transmitting on R-FCH and stop processing F-FCH at the action time specified by the message.

If the second most significant bit of CH_INDr equals ‘1’, then the mobile station shall stop transmitting on R-DCCH and stop processing F-DCCH at the action time specified by the message.

If GATING_RATE_INCLr equals ‘1’, the mobile station shall set PILOT_GATING_RATEs = PILOT_GATING_RATEr at the action time of the message.

If the most significant bit of CH_INDr equals ‘1’, the mobile station shall set PILOT_GATING_USE_RATE to ‘1’. The mobile station shall start the reverse pilot gating at PILOT_GATING_RATEs at the action time of the message. Furthermore, if the least significant bit of CH_INDr equals ‘1’ (that is, the Fundamental Channel is being released), the mobile station shall store the configuration used for the Fundamental Channel. The mobile station shall cancel the forward and reverse supplemental channel assignment, if any.

### 2.6.4.1.10 Processing the Resource Allocation Message and Resource Allocation Mini Message

The mobile station shall process the *Resource Allocation Message* and the *Resource Allocation Mini Message* as follows:

- The mobile station shall set FPC_PRI_CHANs = FPC_PRI_CHANr at the action time of the message.

- If the Fundamental Channel was previously established prior to transitioning to the Control Hold mode, the mobile station shall start processing F-FCH and start transmitting on R-FCH at the action time of the message. The mobile station shall establish the Fundamental Channel with the same configuration as previously used, and shall set CH_INDs to ‘11’. 
• The mobile station shall set PILOT_GATING_USE_RATE to ‘0’. The mobile station shall start the continuous reverse pilot at the action time of the message.

2.6.4.1.11 Reserved

2.6.4.1.12 Processing the Service Configuration Record
The mobile station shall update the Service Configuration information record currently in use as follows:

• The mobile station shall store the forward traffic channel multiplex option
  \[\text{FOR_MUX_OPTION}_s = \text{FOR_MUX_OPTION}_r\].

• The mobile station shall store the reverse traffic channel multiplex option
  \[\text{REV_MUX_OPTION}_s = \text{REV_MUX_OPTION}_r\].

• The mobile station shall store the transmission rates of the forward Fundamental
  /Dedicated Control traffic channel \[\text{FOR_RATES}_s = \text{FOR_RATES}_r\].

• The mobile station shall store the transmission rates of the reverse Fundamental
  /Dedicated Control traffic channel \[\text{REV_RATES}_s = \text{REV_RATES}_r\].

• The mobile station shall delete all instances of current service option connection
  records. For each of the \text{NUM_CON_REC}_r occurrences of the service option
  connection record \[\text{SO_CON_REC}[i]\], the mobile station shall perform the following:

  – The mobile station shall store the service option connection reference
    \[\text{SO_CON_REC}_s[i].\text{CON_REF} = \text{CON_REF}_r\].

  – The mobile station shall store the service option
    \[\text{SO_CON_REC}_s[i].\text{SERVICE_OPTION} = \text{SERVICE_OPTION}_r\].

  – The mobile station shall store the forward traffic channel traffic type
    \[\text{SO_CON_REC}_s[i].\text{FOR_TRAFFIC} = \text{FOR_TRAFFIC}_r\].

  – The mobile station shall store the reverse traffic channel traffic type
    \[\text{SO_CON_REC}_s[i].\text{REV_TRAFFIC} = \text{REV_TRAFFIC}_r\].

  – The mobile station shall store the encryption mode indicator for user information
    privacy \[\text{SO_CON_REC}_s[i].\text{UI_ENCRYPT_MODE} = \text{UI_ENCRYPT_MODE}_r\].

  – The mobile station shall store the service reference identifier
    \[\text{SO_CON_REC}_s[i].\text{SR_ID} = \text{SR_ID}_r\].

  – If \text{RLP_INFO_INCL}_r equals ‘1’, the mobile station shall store the Radio Link
    Protocol block of bits \[\text{SO_CON_REC}_s[i].\text{RLP_BLOB} = \text{RLP_BLOB}_r\].

• If \text{FCH_CC_INCL}_r equals ‘1’, the mobile station shall do the following:

  - The mobile station shall store the indicator for 5ms frames on Fundamental
    Channel as follows: if \text{FCH_FRAME_SIZE}_r equals ‘1’, the mobile station shall set
    \[\text{FCH_5MS_FRAMES}_s = ‘1’\]; otherwise, it is set to ‘0’.
- The mobile station shall store the Forward Fundamental Channel Radio Configuration (FOR_FCH_RC_S = FOR_FCH_RC_r).
- The mobile station shall store the Reverse Fundamental Channel Radio Configuration (REV_FCH_RC_S = REV_FCH_RC_r).

• If DCCH_CC_INCL_r equals ‘1’, the mobile station shall do the following:
  - The mobile station shall store the indicator for 5ms frames on Dedicated Control Channel as follows: If DCCH_FRAME_SIZE_r equals ‘10’ or ‘11’, the mobile station shall set DCCH_5MS_FRAMES_S = ‘1’; otherwise, it is set to ‘0’.
  - The mobile station shall store the Forward Dedicated Control Channel Radio Configuration (FOR_DCCH_RC_S = FOR_DCCH_RC_r).
  - The mobile station shall store the Reverse Dedicated Control Channel Radio Configuration (REV_DCCH_RC_S = REV_DCCH_RC_r).

• If FOR_SCH_CC_INCL_r equals ‘1’, the mobile station shall store the NUM_FOR_SCH_r occurrences of the Forward Supplemental Channel channel configuration records as follows:
  - The mobile station shall store the Forward Supplemental Channel Identification (FOR_SCH_ID[FOR_SCH_ID_r]_S = FOR_SCH_ID_r).
  - The mobile station shall store the Forward Supplemental Channel Multiplex Option (FOR_SCH_MUX[FOR_SCH_ID_r]_S = FOR_SCH_MUX_r).
  - The mobile station shall store the Forward Supplemental Channel Radio Configuration (FOR_SCH_RC[FOR_SCH_ID_r]_S = SCH_RC_r).
  - The mobile station shall store the Forward Supplemental Channel Coding Type (FOR_SCH_CODING[FOR_SCH_ID_r]_S = CODING_r).
  - The mobile station shall set the Forward Supplemental Channel frame length FOR_SCH_FRAME_LENGTH_S[FOR_SCH_ID_r] to ‘00’ (i.e., 20 ms frame length).

• If REV_SCH_CC_INCL_r equals ‘1’, the mobile station shall store the NUM_REV_SCH_r occurrences of the Reverse Supplemental Channel channel configuration records as follows:
  - The mobile station shall store the Reverse Supplemental Channel Identification (REV_SCH_ID[REV_SCH_ID_r]_S = REV_SCH_ID_r).
  - The mobile station shall store the Reverse Supplemental Channel Multiplex Option (REV_SCH_MUX[REV_SCH_ID_r]_S = REV_SCH_MUX_r).
  - The mobile station shall store the Reverse Supplemental Channel Radio Configuration (REV_SCH_RC[REV_SCH_ID_r]_S = SCH_RC_r).
  - The mobile station shall store the Reverse Supplemental Channel Coding Type (REV_SCH_CODING[REV_SCH_ID_r]_S = CODING_r).
  - The mobile station shall set the Reverse Supplemental Channel frame length REV_SCH_FRAME_LENGTH_S[REV_SCH_ID_r] to ‘00’ (i.e., 20 ms frame length).
2.6.4.1.13 Processing the Non-Negotiable Service Configuration Record

The mobile station shall update the Non-Negotiable Service Configuration information record currently in use as follows:

- If FPC_INCLr equals ‘1’, the mobile station shall do the following:
  - The mobile station shall store the Power Control Subchannel indicator (FPC_PRI_CHANs = FPC_PRI_CHANr).
  - The mobile station shall store the forward power control operation mode (FPC_MODE_NO_SCHs = FPC_MODEr).
  - The mobile station shall set FPC_MODEs = FPC_MODE_NO_SCHs if there is no forward Supplemental Channel assignment in progress (see 2.6.6.2.5.1.1).
  - If FPC_OLPC_FCH_INCLr equals ‘1’, the mobile station shall do the following:
    + The mobile station shall store the Fundamental Channel target Frame Error Rate (FPC_FCH_FERs = FPC_FCH_FERr).
    + The mobile station shall store the minimum Fundamental Channel Outer Loop Eb/N0 setpoint (FPC_FCH_MIN_SETPTs = FPC_FCH_MIN_SETPTr).
    + The mobile station shall store the maximum Fundamental Channel Outer Loop Eb/N0 setpoint (FPC_FCH_MAX_SETPTs = FPC_FCH_MAX_SETPTr).
  - If FPC_OLPC_DCCH_INCLr equals ‘1’, the mobile station shall do the following:
    + The mobile station shall store the Dedicated Control Channel target Frame Error Rate (FPC_DCCH_FERs = FPC_DCCH_FERr).
    + The mobile station shall store the minimum Dedicated Control Channel Outer Loop Eb/N0 setpoint (FPC_DCCH_MIN_SETPTs = FPC_DCCH_MIN_SETPTr).
    + The mobile station shall store the maximum Dedicated Control Channel Outer Loop Eb/N0 setpoint (FPC_DCCH_MAX_SETPTs = FPC_DCCH_MAX_SETPTr).
- If GATING_RATE_INCLr equals ‘1’, the mobile station shall store the Reverse Pilot Channel gating rate (PILOT_GATING_RATEs = PILOT_GATING_RATEr).

- The mobile station shall determine the Logical-to-Physical Mapping to be used as follows:
  - If LPM_INDr equals ‘00’, the mobile station shall reset the Logical-to-Physical Mapping to their default values as follows:
    + Default number of Logical-to-Physical Mapping entries (NUM_LPM_ENTRIESs = ‘0100’).
    + Default Table(0) Logical-to-Physical Mapping service reference identifier (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].SR_IDs = ‘000’).
    + Default Table(0) Logical-to-Physical Mapping logical resource identifier (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].LOGICAL_RESOURCEs =
+ Default Table(0) Logical-to-Physical Mapping physical resource identifier:
  o If CH_INDs is equal to '01' or '11', the mobile station shall set
    LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].PHYSICAL_RESOURCEs to
    '0000'.
  o If CH_INDs is equal to '10', the mobile station shall set
    LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].PHYSICAL_RESOURCEs to
    '0001'.

+ Default Table(0) Logical-to-Physical Mapping forward mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].FORWARD_FLAGs = '1').

+ Default Table(0) Logical-to-Physical Mapping reverse mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].REVERSE_FLAGs = '1').

+ Default Table(0) Logical-to-Physical Mapping priority
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].PRIORITYs = '0000').

+ Default Table(1) Logical-to-Physical Mapping service reference identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].SR_IDs = '001').

+ Default Table(1) Logical-to-Physical Mapping logical resource identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].LOGICAL_RESOURCEs =
  '0000').

+ Default Table(1) Logical-to-Physical Mapping physical resource identifier:
  o If CH_INDs is equal to '01' or '11', the mobile station shall set
    LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].PHYSICAL_RESOURCEs to
    '0000'.
  o If CH_INDs is equal to '10', the mobile station shall set
    LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].PHYSICAL_RESOURCEs to
    '0001'.

+ Default Table(1) Logical-to-Physical Mapping forward mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].FORWARD_FLAGs = '1').

+ Default Table(1) Logical-to-Physical Mapping reverse mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].REVERSE_FLAGs = '1').

+ Default Table(1) Logical-to-Physical Mapping priority
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[1].PRIORITYs = '0000').

+ Default Table(2) Logical-to-Physical Mapping service reference identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].SR_IDs = '001').

+ Default Table(2) Logical-to-Physical Mapping logical resource identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].LOGICAL_RESOURCEs =
  '0000').

+ Default Table(2) Logical-to-Physical Mapping physical resource identifier
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].PHYSICAL_RESOURCEs = '0010').

+ Default Table(2) Logical-to-Physical Mapping forward mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].FORWARD_FLAGs = '1').

+ Default Table(2) Logical-to-Physical Mapping reverse mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].REVERSE_FLAGs = '1').

+ Default Table(2) Logical-to-Physical Mapping priority
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].PRIORITYs = '0000').

+ Default Table(3) Logical-to-Physical Mapping service reference identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].SR_IDs = '001').

+ Default Table(3) Logical-to-Physical Mapping logical resource identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].LOGICAL_RESOURCEs = '0000').

+ Default Table(3) Logical-to-Physical Mapping physical resource identifier
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].PHYSICAL_RESOURCEs = '0011').

+ Default Table(3) Logical-to-Physical Mapping forward mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].FORWARD_FLAGs = '1').

+ Default Table(3) Logical-to-Physical Mapping reverse mapping indicator
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].REVERSE_FLAGs = '1').

+ Default Table(3) Logical-to-Physical Mapping priority
  (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].PRIORITYs = '0000').

- If LPM_INDr equals '01', the mobile station shall use the Logical-to-Physical
  Mapping included in this Non-Negotiable Service Configuration Record. The
  mobile station shall do the following: The mobile station shall delete the Logical-
  to-Physical Mapping currently in use. The mobile station shall store the number
  of Logical-to-Physical Mapping entries (NUM_LPM_ENTRIESs = NUM_LPM_ENTRIESr). For each ith record of the NUM_LPM_ENTRIESr Logical-
  to-Physical Mapping records included in the received Non-Negotiable Service
  Configuration Record:

  + The mobile station shall store the Logical-to-Physical Mapping service
    reference identifier (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[i].SR_IDs = SR_IDr).

  + The mobile station shall store the Logical-to-Physical Mapping logical
    resource identifier
    (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[i].LOGICAL_RESOURCEs = LOGICAL_RESOURCEr).

  + The mobile station shall store the Logical-to-Physical Mapping Physical
    Channel
    (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[i].PHYSICAL_RESOURCEs =
PHYSICAL_RESOURCE\textsuperscript{r}).

+ The mobile station shall store the Logical-to-Physical Mapping forward mapping indicator
\((\text{LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE}[i].\text{FORWARD}\_\text{FLAG_s} = \text{FORWARD}\_\text{FLAG_r}).\)

+ The mobile station shall store the Logical-to-Physical Mapping reverse mapping indicator
\((\text{LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE}[i].\text{REVERSE}\_\text{FLAG_s} = \text{REVERSE}\_\text{FLAG_r}).\)

+ The mobile station shall store the Logical-to-Physical Mapping priority
\((\text{LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE}[i].\text{PRIORITY_s} = \text{PRIORITY_r}).\)

- If LPM_INDr equals ‘10’, the mobile station shall use the Logical-to-Physical Mapping currently in use.

2.6.4.2 Traffic Channel Initialization Substate

In this substate, the mobile station verifies that it can receive the Forward Traffic Channel and begins transmitting on the Reverse Traffic Channel.

Upon entering the *Traffic Channel Initialization Substate*, the mobile station shall perform the following:

- The mobile station shall perform registration initialization as specified in 2.6.5.5.4.1.
- Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to reset the acknowledgment procedures as specified in [4].
- The mobile station shall initialize Forward Traffic Channel power control as specified in 2.6.4.1.1.1.
- The mobile station shall set the following variables to their initial default values given below:
  - Default power control step size
    \((\text{PWR\_CNTL\_STEP_s} = \text{‘000’})\)
  - Default Reverse Discontinuous Transmission Duration on Reverse Supplemental Code Channel \((\text{REV\_DTX\_DURATION_s} = \text{‘0000’})\)
  - Default Reverse Discontinuous Transmission Duration on Reverse Supplemental Channel \((\text{REV\_SCH\_DTX\_DURATION_s} = \text{‘0000’})\)
  - Default Reverse Supplemental Channel power offset adjustment relative to Reverse Pilot Channel power
    \(+ \text{RLGAIN\_SCH\_PILOT_s} [0]= \text{‘000000’}\)
    \(+ \text{RLGAIN\_SCH\_PILOT_s} [1]= \text{‘000000’}\)
  - Default channel on which the mobile station is to perform the primary inner loop estimation and the base station is to multiplex the Power Control Subchannel:
+ If CH_INDs is equal to ‘01’, the mobile station shall set FPC_PRI_CHANs to ‘0’.
+ If CH_INDs is equal to ‘10’, the mobile station shall set FPC_PRI_CHANs to ‘1’.

- Default forward power control operation mode used except during the forward Supplemental Channel interval (FPC_MODE_NO_SCHs = ‘000’)

- Default forward power control operation mode used during the forward Supplemental Channel interval (FPC_MODE_SCHs = ‘000’).

- Default forward power control operation mode (FPC_MODEs = ‘000’).

- Slotted timer (T_SLOTTEDs = T74m)

- Default Reverse Pilot Channel gating (PILOT_GATING_USE_RATE=’0’)

- Default begin preamble for Reverse Supplemental Code Channels (BEGIN_PREAMBLEs = ‘000’)

- Default resume preamble for Reverse Supplemental Code Channels (RESUME_PREAMBLEs = ‘000’)

- Default start time for Reverse Supplemental Code Channel assignment (REV_START_TIMEs = NULL)

- Default retry delays:
  - RETRY_DELAYs[010] = 0
  - RETRY_DELAYs[011] = 0

- Default neighbor pilot strength measurement threshold reporting offset (T_MULCHANs = ‘000’)

- Default start time for forward Supplemental Code Channel Assignment (FOR_START_TIMEs = NULL)

- Default number of Reverse Supplemental Code Channels (NUM_REV_CODESs = ‘000’)

- Default reverse use T_ADD abort indicator (USE_T_ADD_ABORTs = ‘0’)

- Default Supplemental Channel Request Message sequence number (SCRM_SEQ_NUMs = NULL)

- Default indicator to ignore reverse Supplemental Code Channel assignment (IGNORE_SCAMs = ‘0’)

- Default indicator to ignore reverse Supplemental Channel assignment (IGNORE_ESCAMs = ‘0’).
- Default maximum wait time on the CDMA Candidate Frequency
  \(\text{CF\_WAIT\_TIME}_s = '1111'\)

- Default search period for the candidate search
  \(\text{SEARCH\_PERIOD}_s = '1111'\)

- Default search window size for the Candidate Frequency Search Set
  \(\text{CF\_SRCH\_WIN\_N}_s = \text{SRCH\_WIN}_N_s\)

- Default search window size for the Remaining Set on the CDMA Candidate Frequency
  \(\text{CF\_SRCH\_WIN\_Rs} = \text{SRCH\_WIN}_R_s\)

- Default pilot PN sequence offset increment for the CDMA Candidate Frequency
  \(\text{CF\_PILOT\_INC}_s = \text{PILOT\_INC}_s\)

- Default Candidate Frequency search priorities included indicator
  \(\text{CF\_SEARCH\_PRIORITY\_INCL}_s = '0'\)

- Default Candidate Frequency search window size included indicator
  \(\text{CF\_SRCH\_WIN\_NGHBR\_INCL}_s = '0'\)

- Default Candidate Frequency search window offset included indicator
  \(\text{CF\_SRCH\_OFFSET\_INCL}_s = '0'\)

- Default periodic search indicator
  \(\text{PERIODIC\_SEARCH}_s = '0'\)

- Default return-if-handoff-fail indicator
  \(\text{RETURN\_IF\_HANDOFF\_FAIL}_s = '0'\)

- Default total pilot E\(_c\)/I\(_o\) threshold
  \(\text{MIN\_TOTAL\_PILOT\_EC\_IO}_s = '00000'\)

- Default total pilot E\(_c\) threshold
  \(\text{SF\_TOTAL\_EC\_THRESH}_s = '11111'\)

- Default total pilot E\(_c\)/I\(_o\) threshold
  \(\text{SF\_TOTAL\_EC\_IO\_THRESH}_s = '11111'\)

- Default received power difference threshold
  \(\text{DIFF\_RX\_PWR\_THRESH}_s = '00000'\)

- Default maximum wait time on the CDMA Target Frequency
  \(\text{TF\_WAIT\_TIME}_s = '1111'\)

- Default Candidate Frequency Search Set
  (Candidate Frequency Search Set is empty)

- Default Analog Frequency Search Set
  (Analog Frequency Search Set is empty)

- Default Candidate Frequency CDMA band
  \(\text{CF\_CDMABAND}_s = \text{NULL}\)

- Default Candidate Frequency CDMA channel
  \(\text{CF\_CDMACH}_s = \text{NULL}\)
– Default indicator for 5ms frames on Fundamental Channel
  \(FCH\_5MS\_FRAMESs = '0'\)

– Default indicator for 5ms frames on Dedicated Control Channel
  \(DCCH\_5MS\_FRAMESs = '0'\)

– Default start time unit for Supplemental Channel
  \(START\_TIME\_UNITs = '000'\).

– Default Forward Supplemental Channel FER report indicator
  \(FOR\_SCH\_FER\_REP\_S = '0'\).

– Default Forward Supplemental Channel Configuration parameters:
  + Set the Forward Supplemental Channel frame length
    \(FOR\_SCH\_FRAME\_LENGTHS[0]\) to NULL.
  + Set the Forward Supplemental Channel Multiplex Option \(FOR\_SCH\_MUX\_S[0]\)
    to NULL.
  + Set the Forward Supplemental Channel Radio Configuration
    \(FOR\_SCH\_RC\_S[0]\) to NULL.
  + Set the Forward Supplemental Channel Coding Type \(FOR\_SCH\_CODING\_S[0]\)
    to NULL.
  + Set \(QOF\_ID\_S[0][SCCL\_INDEX\_S][i]\) to NULL, for all integer values of i from 0 to 15.
  + Set \(FOR\_SCH\_CC\_INDEX\_S[0][SCCL\_INDEX\_S][i]\) to NULL, for all integer values of i from 0 to 15.
  + Set the Forward Supplemental Channel frame length
    \(FOR\_SCH\_FRAME\_LENGTHS[1]\) to NULL.
  + Set the Forward Supplemental Channel Multiplex Option \(FOR\_SCH\_MUX\_S[1]\)
    to NULL.
  + Set the Forward Supplemental Channel Radio Configuration
    \(FOR\_SCH\_RC\_S[1]\) to NULL.
  + Set the Forward Supplemental Channel Coding Type \(FOR\_SCH\_CODING\_S[1]\)
    to NULL.
  + Set \(QOF\_ID\_S[1][SCCL\_INDEX\_S][i]\) to NULL, for all integer values of i from 0 to 15.
  + Set \(FOR\_SCH\_CC\_INDEX\_S[1][SCCL\_INDEX\_S][i]\) to NULL, for all integer values of i from 0 to 15.

– Default Reverse Supplemental Channel Configuration parameters:
  + \(REV\_WALSH\_ID\_S[0][0000] = 1\)
  + \(REV\_WALSH\_ID\_S[0][0001] = 1\)
  + \(REV\_WALSH\_ID\_S[0][0010] = 1\)
+ REV_WALSH_IDs[0][0011] = 1
+ REV_WALSH_IDs[0][0100] = 0
+ REV_WALSH_IDs[0][0101] = 0
+ REV_WALSH_IDs[0][0110] = 0
+ REV_WALSH_IDs[1][0000] = 1
+ REV_WALSH_IDs[1][0001] = 1
+ REV_WALSH_IDs[1][0010] = 1
+ REV_WALSH_IDs[1][0011] = 0
+ REV_WALSH_IDs[1][0100] = 0
+ REV_WALSH_IDs[1][0101] = 0
+ REV_WALSH_IDs[1][0110] = 0

+ Set the Reverse Supplemental Channel frame length
  REV_SCH_FRAME_LENGTHs[0] to NULL.
+ Set the Reverse Supplemental Channel Multiplex Option REV_SCH_MUXs[0]
  to NULL.
+ Set the Reverse Supplemental Channel Radio Configuration
  REV_SCH_RCs[0] to NULL.
+ Set the Reverse Supplemental Channel Coding Type REV_SCH_CODINGs[0]
  to NULL.
+ Set the Reverse Supplemental Channel frame length
  REV_SCH_FRAME_LENGTHs[1] to NULL.
+ Set the Reverse Supplemental Channel Multiplex Option REV_SCH_MUXs[1]
  to NULL.
+ Set the Reverse Supplemental Channel Radio Configuration
  REV_SCH_RCs[1] to NULL.
+ Set the Reverse Supplemental Channel Coding Type REV_SCH_CODINGs[1]
  to NULL.

  – Default number of Logical-to-Physical Mapping entries
    (NUM_LPM_ENTRIESs = ‘0100’)
  – Default Table(0) Logical-to-Physical Mapping service reference identifier
    (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].SR_IDs = ‘000’)
  – Default Table(0) Logical-to-Physical Mapping logical resource identifier
    (LOGICAL_TO_PHYSICAL_MAPPING_TABLE[0].LOGICAL_RESOURCESs = ‘0001’)
  – Default Table(0) Logical-to-Physical Mapping physical resource identifier:
If CH_IND is equal to ‘01’ or ‘11’, the mobile station shall set LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[0].PHYSICAL\_RESOURCEs to ‘0000’.

If CH_IND is equal to ‘10’, the mobile station shall set LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[0].PHYSICAL\_RESOURCEs to ‘0001’.

Default Table(0) Logical-to-Physical Mapping forward mapping indicator (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[0].FORWARD\_FLAGs = ‘1’)

Default Table(0) Logical-to-Physical Mapping reverse mapping indicator (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[0].REVERSE\_FLAGs = ‘1’)

Default Table(0) Logical-to-Physical Mapping priority (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[0].PRIORITYs = ‘0000’)

Default Table(1) Logical-to-Physical Mapping service reference identifier (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].SR\_IDs = ‘001’)

Default Table(1) Logical-to-Physical Mapping logical resource identifier (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].LOGICAL\_RESOURCEs = ‘0000’)

Default Table(1) Logical-to-Physical Mapping physical resource identifier:

If CH_IND is equal to ‘01’ or ‘11’, the mobile station shall set LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].PHYSICAL\_RESOURCEs to ‘0000’.

If CH_IND is equal to ‘10’, the mobile station shall set LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].PHYSICAL\_RESOURCEs to ‘0001’.

Default Table(1) Logical-to-Physical Mapping forward mapping indicator (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].FORWARD\_FLAGs = ‘1’)

Default Table(1) Logical-to-Physical Mapping reverse mapping indicator (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].REVERSE\_FLAGs = ‘1’)

Default Table(1) Logical-to-Physical Mapping priority (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[1].PRIORITYs = ‘0000’)

Default Table(2) Logical-to-Physical Mapping service reference identifier (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[2].SR\_IDs = ‘001’).

Default Table(2) Logical-to-Physical Mapping logical resource identifier (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[2].LOGICAL\_RESOURCEs = ‘0000’).

Default Table(2) Logical-to-Physical Mapping physical resource identifier (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[2].PHYSICAL\_RESOURCEs = ‘0010’).

Default Table(2) Logical-to-Physical Mapping forward mapping indicator (LOGICAL\_TO\_PHYSICAL\_MAPPING\_TABLE[2].FORWARD\_FLAGs = ‘1’).
– Default Table(2) Logical-to-Physical Mapping reverse mapping indicator
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].REVERSE_FLAGs = '1').

– Default Table(2) Logical-to-Physical Mapping priority
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[2].PRIORITYs = '0000').

– Default Table(3) Logical-to-Physical Mapping service reference identifier
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].SR_IDs = '001')

– Default Table(3) Logical-to-Physical Mapping logical resource identifier
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].LOGICAL_RESOURCEs = '0000')

– Default Table(3) Logical-to-Physical Mapping physical resource identifier
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].PHYSICAL_RESOURCEs = '0011')

– Default Table(3) Logical-to-Physical Mapping forward mapping indicator
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].FORWARD_FLAGs = '1')

– Default Table(3) Logical-to-Physical Mapping reverse mapping indicator
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].REVERSE_FLAGs = '1')

– Default Table(3) Logical-to-Physical Mapping priority
(LOGICAL_TO_PHYSICAL_MAPPING_TABLE[3].PRIORITYs = '0000')

• The mobile station shall disable the TMS_Slotted timer, and set SLOTTEDs to YES.

• If the ASSIGN_MODEr field from the Channel Assignment Message equals ‘000’, the mobile station shall set SERV_NEGs to disabled.

• If the ASSIGN_MODEr field from the Channel Assignment Message equals ‘100’, the mobile station shall set SERV_NEGs to enabled.

• The mobile station shall determine the service configuration as follows:
  – If SERV_NEGs equals disabled, the initial service configuration shall include
    Multiplex Option 1 and Radio Configuration 1 for both the Forward and Reverse
    Traffic Channels, and shall include no service option connections.
  – If SERV_NEGs equals enabled, and if GRANTED_MODEs equals ‘00’, the initial
    service configuration shall include the multiplex option and radio configuration
    for the Forward and Reverse Traffic Channels as specified by
    DEFAULT_CONFIGs, and shall include no service option connections.
  – If SERV_NEGs equals enabled and GRANTED_MODEs equals ‘01’ or ‘10’, the
    initial service configuration shall include the default Forward and Reverse Traffic
    Channel multiplex options and transmission rates corresponding to the service
    option requested by the mobile station in the Origination Message, in the case of
    a mobile station originated call, or the Page Response Message, in the case of a
    mobile station terminated call, and shall include no service option connections.
  – If SERV_NEGs equals disabled, the mobile station shall perform the following:
    + If the call is mobile station originated and the Origination Message requests a
      special service option, the mobile station shall set SO_REQs to the special
      service option number.
If the call is mobile station originated and the *Origination Message* does not request a special service option, the mobile station shall set SO_REQs to 1 (the default service option number).

If the call is mobile station terminated, the mobile station shall set SO_REQs to the service option number requested in the *Page Response Message*.

While in the *Traffic Channel Initialization Substate*, the mobile station shall perform the following:

- The mobile station shall monitor Forward Traffic Channels associated with one or more pilots in the Active Set.
- The mobile station shall perform pilot strength measurements as specified in 2.6.6.2.2, but shall not send *Pilot Strength Measurement Messages*.
- The mobile station shall perform registration timer maintenance as specified in 2.6.5.5.4.2.
- If the bits of TMSI_CODEs-p are not all equal to ‘1’ and if System Time (in 80 ms units) exceeds TMSI_EXP_TIMEs-p × 2^{12}, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’ within T_{66m} seconds.
- If the full-TMSI timer expires or has expired, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall update the registration variables as described in 2.6.5.5.2.5.

If the mobile station does not support the assigned CDMA Channel (see [2]) or all of the assigned Forward Traffic code channels (see [2]), the mobile station shall enter the *System Determination Substate* of the *Mobile Station Initialization State* with an error indication (see 2.6.1.1).

If the mobile station supports the assigned CDMA Channel and the assigned Forward Traffic code channels, the mobile station shall perform the following:

- The mobile station shall tune to the assigned CDMA Channel.
- The mobile station shall set its code channel for the assigned Forward Traffic code channel.
- The mobile station shall set its Forward and Reverse Traffic Channel frame offsets to the assigned frame offset as determined by FRAME_OFFSET_s.
- The mobile station shall set its Forward and Reverse Traffic Channel long code masks to the public long code mask (see [2]).

If the mobile station does not receive a period of (N_{5m} × 20) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN_s within T_{50m} seconds after entering this substate, the mobile station shall enter the *System Determination Substate* of the *Mobile Station Initialization State* with a system lost indication (see 2.6.1.1).

If the mobile station receives a period of (N_{5m} × 20) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN_s within T_{50m}
seconds after entering this substate, the mobile station shall perform the following additional functions while it remains in the Traffic Channel Initialization Substate:

- The mobile station shall perform Forward Traffic Channel supervision as specified in 2.6.4.1.8. If a loss of the Forward Traffic Channel is declared, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

- The mobile station shall adjust its transmit power as specified in [2].

- The mobile station shall transmit the Traffic Channel preamble as specified in [2], and Layer 3 shall send an acquiring dedicated channel indication to Layer 2 (see [4]).

- The mobile station shall process Forward Traffic Channel signaling traffic and shall discard other types of Forward Traffic Channel traffic.

- If Layer 3 receives a L2-Condition.Notification primitive from Layer 2 indicating an acknowledgment failure, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

The mobile station should provide diversity combining of the Forward Traffic Channels associated with pilots in the Active Set if the mobile station receives multiple pilots in the Extended Channel Assignment Message.

If Layer 3 does not receive a forward dedicated channel acquired indication from Layer 2 (see [4]) within $T_{51m}$ seconds after the first occurrence of receiving a period of $(N_{5m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

If Layer 3 receives a forward dedicated channel acquired indication from Layer 2 within $T_{51m}$ seconds after the first occurrence of receiving a period of $(N_{5m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs, the mobile station shall perform the following:

- If CH_INDs is equal to ‘01’ or ‘11’, the mobile station shall begin transmitting on the Reverse Fundamental Channel.

- If CH_INDs is equal to ‘10’ or ‘11’, the mobile station shall begin transmitting on the Reverse Dedicated Control Channel when the mobile station has user data or signaling traffic to send on the Reverse Dedicated Control Channel.

- If SERV_NEGs equals disabled, the mobile station shall activate the SO Negotiation Subfunction.

- If SERV_NEGs equals enabled and the GRANTED_MODEs is ‘00’ or ‘01’, the mobile station shall activate the Normal Service Subfunction.

- If SERV_NEGs equals enabled and the GRANTED_MODEs is ‘10’, the mobile station shall activate the Waiting for Service Connect Message Subfunction.
• If the call is mobile station terminated, and BYPASS_ALERT_ANSWERS is ‘1’, the mobile station shall enter the Conversation Substate. If the call is mobile station terminated and BYPASS_ALERT_ANSWERS is ‘0’, the mobile station shall enter the Waiting for Order Substate.

• If the call is mobile station originated, the mobile station shall enter the Conversation Substate.

2.6.4.3 Alerting

2.6.4.3.1 Waiting for Order Substate

In this substate, the mobile station waits for an Alert With Information Message. Upon entering the Waiting for Order Substate, the mobile station shall set the substate timer for $T_{52m}$ seconds. While in the Waiting for Order Substate, the mobile station shall perform the following:

• If the substate timer expires, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

• The mobile station may send a Pilot Strength Measurement Mini Message to report pilot strength order change information, periodic pilot strength information, or threshold based pilot strength information, as specified in the Mobile Assisted Burst Operation Parameters Message.

• The mobile station shall perform Forward Traffic Channel supervision as specified in 2.6.4.1.8. If a loss of the Forward Traffic Channel is declared, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

• The mobile station shall adjust its transmit power as specified in [2].

• The mobile station shall perform Forward Traffic Channel power control as specified in 2.6.4.1.1.

• The mobile station shall perform handoff processing as specified in 2.6.6.

• The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with requirements for the active service subfunction (see 2.6.4.1.2.2).

• The mobile station shall perform registration timer maintenance as specified in 2.6.5.5.4.2.

• If the mobile station is directed by the user to transmit a message, the mobile station shall send a Data Burst Message.

• If the mobile station is directed by the user to request a new service configuration, the mobile station shall initiate service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).
• The mobile station may send a Service Option Control Message or Service Option Control Order to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

• If the mobile station is directed by the user to request a private long code transition and has the long code mask (see 2.3.12.3), the mobile station shall send a Long Code Transition Request Order (ORDQ = ‘00000001’) in assured mode.

• If the mobile station is directed by the user to request a public long code transition, the mobile station shall send a Long Code Transition Request Order (ORDQ = ‘00000000’) in assured mode.

• If the mobile station is directed by the user to operate in analog mode, allowing operation in either wide or narrow analog mode, the mobile station shall send the Request Analog Service Order in assured mode.

• If the mobile station is directed by the user to operate in wide analog mode, the mobile station shall send the Request Wide Analog Service Order in assured mode.

• If the mobile station is directed by the user to operate in narrow analog mode, the mobile station shall send the Request Narrow Analog Service Order in assured mode.

• If the mobile station is directed by the user to power down, the mobile station shall enter the Release Substate with a power-down indication (see 2.6.4.5).

• If Layer 3 receives a L2-Condition.Notification primitive from Layer 2 indicating an acknowledgment failure, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).

• If the mobile station receives a message which is included in the following list and every message field value is within its permissible range, the mobile station shall process the message as described below and in accordance with the message’s action time (see 2.6.4.1.5).

  1. **Alert With Information Message:** If the message contains a Signal information record, the mobile station should alert the user in accordance with the Signal information record; otherwise, the mobile station should use standard alert as defined in 3.7.5.5. The mobile station shall enter the Waiting for Mobile Station Answer Substate (see 2.6.4.3.2).

  2. **Analog Handoff Direction Message:** If the analog mode directed by the base station is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.9, and enter the Waiting For Order Task (see [6] for handoff to a wide analog channel and [28] for handoff to an 800 MHz narrow analog channel). If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a Mobile Station Reject Order with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).

  3. **Audit Order**

  4. **Authentication Challenge Message:** The mobile station shall reset the substate
timer for $T_{52m}$ seconds. The mobile station shall then process the message and respond as specified in 2.3.12.1.4 within $T_{32m}$ seconds, regardless of the value of $AUTH_S$.

5. **Base Station Challenge Confirmation Order:** The mobile station shall reset the substate timer for $T_{52m}$ seconds. The mobile station shall then process the message and respond with an **SSD Update Confirmation Order** or **SSD Update Rejection Order** as specified in 2.3.12.1.5 within $T_{32m}$ seconds.

6. **Candidate Frequency Search Control Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

7. **Candidate Frequency Search Request Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

8. **Data Burst Message**

9. **Extended Handoff Direction Message:** If the band class is not specified in the message or the specified band class is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1. The mobile station shall reset the substate timer for $T_{52m}$ seconds.

10. **Extended Neighbor List Update Message:** The mobile station shall process the message as specified in 2.6.6.2.6.3.

11. **Extended Release Message:** The mobile station shall process the message as specified in 2.6.4.1.9.

12. **Extended Release Mini Message:** The mobile station shall process the message as specified in 2.6.4.1.11.

13. **Extended Supplemental Channel Assignment Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

14. **General Handoff Direction Message:** If the band class is not specified in the message or the specified band class is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1. The mobile station shall reset the substate timer for $T_{52m}$ seconds. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

15. **In-Traffic System Parameters Message:** The mobile station shall process the message as specified in 2.6.4.1.4.

16. **Local Control Order**

17. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the **Lock Until Power-Cycled Order** in the mobile station’s semi-permanent memory ($LCKRSN_{Ps-p}$ equals the least significant four bits of $ORDQ_r$). The mobile station should notify the user of the locked condition. The mobile station shall enter the **System Determination Substate** of the **Mobile Station Initialization State** with a lock indication (see 2.6.1.1). and
shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

18. Long Code Transition Request Order: The mobile station shall process the message as specified in 2.6.4.1.6.

19. Maintenance Order: The mobile station shall enter the Waiting for Mobile Station Answer Substate.

20. Maintenance Required Order: The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSN_{s,p} equals the least significant four bits of ORDQ_{r}). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

21. Message Encryption Mode Order: The mobile station shall process the message as specified in 2.3.12.2.

22. Mobile Station Registered Message: The mobile station shall process the message as specified in 2.6.5.5.4.3.

23. Mobile Assisted Burst Operation Parameters Message: The mobile station shall process the message as specified in 2.6.6.2.5.1.

24. Neighbor List Update Message: The mobile station shall process the message as specified in 2.6.6.2.6.3.

25. Outer Loop Report Request Order: The mobile station shall send the Outer Loop Report Message in assured mode to the base station.

26. Parameter Update Order: The mobile station shall reset the substate timer for T_{52m} seconds. The mobile station shall increment COUNT_{s,p} (see 2.3.12.1.3). The mobile station shall send a Parameter Update Confirmation Order within T_{56m} seconds. The mobile station shall set the ORDQ field of the Parameter Update Confirmation Order to the same value as the ORDQ field of the Parameter Update Order.

27. Periodic Pilot Measurement Request Order: The mobile station shall process the order as specified in 2.6.6.2.5.1.

28. Pilot Measurement Request Order: The mobile station shall process the order as specified in 2.6.6.2.5.1.

29. Power Control Message: The mobile station shall process the message as specified in 2.6.4.1.1.3.

30. Power Control Parameters Message: The mobile station shall process the message as specified in 2.6.4.1.1.2.

31. Power Up Function Message: The mobile station shall process the message as specified in 2.6.4.1.7.1.
32. **Power Up Function Completion Message**: The mobile station shall process the message as specified in 2.6.4.1.7.3.

33. **Release Order**: The mobile station shall enter the **Release Substate** with a base station release indication (see 2.6.4.5).

34. **Resource Allocation Message**: The mobile station shall process the message as specified in 2.6.4.1.10.

35. **Resource Allocation Mini Message**: The mobile station shall process the message as specified in 2.6.4.1.10.

36. **Retrieve Parameters Message**: The mobile station shall send, within $T_{56m}$ seconds, a **Parameters Response Message**.

37. **Retry Order**: The mobile station shall process the order as follows:

   - If $\text{RETRY\_TYPE}_r$ is equal to ‘000’, the mobile station shall set $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}]$ to ‘0’, where $\text{RETRY\_TYPE}$ is equal to ‘001’, ‘010’, or ‘011’.

   - If $\text{RETRY\_TYPE}_r$ is equal to ‘001’, then the mobile station shall perform the following:
     - If $\text{RETRY\_DELAY}_r$ is equal to ‘00000000’, then the mobile station shall set $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$ to 0.
     - If $\text{RETRY\_DELAY}_r$ is not equal to ‘00000000’ the mobile station shall set $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$ as follows:
       + If the most significant bit of the $\text{RETRY\_DELAY}_r$ is 0, set $\text{RETRY\_DELAY\_UNIT}_s$ to 1000ms. If the most significant bit of the $\text{RETRY\_DELAY}_r$ is ‘1’, set $\text{RETRY\_DELAY\_UNIT}_s$ to 60000ms.
       + The mobile station shall set $\text{RETRY\_DELAY\_VALUE}_s$ to the seven least significant bits of $\text{RETRY\_DELAY}_r$.
       + The mobile station shall store the next system time 80 ms boundary + $\text{RETRY\_DELAY\_VALUE}_s \times \text{RETRY\_DELAY\_UNIT}_s$ ms as $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$.

   - If $\text{RETRY\_TYPE}_r$ is equal to ‘010’ or ‘011’, the mobile station shall perform the following:
     - If $\text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r]$ is ‘00000000’, then the mobile station shall set $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$ to ‘0’.
     - If $\text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r]$ is ‘11111111’, then the mobile station shall set $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$ to $\text{infinity}$.
     - If $\text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r]$ is not equal to ‘00000000’ or ‘11111111’, the mobile station shall store the next system time 80 ms boundary + $\text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r] \times 320$ ms as $\text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r]$.
38. **Reverse Supplemental Channel Assignment Mini Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

39. **Service Connect Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

40. **Service Option Control Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

41. **Service Option Control Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

42. **Service Option Request Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

43. **Service Option Response Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

44. **Service Request Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

45. **Service Response Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

46. **Set Parameters Message:** If the mobile station can set all of the parameters specified by the PARAMETER_ID fields in the message, the mobile station shall set them; otherwise, the mobile station shall send, within T56m seconds, a Mobile Station Reject Order.

47. **SSD Update Message:** The mobile station shall reset the substate timer for T52m seconds. The mobile station shall then process the message and respond with a Base Station Challenge Order as specified in 2.3.12.1.5 within T32m seconds.

48. **Status Request Message:** The mobile station shall send, within T56m seconds, a Status Response Message. If the message does not specify any qualification information (QUAL_INFO_TYPEr is equal to '00000000'), the mobile station shall include the requested information records in the Status Response Message. If the message specifies a band class (QUAL_INFO_TYPEr is equal to '00000001'), the mobile station shall only include the requested information records for the specified band class (BAND_CLASSr) in the Status Response Message. If the message specifies a band class and an operating mode (QUAL_INFO_TYPEr is equal to '00000010'), the mobile station shall only include the requested information records for the specified band class (BAND_CLASSr) and operating
mode (OP_MODEr) in the Status Response Message. If the message specifies a
band class or a band class and an operating mode which is not supported by
the mobile station, the mobile station shall send a Mobile Station Reject Order
with ORDQ set to ‘00000110’ (message requires a capability that is not
supported by the mobile station). If the response to this message exceeds the
allowable length, the mobile station shall send a Mobile Station Reject Order with
ORDQ set to ‘00001000’ (response message would exceed the allowable length).
If the message specifies an information record which is not supported by the
mobile station for the specified band class and operating mode, the mobile
station shall send a Mobile Station Reject Order with ORDQ set to ‘00001001’
(information record is not supported for the specified band class and operating
mode).

49. Status Request Order: If CDMABANDs is equal to ‘00000’, the mobile station
shall send, within T56m seconds, a Status Message. The mobile station shall
respond with information corresponding to the current band class and
operating mode.

50. Supplemental Channel Assignment Message: The mobile station shall process
the message as specified in 2.6.6.2.5.1.

51. TMSI Assignment Message: The mobile station shall store the TMSI zone and
code as follows:

- The mobile station shall store the length of the TMSI zone field by setting
  ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr,

- The mobile station shall store the assigning TMSI zone number by setting the
  ASSIGNING_TMSI_ZONE_LENs-p least significant octets of
  ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and

- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to
  TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting
TMSI_EXP_TIMEs-p to TMSI_EXP_TIMEr. The mobile station shall disable the
full-TMSI timer. The mobile station shall then respond with a TMSI Assignment
Completion Message within T56m seconds.

52. Universal Handoff Direction Message: The mobile station process the message
specified in 2.6.6.2.5.1. The mobile station shall reset the substate timer for
T52m seconds. If the message contains a service configuration record, the
mobile station shall process the message in accordance with the requirements
for the active service subfunction (se 2.6.4.1.2.2).

- If the mobile station receives a message that is not included in the above list, cannot
  be processed, or requires a capability which is not supported, the mobile station
  shall discard the message and send a Mobile Station Reject Order (ORDQ set to the
  applicable reason code as determined from Table 2.7.3-1) within T56m seconds.
If the bits of TMSI_CODEs-p are not all equal to ‘1’ and if System Time (in 80 ms units) exceeds TMSI_EXP_TIMEs-p × 2^{12}, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’ within T66m seconds.

If the full-TMSI timer expires or has expired, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall update the registration variables as described in 2.6.5.5.2.5.

2.6.4.3.2 Waiting for Mobile Station Answer Substate

In this substate, the mobile station waits for the user to answer the mobile station terminated call or to invoke special treatment.

Upon entering the Waiting for Mobile Station Answer Substate, the mobile station shall set the substate timer for T53m seconds.

While in the Waiting for Mobile Station Answer Substate, the mobile station shall perform the following:

- If the substate timer expires, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).
- The mobile station may send a Pilot Strength Measurement Mini Message to report pilot strength order change information, periodic pilot strength information, or threshold based pilot strength information, as specified in the Mobile Assisted Burst Operation Parameters Request Message.
- The mobile station shall perform Forward Traffic Channel supervision as specified in 2.6.4.1.8. If a loss of the Forward Traffic Channel is declared, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).
- The mobile station shall adjust its transmit power as specified in [2].
- The mobile station shall perform Forward Traffic Channel power control as specified in 2.6.4.1.1.
- The mobile station shall perform handoff processing as specified in 2.6.6.
- The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with requirements for the active service subfunction (see 2.6.4.1.2.2).
- The mobile station shall perform registration timer maintenance as specified in 2.6.5.5.4.2.
- If the mobile station is directed by the user to answer the call, the mobile station shall send a Connect Order in assured mode. The mobile station shall enter the Conversation Substate.
- If the mobile station is directed by the user to transmit a message, the mobile station shall send a Data Burst Message.
• If the mobile station is directed by the user to request a new service configuration, the mobile station shall initiate service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

• If the mobile station is directed by the user to forward the incoming call, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to a pre-programmed feature code which indicates User Selective Call Forwarding with a pre-registered number.

• If the mobile station is directed by the user to forward the incoming call to a number stored in the mobile station, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to the following:
  - A pre-programmed feature code which indicates User Selective Call Forwarding to a number stored in the mobile station as the first digits in the field and
  - The forwarding to number immediately following the pre-programmed feature code.

• If the mobile station is directed by the user to forward the incoming call to network-based voice mail, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to a pre-programmed feature code which indicates User Selective Call Forwarding to voice mail.

• If the mobile station is directed by the user to activate answer holding, the mobile station shall send a Flash With Information Message in assured mode requiring confirmation of delivery with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to a pre-programmed feature code which indicates Answer Holding. After receiving confirmation of delivery of the Flash With Information Message, the mobile station shall send a Connect Order in assured mode. The mobile station shall enter the Conversation Substate.

• The mobile station may send a Service Option Control Message or Service Option Control Order to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

• If the mobile station is directed by the user to request a private long code transition and has the long code mask (see 2.3.12.3), the mobile station shall send a Long Code Transition Request Order (ORDQ = ‘00000001’) in assured mode.

• If the mobile station is directed by the user to request a public long code transition, the mobile station shall send a Long Code Transition Request Order (ORDQ = ‘00000000’) in assured mode.

• If the mobile station is directed by the user to operate in analog mode, allowing operation in either wide or narrow analog mode, the mobile station shall send the Request Analog Service Order in assured mode.
If the mobile station is directed by the user to operate in wide analog mode, the mobile station shall send the *Request Wide Analog Service Order* in assured mode.

If the mobile station is directed by the user to operate in narrow analog mode, the mobile station shall send the *Request Narrow Analog Service Order* in assured mode.

If the mobile station is directed by the user to power down, the mobile station shall enter the *Release Substate* with a power-down indication (see 2.6.4.5).

If Layer 3 receives a L2-Condition.Notification primitive from Layer 2 indicating an acknowledgment failure, the mobile station shall disable its transmitter and enter the *System Determination Substate* of the *Mobile Station Initialization State* with a system lost indication (see 2.6.1.1).

If the mobile station receives a message which is included in the following list and every message field value is within its permissible range, the mobile station shall process the message as described below and in accordance with the message’s action time (see 2.6.4.1.5).

1. *Alert With Information Message*: The mobile station shall reset the substate timer for $T_{53m}$ seconds. If the *Alert With Information Message* does not contain a Signal information record, the mobile station should use standard alert as defined in 3.7.5.5.

2. *Analog Handoff Direction Message*: If the analog mode directed by the base station is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.9 and enter the Waiting For Answer Task (see [28] for handoff to an 800 MHz narrow analog channel). If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a *Mobile Station Reject Order* with ORDQ equal to ‘00000110’ (message requires a capability that is not supported by the mobile station).

3. *Audit Order*

4. *Authentication Challenge Message*: The mobile station shall process the message and respond as specified in 2.3.12.1.4 within $T_{32m}$ seconds, regardless of the value of AUTHs.

5. *Base Station Challenge Confirmation Order*: The mobile station shall process the message and respond with an SSD Update Confirmation Order or SSD Update Rejection Order as specified in 2.3.12.1.5 within $T_{32m}$ seconds.

6. *Candidate Frequency Search Control Message*: The mobile station shall process the message as specified in 2.6.6.2.5.1.

7. *Candidate Frequency Search Request Message*: The mobile station shall process the message as specified in 2.6.6.2.5.1.

8. *Data Burst Message*

9. *Extended Handoff Direction Message*: If the band class is not specified in the message or the specified band is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1.
10. **Extended Neighbor List Update Message**: The mobile station shall process the message as specified in 2.6.6.2.6.3.

11. **Extended Release Message**: The mobile station shall process the message as specified in 2.6.4.1.9.

12. **Extended Release Mini Message**: The mobile station shall process the message as specified in 2.6.4.1.11.

13. **Extended Supplemental Channel Assignment Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

14. **Forward Supplemental Channel Assignment Mini Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

15. **General Handoff Direction Message**: If the band class is not specified in the message or the specified band is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

16. **In-Traffic System Parameters Message**: The mobile station shall process the message as specified in 2.6.4.1.4.

17. **Local Control Order**

18. **Lock Until Power-Cycled Order**: The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station's semi-permanent memory (LCKRSN_Ps-p equals the least-significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

19. **Long Code Transition Request Order**: The mobile station shall process the message as specified in 2.6.4.1.6.

20. **Maintenance Order**: The mobile station shall reset the substate timer for T_{53m} seconds.

21. **Maintenance Required Order**: The mobile station shall record the reason for the Maintenance Required Order in the mobile station's semi-permanent memory (MAINTRSNs-p equals the least-significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

22. **Message Encryption Mode Order**: The mobile station shall process the message as specified in 2.3.12.2.
23. **Mobile Assisted Burst Operation Parameters Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

24. **Mobile Station Registered Message:** The mobile station shall process the message as specified in 2.6.5.5.4.3.

25. **Neighbor List Update Message:** The mobile station shall process the message as specified in 2.6.6.2.6.3.

26. **Outer Loop Report Request Order:** The mobile station shall send the *Outer Loop Report Message* in assured mode to the base station.

27. **Parameter Update Order:** The mobile station shall increment COUNTs-p (see 2.3.12.1.3). The mobile station shall send a *Parameter Update Confirmation Order* within T56m seconds. The mobile station shall set the ORDQ field of the *Parameter Update Confirmation Order* to the same value as the ORDQ field of the *Parameter Update Order*.

28. **Periodic Pilot Measurement Request Order:** The mobile station shall process the order as specified in 2.6.6.2.5.1.

29. **Pilot Measurement Request Order:** The mobile station shall process the order as specified in 2.6.6.2.5.1.

30. **Power Control Message:** The mobile station shall process the message as specified in 2.6.4.1.1.3.

31. **Power Control Parameters Message:** The mobile station shall process the message as specified in 2.6.4.1.1.2.

32. **Power Up Function Message:** The mobile station shall process the message as specified in 2.6.4.1.7.1.

33. **Power Up Function Completion Message:** The mobile station shall process the message as specified in 2.6.4.1.7.3.

34. **Release Order:** The mobile station shall enter the *Release Substate* with a base station release indication (see 2.6.4.5).

35. **Resource Allocation Message:** The mobile station shall process the message as specified in 2.6.4.1.10.

36. **Resource Allocation Mini Message:** The mobile station shall process the message as specified in 2.6.4.1.10.

37. **Retry Order:** The mobile station shall process the order as follows:
   - If RETRY_TYPE is equal to ‘000’, the mobile station shall set RETRY_DELAYs[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’, or ‘011’.
   - If RETRY_TYPE is equal to ‘001’, then the mobile station shall perform the following:
– If \( \text{RETRY\_DELAY}_r \) is equal to '00000000', then the mobile station shall set \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \) to 0.

– If \( \text{RETRY\_DELAY}_r \) is not equal to '00000000' the mobile station shall set \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \) as follows:

  + If the most significant bit of the \( \text{RETRY\_DELAY}_r \) is 0, set \( \text{RETRY\_DELAY\_UNIT}_s \) to 1000ms. If the most significant bit of the \( \text{RETRY\_DELAY}_r \) is '1', set \( \text{RETRY\_DELAY\_UNIT}_s \) to 60000ms.

  + The mobile station shall set \( \text{RETRY\_DELAY\_VALUE}_s \) to the seven least significant bits of \( \text{RETRY\_DELAY}_r \).

  + The mobile station shall store the next system time 80 ms boundary + \( \text{RETRY\_DELAY\_VALUE}_s \times \text{RETRY\_DELAY\_UNIT}_s \) ms as \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \).

• If \( \text{RETRY\_TYPE}_r \) is equal to '010' or '011', the mobile station shall perform the following:

  – If \( \text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r] \) is '00000000', then the mobile station shall set \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \) to 0.

  – If \( \text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r] \) is '11111111', then the mobile station shall set \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \) to infinity.

  – If \( \text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r] \) is not equal to '00000000' or '11111111', the mobile station shall store the next system time 80 ms boundary + \( \text{RETRY\_DELAY}_r[\text{RETRY\_TYPE}_r] \times 320 \) ms as \( \text{RETRY\_DELAY}_s[\text{RETRY\_TYPE}_r] \).

38. **Retrieve Parameters Message:** The mobile station shall send, within \( T_{56m} \) seconds, a Parameters Response Message.

39. **Reverse Supplemental Channel Assignment Mini Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

40. **Service Connect Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

41. **Service Option Control Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

42. **Service Option Control Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

43. **Service Option Request Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

44. **Service Option Response Order:** The mobile station shall process the message in
accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

45. **Service Request Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

46. **Service Response Message:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

47. **Set Parameters Message:** If the mobile station can set all of the parameters specified by the PARAMETER_ID fields in the message, the mobile station shall set them; otherwise, the mobile station shall send, within T56m seconds, a Mobile Station Reject Order.

48. **SSD Update Message:** The mobile station shall process the message and respond with a Base Station Challenge Order as specified in 2.3.12.1.5 within T32m seconds.

49. **Status Request Message:** The mobile station shall send, within T56m seconds, a Status Response Message. If the message does not specify any qualification information (QUAL_INFO_TYPEr is equal to '00000000'), the mobile station shall include the requested information records in the Status Response Message. If the message specifies a band class (QUAL_INFO_TYPEr is equal to '00000001'), the mobile station shall only include the requested information records for the specified band class (BAND_CLASSr) in the Status Response Message. If the message specifies a band class and an operating mode (QUAL_INFO_TYPEr is equal to '00000010'), the mobile station shall only include the requested information records for the specified band class (BAND_CLASSr) and operating mode (OP_MODEr) in the Status Response Message. If the message specifies a band class or a band class and an operating mode which is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00000110' (message requires a capability that is not supported by the mobile station). If the response to this message exceeds the allowable length, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00000100' (response message would exceed the allowable length). If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00001001' (information record is not supported for the specified band class and operating mode).

50. **Status Request Order:** If CDMABANDS is equal to '00000', the mobile station shall send, within T56m seconds, a Status Message. The mobile station shall respond with information corresponding to the current band class and operating mode.

51. **Supplemental Channel Assignment Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.
52. **TMSI Assignment Message**: The mobile station shall store the TMSI zone and code as follows:

- The mobile station shall store the length of the TMSI zone field by setting ASSIGNING_TMSI_ZONE_LEN_s-p to TMSI_ZONE_LEN_r.
- The mobile station shall store the assigning TMSI zone number by setting the ASSIGNING_TMSI_ZONE_LEN_s-p least significant octets of ASSIGNING_TMSI_ZONE_s-p to TMSI_ZONE_r, and
- The mobile station shall store the TMSI code by setting TMSI_CODE_s-p to TMSI_CODE_r.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIME_s-p to TMSI_EXP_TIME_r. The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a **TMSI Assignment Completion Message** within T_{56m} seconds.

53. **Universal Handoff Direction Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2)

- If the mobile station receives a message that is not included in the above list, cannot be processed, or requires a capability which is not supported, the mobile station shall discard the message and send a **Mobile Station Reject Order** (ORDQ set to the applicable reason code as determined from Table 2.7.3-1) within T_{56m} seconds.
- If the bits of TMSI_CODE_s-p are not all equal to ‘1’ and if System Time (in 80 ms units) exceeds TMSI_EXP_TIME_s-p × 2^{12}, the mobile station shall set all the bits of TMSI_CODE_s-p to ‘1’ within T_{66m} seconds.
- If the full-TMSI timer expires or has expired, the mobile station shall set all the bits of TMSI_CODE_s-p to ‘1’. The mobile station shall update the registration variables as described in 2.6.5.5.2.5.

2.6.4.4 Conversation Substate

In this substate, the mobile station exchanges Traffic Channel frames with the base station in accordance with the current service configuration. The mobile station may perform the gating operation of Reverse Pilot Channel.

The mobile station can be in the **Active Mode** or **Control Hold Mode** while in this substate.

The following are the attributes when the mobile station is in the **Active Mode** of **Conversation Substate**:

- **PILOT_GATING_USE_RATE** is set to ‘0’ (i.e., the reverse pilot (r-pich) is not gated).
- Flow of data traffic is permitted by the Multiplex Sublayer.

The following are the attributes when the mobile station is in the **Control-Hold Mode** of **Conversation Substate**:
- PILOT_GATING_USE_RATE is set to ‘1’.
- The reverse pilot (r-pich) may be gated (if PILOT_GATING_RATE is not equal to ‘00’).
- Flow of data traffic is blocked by the Multiplex Sublayer.

Figure 2.6.4.4-1 shows the valid transitions between the modes of a Conversation Substate and the over-the-air Upper Layer Signaling Messages that trigger transitions between these mode.

![Diagram](image)

Note: The mode transition occurs when the fields are set appropriately.

**Figure 2.6.4.4-1. Mobile Station Modes**

Upon entering the Conversation Substate, the mobile station shall perform the following:
- If SERV_NEG equals enabled, the call is mobile station originated, and GRANTED_MODE is equal to ‘00’ or ‘01’, the mobile station should initiate service negotiation to request a service configuration in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

While in the Conversation Substate, the mobile station shall perform the following:
- The mobile station shall perform Forward Traffic Channel supervision as specified in 2.6.4.1.8. If a loss of the Forward Traffic Channel is declared, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a system lost indication (see 2.6.1.1).
The mobile station may send a *Pilot Strength Measurement Mini Message* to report pilot strength order change information, periodic pilot strength information, or threshold based pilot strength information, as specified in the *Mobile Assisted Burst Operation Parameters Message* (see 2.6.6.2.5.2).

The mobile station shall adjust its transmit power as specified in [2].

The mobile station shall perform Forward Traffic Channel power control as specified in 2.6.4.1.1.

The mobile station shall perform handoff processing as specified in 2.6.6.

The mobile station shall process Forward and Reverse Traffic Channel frames in accordance with requirements for the active service subfunction (see 2.6.4.1.2.2).

The mobile station shall perform registration timer maintenance as specified in 2.6.5.5.4.2.

The mobile station shall send an *Origination Continuation Message* in assured mode, within $T_{54m}$ seconds after entering the *Conversation Substate* if any of the following conditions occur:

- The mobile station originated the call and did not send all the dialed digits in the *Origination Message*.

- There is more than one calling party number associated with the mobile station.

- A calling party subaddress is used in the call.

- A called party subaddress is used in the call.

If more than one calling party number is associated with the mobile station, the mobile station shall include the calling party number being used in the calling party number information record in the *Origination Continuation Message*. If only one calling party number is associated with the mobile station, the mobile station shall not include the calling party number information record in the *Origination Continuation Message*. If a calling party subaddress is used, the mobile station shall include the calling party subaddress information record in the *Origination Continuation Message*: otherwise, the mobile station shall omit the calling party subaddress information record. If a called party subaddress is used, the mobile station shall include the called party subaddress information record in the *Origination Continuation Message*: otherwise, the mobile station shall omit the calling party subaddress information record.

If the mobile station is directed to send a *Data Burst Message*, the mobile station shall send a *Data Burst Message*. If PILOT_GATING_USE_RATE is set to ‘1’, the mobile station may request to transition to the *Active Mode* (PILOT_GATING_USE_RATE set to ‘0’) prior to sending the *Data Burst Message*.

If the mobile station is directed by the user to request a new service configuration, the mobile station shall initiate service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).
• The mobile station may send a Service Option Control Message or Service Option Control Order to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

• If the mobile station is directed by the user to request a private long code transition and has the long code mask (see 2.3.12.3), the mobile station shall send a Long Code Transition Request Order (ORDQ = '00000001') in assured mode.

• If the mobile station is directed by the user to request a public long code transition, the mobile station shall send a Long Code Transition Request Order (ORDQ = '00000000') in assured mode.

• If the mobile station is directed by the user to issue a flash, the mobile station shall build a Flash With Information Message with the collected digits or characters contained in a Keypad Facility information record, if needed, and shall send the message in assured mode.

• If the mobile station is directed by the user to forward the incoming call, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to a pre-programmed feature code which indicates User Selective Call Forwarding with a pre-registered number.

• If the mobile station is directed by user to forward the incoming call to a number stored in the mobile station, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to the following:
  - A pre-programmed feature code which indicates User Selective Call Forwarding to a number stored in the mobile station as the first digits in the field and
  - The forwarding to number immediately following the pre-programmed feature code.

• If the mobile station is directed by the user to forward the incoming call to network-based voice mail, the mobile station shall send a Flash With Information Message in assured mode with a Keypad Facility information record (see 2.7.4.2) with the CHARi field set to a pre-programmed feature code which indicates User Selective Call Forwarding to voice mail.
- If answer holding is activated and the mobile station is directed by the user to
deactivate answer holding, or if the mobile station is directed by the user to activate
answer holding, the mobile station shall send a *Flash With Information Message* in
assured mode with a *Keypad Facility* information record (see 2.7.4.2) with the
CHARi field set to a pre-programmed feature code which indicates Answer Holding.

- If the mobile station is directed by the user to send burst DTMF digits, the mobile
station shall build the *Send Burst DTMF Message* with the dialed digits and shall
send the message in assured mode requiring confirmation of delivery. The mobile
station sending multiple *Send Burst DTMF Messages* shall preserve relative ordering
of these messages (see [4]). The mobile station should attempt to preserve the user
timing as much as possible, using recommended values of DTMF_ON_LENGTH (see
Table 2.7.2.3.2.7-1) and DTMF_OFF_LENGTH (see Table 2.7.2.3.2.7-2).

- If the mobile station is directed by the user to send a continuous DTMF digit, the
mobile station shall build the *Continuous DTMF Tone Order* with the dialed digit and
shall send the order in assured mode requiring confirmation of delivery. When the
mobile station is directed by the user to cease sending the continuous DTMF digit,
the mobile station shall send the *Continuous DTMF Tone Order* (ORDQ = ‘11111111’) in
assured mode requiring confirmation of delivery. The mobile station sending
multiple *Continuous DTMF Tone Orders* shall preserve relative ordering of these
messages (see [2]). The mobile station shall send the *Continuous DTMF Tone Order*
with the ORDQ set to ‘11111111’ indicating the completion of the current
continuous DTMF digit before sending the *Continuous DTMF Tone Order* for another
digit or the *Send Burst DTMF Message*.

- If the mobile station is directed by the user to operate in analog mode, allowing
operation in either wide or narrow analog mode, the mobile station shall send the
*Request Analog Service Order* in assured mode.

- If the mobile station is directed by the user to operate in wide analog mode, the
mobile station shall send the *Request Wide Analog Service Order* in assured mode.

- If the mobile station is directed by the user to operate in narrow analog mode, the
mobile station shall send the *Request Narrow Analog Service Order* in assured mode.

- If the mobile station is directed by the user to disconnect the call, the mobile station
shall enter the *Release Substate* with a mobile station release indication (see
2.6.4.5).

- If the mobile station is directed by the user to power down, the mobile station shall
enter the *Release Substate* with a power-down indication (see 2.6.4.5).

- If Layer 3 receives a L2-Condition.Notification primitive from Layer 2 indicating an
acknowledgment failure, the mobile station shall disable its transmitter and shall
enter the *System Determination Substate* of the *Mobile Station Initialization State* with
a system lost indication (see 2.6.1.1).

- The mobile station shall perform the following:
− The mobile station may send the Resource Request Message or Resource Request Mini Message in accordance with requirements for the currently connected service option whenever RETRY_DELAYs[RETRY_TYPE] is equal to 0, where, RETRY_TYPE is equal to '010'.

− The mobile station shall not send the Resource Request Message or Resource Request Mini Message whenever RETRY_DELAYs[RETRY_TYPE] is set to infinity, where, RETRY_TYPE is equal to '010'.

− If RETRY_DELAYs[RETRY_TYPE] is not 0 or infinity, the mobile station shall not send the Resource Request Message or Resource Request Mini Message until after the system time stored in RETRY_DELAYs[RETRY_TYPE], where, RETRY_TYPE is equal to '010'.

− The mobile station may send the Supplemental Channel Request Message or Supplemental Channel Request Mini Message whenever RETRY_DELAYs[RETRY_TYPE] is set to '0', where, RETRY_TYPE is equal to '011'.

− The mobile station shall not send the Supplemental Channel Request Message or Supplemental Channel Request Mini Message whenever RETRY_DELAYs[RETRY_TYPE] is set to infinity, where, RETRY_TYPE is equal to '011'.

− If RETRY_DELAYs[RETRY_TYPE] is not 0 or infinity, the mobile station shall not send the Supplemental Channel Request Message or Supplemental Channel Request Mini Message until after the system time stored in RETRY_DELAYs[RETRY_TYPE], where, RETRY_TYPE is equal to '011'.

− At the system time stored in RETRY_DELAYs[RETRY_TYPE], the mobile station shall reset RETRY_DELAYs[RETRY_TYPE] to '0', where RETRY_TYPE is equal to '001', '010' or '011'.

• If the mobile station has user data to send and PILOT_GATING_USE_RATE is equal to '1', then the mobile station may send a Resource Request Message, Resource Request Mini Message, Supplemental Channel Request Message, or Supplemental Channel Request Mini Message to request for continuous reverse pilot transmission and user traffic transmission.

• The mobile station may send a Resource Release Request Message or a Resource Release Request Mini Message to request for reverse pilot gating operation to be performed.

• The mobile station may enter the Release Substate with a service inactive indication (see 2.6.4.5) if the service corresponding to the packet data service option instance is inactive at the mobile station.

• If the mobile station receives a message which is included in the following list and every message field value is within its permissible range, the mobile station shall process the message as described below and in accordance with the message’s action time (see 2.6.4.1.5).

1. Alert With Information Message: If the message contains a Signal information
record with the SIGNAL_TYPE field set to '01' or '10', or if the message does not contain a Signal information record, the mobile station shall enter the Waiting For Mobile Station Answer Substate. The mobile station should alert the user in accordance with the Signal information record. If the Alert With Information Message does not contain a Signal information record, the mobile station should use standard alert as defined in 3.7.5.5.

2. **Analog Handoff Direction Message**: If the analog mode directed by the base station is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.9 and shall enter the Conversation Task (see [28]). If the mobile station is directed to an unsupported operation mode or band class, the mobile station shall respond with a Mobile Station Reject Order with ORDQ equal to '00000110' (message requires a capability that is not supported by the mobile station).

3. **Audit Order**

4. **Authentication Challenge Message**: The mobile station shall process the message and shall respond as specified in 2.3.12.1.4 within T₃₂ₘ seconds, regardless of the value of AUTHₘ.

5. **Base Station Challenge Confirmation Order**: The mobile station shall process the message and shall respond with an SSD Update Confirmation Order or SSD Update Rejection Order as specified in 2.3.12.1.5 within T₃₂ₘ seconds.

6. **Candidate Frequency Search Control Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

7. **Candidate Frequency Search Request Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

8. **Continuous DTMF Tone Order**: Support of this order by the mobile station is optional.

9. **Data Burst Message**

10. **Extended Handoff Direction Message**: If the band class is not specified in the message, or if the specified band class is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1.

11. **Extended Neighbor List Update Message**: The mobile station shall process the message as specified in 2.6.6.2.6.3.

12. **Extended Release Message**: The mobile station shall process the message as specified in 2.6.4.1.9.

13. **Extended Release Mini Message**: The mobile station shall process the message as specified in 2.6.4.1.11.

14. **Forward Supplemental Channel Assignment Mini Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

15. **Flash With Information Message**
16. **Extended Supplemental Channel Assignment Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1.

17. **General Handoff Direction Message**: If the band class is not specified in the message or the specified band is supported by the mobile station, the mobile station shall process the message as specified in 2.6.6.2.5.1. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

18. **In-Traffic System Parameters Message**: The mobile station shall process the message as specified in 2.6.4.1.4.

19. **Local Control Order**

20. **Lock Until Power-Cycled Order**: The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSNPS-P equals the least-significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

21. **Long Code Transition Request Order**: The mobile station shall process the message as specified in 2.6.4.1.6.

22. **Maintenance Order**: The mobile station shall enter the Waiting for Mobile Station Answer Substate.

23. **Maintenance Required Order**: The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSNPS-P equals the least-significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

24. **Message Encryption Mode Order**: The mobile station shall process the message as specified in 2.3.12.2.

25. **Mobile Station Registered Message**: The mobile station shall process the message as specified in 2.6.5.5.4.3.

26. **Neighbor List Update Message**: The mobile station shall process the message as specified in 2.6.6.2.6.3.

27. **Outer Loop Report Request Order**: The mobile station shall send the Outer Loop Report Message in assured mode to the base station.

28. **Parameter Update Order**: The mobile station shall increment COUNTS-P (see 2.3.12.1.3). The mobile station shall send a Parameter Update Confirmation
Order within \( T_{56m} \) seconds. The mobile station shall set the ORDQ field of the Parameter Update Confirmation Order to the same value as the ORDQ field of the Parameter Update Order.

29. \textit{Periodic Pilot Measurement Request Order}: The mobile station shall process the order as specified in 2.6.6.2.5.1.

30. \textit{Pilot Measurement Request Order}: The mobile station shall process the order as specified in 2.6.6.2.5.1.

31. \textit{Power Control Message}: The mobile station shall process the message as specified in 2.6.4.1.1.3.

32. \textit{Power Control Parameters Message}: The mobile station shall process the message as specified in 2.6.4.1.1.2.

33. \textit{Power Up Function Message}: The mobile station shall process the message as specified in 2.6.4.1.7.1.

34. \textit{Power Up Function Completion Message}: The mobile station shall process the message as specified in 2.6.4.1.7.3.

35. \textit{Release Order}: The mobile station shall enter the Release Substate with a base station release indication (see 2.6.4.5).

36. \textit{Resource Allocation Message}: The mobile station shall process the message as specified in 2.6.4.1.10.

37. \textit{Resource Allocation Mini Message}: The mobile station shall process the message as specified in 2.6.4.1.10.

38. \textit{Retrieve Parameters Message}: The mobile station shall send, within \( T_{56m} \) seconds, a Parameters Response Message.

39. \textit{Retry Order}: The mobile station shall process the order as follows:
   - If RETRY\_TYPE\(_r\) is equal to ‘000’, the mobile station shall set RETRY\_DELAY\(_s\)[RETRY\_TYPE] to 0, where RETRY\_TYPE is equal to ‘001’, ‘010’, or ‘011’.
   - If RETRY\_TYPE\(_r\) is equal to ‘001’, then the mobile station shall perform the following:
     - If RETRY\_DELAY\(_r\) is equal to ‘00000000’, then the mobile station shall set RETRY\_DELAY\(_s\) [RETRY\_TYPE\(_r\)] to 0.
     - If RETRY\_DELAY\(_r\) is not equal to ‘00000000’ the mobile station shall set RETRY\_DELAY\(_s\) [RETRY\_TYPE\(_r\)] as follows:
       - If the most significant bit of the RETRY\_DELAY\(_r\) is 0, set RETRY\_DELAY\_UNIT\(_s\) to 1000ms. If the most significant bit of the RETRY\_DELAY\(_r\) is ‘1’, set RETRY\_DELAY\_UNIT\(_s\) to 60000ms.
       - The mobile station shall set RETRY\_DELAY\_VALUE\(_s\) to the seven least significant bits of RETRY\_DELAY\(_r\).
+ The mobile station shall store the next system time 80 ms boundary + RETRY_DELAY_VALUEs \times RETRY_DELAY_UNITs ms as RETRY_DELAYs[RETRY_TYPEr].

- If RETRY_TYPEr is equal to ‘010’ or ‘011’, the mobile station shall perform the following:
  - If RETRY_DELAYr[RETRY_TYPEr] is ‘00000000’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPEr] to ‘0’.
  - If RETRY_DELAYr[RETRY_TYPEr] is ‘11111111’, then the mobile station shall set RETRY_DELAYs[RETRY_TYPEr] to infinity.
  - If RETRY_DELAYr[RETRY_TYPEr] is not equal to ‘00000000’ or ‘11111111’, the mobile station shall store the next system time 80 ms boundary + RETRY_DELAYr[RETRY_TYPEr] \times 320 ms as RETRY_DELAYs[RETRY_TYPEr].

40. *Reverse Supplemental Channel Assignment Mini Message:* The mobile station shall process the message as specified in 2.6.6.2.5.1.

41. *Send Burst DTMF Message:* Support of this order by the mobile station is optional.

42. *Service Connect Message:* The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

43. *Service Option Control Message:* The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

44. *Service Option Control Order:* The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

45. *Service Option Request Order:* The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

46. *Service Option Response Order:* The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

47. *Service Redirection Message:* The mobile station shall process the message as follows:
   If RECORD_TYPEr is equal to ‘00000000’, the mobile station shall do the following:
   - The mobile station shall set RETURN_IF_FAILs = RETURN_IF_FAILr.
   - If DELETE_TMSI r is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’.
- The mobile station shall disable the full-TMSI timer.
- The mobile station shall enter the Release Substate with an NDSS off indication (see 2.6.4.5).

If RECORD_TYPE_r is not equal to ‘00000000’, REDIRECT_TYPE_r is ‘1’, and the mobile station supports the band class and operating mode specified in the message, the mobile station shall do the following:
- The mobile station shall store the redirection record received in the message as REDIRECT_RECs.
- The mobile station shall enable NDSS_ORGS_s and shall record the dialed digits.
- The mobile station shall set RETURN_IF_FAIL_s = RETURN_IF_FAIL_r.
- If DELETE_TMSI_r is equal to ‘1’, the mobile station shall set all the bits of TMSI_CODE_s-p to ‘1’.
- The mobile station shall disable the full-TMSI timer.
- The mobile station shall enter the Release Substate with a redirection indication (see 2.6.4.5).

Otherwise, the mobile station shall discard the message and send a Mobile Station Reject Order (ORDQ set to the applicable reason code as determined from Table 2.7.3-1) within T56m seconds.

48. Service Request Message: The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

49. Service Response Message: The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

50. Set Parameters Message: If the mobile station can set all of the parameters specified by the PARAMETER_ID fields in the message, the mobile station shall set them; otherwise, the mobile station shall send, within T56m seconds, a Mobile Station Reject Order.

51. SSD Update Message: The mobile station shall process the message and respond with a Base Station Challenge Order as specified in 2.3.12.1.5 within T32m seconds.

52. Status Request Message: The mobile station shall send, within T56m seconds, a Status Response Message. If the message does not specify any qualification information (QUAL_INFO_TYPE_r is equal to ‘00000000’), the mobile station shall include the requested information records in the Status Response Message. If the message specifies a band class (QUAL_INFO_TYPE_r is equal to ‘00000001’), the mobile station shall only include the requested information records for the specified band class (BAND_CLASS_r) in the Status Response Message. If the message specifies a band class and an operating mode (QUAL_INFO_TYPE_r is equal to ‘00000010’), the mobile station shall only include the requested information records for the specified band class and operating mode (BAND_CLASS_r and OPERATING_MODE_r) in the Status Response Message.
equal to '0000010'), the mobile station shall only include the requested information records for the specified band class (BAND_CLASSr) and operating mode (OP_MODEr) in the Status Response Message.

If the message specifies a band class or a band class and an operating mode which is not supported by the mobile station, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00000110' (message requires a capability that is not supported by the mobile station).

If the response to this message exceeds the allowable length, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00001000' (response message would exceed the allowable length).

If the message specifies an information record which is not supported by the mobile station for the specified band class and operating mode, the mobile station shall send a Mobile Station Reject Order with ORDQ set to '00001001' (information record is not supported for the specified band class and operating mode).

53. Status Request Order: If CDMABANDs is equal to '00000', the mobile station shall send a Status Message within T56m seconds. The mobile station shall respond with information corresponding to the current band class and operating mode.

54. Supplemental Channel Assignment Message: The mobile station shall process the message as specified in 2.6.6.2.5.1.

55. TMSI Assignment Message: The mobile station shall store the TMSI zone and code as follows:

- The mobile station shall store the length of the TMSI zone field by setting ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr,
- The mobile station shall store the assigning TMSI zone number by setting the ASSIGNING_TMSI_ZONE_LENs-p least significant octets of ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and
- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting TMSI_EXP_TIMEs-p to TMSI_EXP_TIMEr. The mobile station shall disable the full-TMSI timer. The mobile station shall then respond with a TMSI Assignment Completion Message within T56m seconds.

If the bits of TMSI_CODEs-p are not all equal to ‘1’, and if System Time (in 80 ms units) exceeds TMSI_EXP_TIMEs-p × 2^{12}, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’ within T66m seconds.

If the full-TMSI timer expires or has expired, the mobile station shall set all the bits of TMSI_CODEs-p to ‘1’. The mobile station shall update the registration variables as described in 2.6.5.5.2.5.
56. **Universal Handoff Direction Message**: The mobile station shall process the message as specified in 2.6.6.2.5.1. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

- If the mobile station receives a message that is not included in the above list, cannot be processed, or requires a capability which is not supported, the mobile station shall discard the message and send a **Mobile Station Reject Order** (ORDQ set to the applicable reason code as determined from Table 2.7.3-1) within $T_{56m}$ seconds.

2.6.4.5 Release Substate

In this substate, the mobile station confirms the call disconnect.

Upon entering the **Release Substate**, the mobile station shall perform the following:

- The mobile station shall set the substate timer for $T_{55m}$ seconds.
- If the mobile station enters the **Release Substate** with a power-down indication, the mobile station shall send a **Release Order** (ORDQ = ‘00000001’), and shall perform power-down registration procedures (see 2.6.5.5.4.4).
- If the mobile station enters the **Release Substate** with a mobile station release indication, the mobile station shall send a **Release Order** (ORDQ = ‘00000000’), and set RETURN_CAUSEs to ‘0000’.
- If the mobile station enters the **Release Substate** with a service inactive indication, the mobile station shall send a **Release Order** (ORDQ = ‘00000010’), and set RETURN_CAUSEs to ‘0000’.
- If the mobile station enters the **Release Substate** with a base station release indication, the mobile station shall send a **Release Order** (ORDQ = ‘00000000’). The mobile station shall disable its transmitter, set RETURN_CAUSEs to ‘0000’, and shall enter the **System Determination Substate** of the **Mobile Station Initialization State** with a release indication (see 2.6.1.1).
- If the mobile station enters the **Release Substate** with a base station extended release indication, then the mobile station shall perform the following:
  - The mobile station shall send an **Extended Release Response Message** to the base station.
  - The mobile station shall disable its transmitter, set RETURN_CAUSEs to ‘0000’, and shall enter the **System Determination Substate** of the **Mobile Station Initialization State** with a release indication (see 2.6.1.1).
- If the mobile station entered the **Release Substate** with a base station extended release with mini message indication, then the mobile station shall perform the following:
  - The mobile station shall send an **Extended Release Response Mini Message** to the base station.
– The mobile station shall disable its transmitter, set RETURN_CAUSEs to ‘0000’, and shall enter the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1).

- If the mobile station enters the Release Substate with a redirection indication, the mobile station shall send a Release Order (ORDQ = ‘00000000’) and shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).

- If the mobile station enters the Release Substate with an NDSS off indication, the mobile station shall send a Release Order (ORDQ = ‘00000000’), and shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1).

While in the Release Substate, the mobile station shall perform the following:

- If the substate timer expires, the mobile station shall disable its transmitter and shall enter the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1).

- The mobile station shall perform Forward Traffic Channel supervision as specified in 2.6.4.1.8. If a loss of the Forward Traffic Channel is declared, the mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1).

- The mobile station shall adjust its transmit power as specified in [2].

- The mobile station shall perform Forward Traffic Channel power control as specified in 2.6.4.1.1.

- The mobile station shall perform handoff processing as specified in 2.6.6.

- If the Fundamental Channel is present, the mobile station shall transmit null traffic, except when transmitting signaling traffic, on the Reverse Fundamental Channel.

- The mobile station shall process Forward Traffic Channel signaling traffic and shall discard other types of Forward Traffic Channel traffic.

- The mobile station shall perform registration timer maintenance as specified in 2.6.5.5.4.2.

- If Layer 3 receives a L2-Condition.Notification primitive from Layer 2 indicating an acknowledgment failure, the mobile station shall disable its transmitter and enter the System Determination Substate of the Mobile Station Initialization State with a release indication (see 2.6.1.1).

- If the mobile station receives a message which is included in the following list, and if every message field value is within its permissible range, the mobile station shall process the message as described below and in accordance with the message’s action time (see 2.6.4.1.5):

  1. **Alert With Information Message**: The mobile station shall enter the Waiting for Mobile Station Answer Substate. If the Alert With Information Message does not contain a Signal information record, the mobile station should use standard
alert as defined in 3.7.5.5.

2. **Candidate Frequency Search Control Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

3. **Candidate Frequency Search Request Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

4. **Data Burst Message**

5. **Extended Handoff Direction Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

6. **Extended Neighbor List Update Message:** The mobile station shall process the message as specified in 2.6.6.2.6.3.

7. **Extended Supplemental Channel Assignment Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

8. **General Handoff Direction Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1. If the message contains a service configuration record, the mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

9. **In-Traffic System Parameters Message:** The mobile station shall process the message as specified in 2.6.4.1.4.

10. **Local Control Order**

11. **Mobile Assisted Burst Operation Parameters Message:** The mobile station shall process the message as specified in 2.6.6.2.5.1.

12. **Lock Until Power-Cycled Order:** The mobile station shall disable its transmitter and record the reason for the Lock Until Power-Cycled Order in the mobile station’s semi-permanent memory (LCKRSN_Ps-p equals the least-significant four bits of ORDQr). The mobile station should notify the user of the locked condition. The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a lock indication (see 2.6.1.1), and shall not enter the System Access State again until after the next mobile station power-up or until it has received an Unlock Order. This requirement shall take precedence over any other mobile station requirement specifying entry to the System Access State.

13. **Maintenance Required Order:** The mobile station shall record the reason for the Maintenance Required Order in the mobile station’s semi-permanent memory (MAINTRSNs-p equals the least-significant four bits of ORDQr). The mobile station shall remain in the unlocked condition. The mobile station should notify the user of the maintenance required condition.

14. **Mobile Station Registered Message:** The mobile station shall process the message as specified in 2.6.5.5.4.3.

15. **Neighbor List Update Message:** The mobile station shall process the message as
specified in 2.6.6.2.6.3.

16. **Outer Loop Report Request Order**: The mobile station shall send the *Outer Loop Report Message* in assured mode to the base station.

17. **Power Control Message**: The mobile station shall process the message as specified in 2.6.4.1.1.3.

18. **Power Control Parameters Message**: The mobile station shall process the message as specified in 2.6.4.1.1.2.

19. **Power Up Function Message**: The mobile station shall process the message as specified in 2.6.4.1.7.1.

20. **Power Up Function Completion Message**: The mobile station shall process the message as specified in 2.6.4.1.7.3.

21. **Release Order**: The mobile station shall disable its transmitter. If the mobile station enters the *Release Substate* with a power-down indication, the mobile station may power down; otherwise, the mobile station shall enter the *System Determination Substate* of the *Mobile Station Initialization State* with a release indication (see 2.6.1.1).

22. **Retrieve Parameters Message**: The mobile station shall send, within $T_{56m}$ seconds, a *Parameters Response Message*.

23. **Retry Order**: The mobile station shall process the order as follows:
   - If $RETRY\_TYPE_{r}$ is equal to '000', the mobile station shall set $RETRY\_DELAY_{s}[RETRY\_TYPE]$ to 0, where $RETRY\_TYPE$ is equal to '001', '010', or '011'.
   - If $RETRY\_TYPE_{r}$ is equal to '001', then the mobile station shall perform the following:
     - If $RETRY\_DELAY_{r}$ is equal to '00000000', then the mobile station shall set $RETRY\_DELAY_{s}[RETRY\_TYPE_{r}]$ to 0.
     - If $RETRY\_DELAY_{r}$ is not equal to '00000000' the mobile station shall set $RETRY\_DELAY_{s}[RETRY\_TYPE_{r}]$ as follows:
       + If the most significant bit of the $RETRY\_DELAY_{r}$ is 0, set $RETRY\_DELAY\_UNIT_{s}$ to 1000ms. If the most significant bit of the $RETRY\_DELAY_{r}$ is ‘1’, set $RETRY\_DELAY\_UNIT_{s}$ to 60000ms.
       + The mobile station shall set $RETRY\_DELAY\_VALUE_{s}$ to the seven least significant bits of $RETRY\_DELAY_{r}$.
       + The mobile station shall store the next system time 80 ms boundary + $RETRY\_DELAY\_VALUE_{s} \times RETRY\_DELAY\_UNIT_{s}$ ms as $RETRY\__DELAY_{s}[RETRY\_TYPE_{r}]$.

24. **Service Option Control Message**: The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).
25. **Service Option Control Order:** The mobile station shall process the message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

26. **Service Redirection Message:** The mobile station shall disable its transmitter. If the mobile station enters the Release Substate with a power-down indication, the mobile station may power down; otherwise, the mobile station shall process the message as follows:
   - If RECORD_TYPE\(_r\) is ‘00000000’, the mobile station shall do the following:
     - The mobile station shall set RETURN\_IF\_FAIL\(_s\) = RETURN\_IF\_FAIL\(_r\).
     - If DELETE\_TMSI\(_r\) is equal to ‘1’, the mobile station shall set all the bits of TMSI\_CODE\(_{s-p}\) to ‘1’.
     - The mobile station shall disable the full-TMSI timer.
     - The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with an NDSS off indication (see 2.6.1.1).
   - If RECORD\_TYPE is not equal to ‘00000000’, REDIRECT\_TYPE\(_r\) is ‘1’, and the mobile station supports the band class and operating mode specified in the message, the mobile station shall do the following:
     - The mobile station shall store the redirection record received in the message as REDIRECT\_RECs.
     - The mobile station shall set RETURN\_IF\_FAIL\(_s\) = RETURN\_IF\_FAIL\(_r\).
     - If DELETE\_TMSI\(_r\) is equal to ‘1’, the mobile station shall set all the bits of TMSI\_CODE\(_{s-p}\) to ‘1’.
     - The mobile station shall disable the full-TMSI timer.
     - The mobile station shall enter the System Determination Substate of the Mobile Station Initialization State with a redirection indication (see 2.6.1.1).
   - Otherwise, the mobile station shall discard the message and send a Mobile Station Reject Order (ORDQ set to the applicable reason code as determined from Table 2.7.3-1) within T\(_{56m}\) seconds.

27. **Status Request Message:** The mobile station shall send, within T\(_{56m}\) seconds, a Status Response Message. If the message does not specify any qualification information (QUAL\_INFO\_TYPE\(_r\) is equal to ‘00000000’), the mobile station shall include the requested information records in the Status Response Message. If the message specifies a band class (QUAL\_INFO\_TYPE\(_r\) is equal to ‘00000001’), the mobile station shall only include the requested information records for the specified band class (BAND\_CLASS\(_r\)) in the Status Response Message. If the message specifies a band class and an operating mode (QUAL\_INFO\_TYPE\(_r\) is equal to ‘00000010’), the mobile station shall only include the requested information records for the specified band class (BAND\_CLASS\(_r\)) and operating mode (OP\_MODE\(_r\)) in the Status Response Message. If the message specifies a
band class or a band class and an operating mode which are not supported by
the mobile station, the mobile station shall send a Mobile Station Reject Order
with ORDQ set to '00000110' (message requires a capability that is not
supported by the mobile station). If the response to this message exceeds the
allowable length, the mobile station shall send a Mobile Station Reject Order
with ORDQ set to '00001000' (response message would exceed the allowable
length). If the message specifies an information record which is not supported
by the mobile station for the specified band class and operating mode, the
mobile station shall send a Mobile Station Reject Order with ORDQ set to
'00001001' (information record is not supported for the specified band class and
operating mode).

28. Status Request Order: If CDMABANDS is equal to ‘00000’, the mobile station
shall send, a Status Message within T56m seconds. The mobile station shall
respond with information corresponding to the current band class and
operating mode.

29. Supplemental Channel Assignment Message: The mobile station shall process
the message as specified in 2.6.6.2.5.1.

30. TMSI Assignment Message: The mobile station shall store the TMSI zone and
code as follows:

- The mobile station shall store the length of the TMSI zone field by setting
  ASSIGNING_TMSI_ZONE_LENs-p to TMSI_ZONE_LENr;

- The mobile station shall store the assigning TMSI zone number by setting the
  ASSIGNING_TMSI_ZONE_LENs-p least significant octets of
  ASSIGNING_TMSI_ZONEs-p to TMSI_ZONEr, and

- The mobile station shall store the TMSI code by setting TMSI_CODEs-p to
  TMSI_CODEr.

The mobile station shall set the TMSI expiration time by setting
TMSI_EXP_TIMEs-p to TMSI_EXP_TIMEr. The mobile station shall disable the
full-TMSI timer. The mobile station shall then respond with a TMSI Assignment
Completion Message within T56m seconds.

If the bits of TMSI_CODEs-p are not all equal to ‘1’, and if System Time (in 80 ms
units) exceeds TMSI_EXP_TIMEs-p × 2^{12}, the mobile station shall set all the bits
of TMSI_CODEs-p to ‘1’ within T66m seconds.

If the full-TMSI timer expires or has expired, the mobile station shall set all the
bits of TMSI_CODEs-p to ‘1’. The mobile station shall update the registration
variables as described in 6.6.5.5.2.5.

31. Universal Handoff Direction Message: The mobile station shall process the
message as specified in 2.6.6.2.5.1. If the message contains a service
configuration record, the mobile station shall process the message in
accordance with the requirements for the active service subfunction (see
2.6.4.1.2.2)
If the mobile station receives a message that is not included in the above list or cannot be processed, the mobile station shall discard the message and send a Mobile Station Reject Order (ORDQ set to the applicable reason code as determined from Table 2.7.3-1) within T56m seconds.

2.6.5 Registration

2.6.5.1 Forms of Registration

Registration is the process by which the mobile station notifies the base station of its location, status, identification, slot cycle, and other characteristics. The mobile station informs the base station of its location and status so that the base station can efficiently page the mobile station when establishing a mobile station terminated call. For operation in the slotted mode, the mobile station supplies the SLOT_CYCLE_INDEX parameter so that the base station can determine which slots the mobile station is monitoring. The mobile station supplies the station class mark and the protocol revision number so that the base station knows the capabilities of the mobile station.

The CDMA system supports ten different forms of registration:

1. Power-up registration. The mobile station registers when it powers on, switches from using a different frequency block, switches from using a different band class, switches from using an alternative operating mode, or switches from using the analog system.

2. Power-down registration. The mobile station registers when it powers off if previously registered in the current serving system.

3. Timer-based registration. The mobile station registers when a timer expires.

4. Distance-based registration. The mobile station registers when the distance between the current base station and the base station in which it last registered exceeds a threshold.

5. Zone-based registration. The mobile station registers when it enters a new zone.

6. Parameter-change registration. The mobile station registers when certain of its stored parameters change or when it enters a new system.

7. Ordered registration. The mobile station registers when the base station requests it.

8. Implicit registration. When a mobile station successfully sends an Origination Message or Page Response Message, the base station can infer the mobile station’s location. This is considered an implicit registration.

9. Traffic Channel registration. Whenever the base station has registration information for a mobile station that has been assigned to a Traffic Channel, the base station can notify the mobile station that it is registered.

10. User Zone Registration. The mobile station registers when it selects an active User Zone (see 2.6.9.1.2).
The first five forms of registration, as a group, are called autonomous registration and are enabled by roaming status (see 2.6.5.3). Parameter-change registration is independent of roaming status. Ordered registration is initiated by the base station through an Order Message. Implicit registration does not involve the exchange of any registration messages between the base station and the mobile station. The base station can obtain registration information by sending the Status Request Message to the mobile station on either the f-csch or the f-dsch. The base station can obtain limited registration information by sending the Status Request Order to the mobile station on the f-dsch. The mobile station can be notified that it is registered through the Mobile Station Registered Message.

Any of the various forms of autonomous registration and parameter-change registration can be enabled or disabled. The forms of registration that are enabled and the corresponding registration parameters are communicated in the System Parameters Message.

In addition, the mobile station may enable or disable autonomous registration for each type of roaming described in 2.6.5.3.

2.6.5.1.1 Power-Up Registration

Power-up registration is performed when the mobile station is turned on. To prevent multiple registrations when power is quickly turned on and off, the mobile station delays T57m seconds before registering, after entering the Mobile Station Idle State.

The mobile station shall maintain a power-up/initialization timer. While the power-up/initialization timer is active, the mobile station shall not make registration access attempts.

2.6.5.1.2 Power-Down Registration

Power-down registration is performed when the user directs the mobile station to power off. If power-down registration is performed, the mobile station does not power off until after completing the registration attempt.

The mobile station does not perform power-down registration if it has not previously registered in the system that corresponds to the current SID and NID (see 2.6.5.5.2.4).

2.6.5.1.3 Timer-Based Registration

Timer-based registration causes the mobile station to register at regular intervals. Its use also allows the system to automatically deregister mobile stations that did not perform a successful power-down registration. Timer-based registration uses a Paging Channel slot counter (equivalent to a timer with time increments of 80 ms). Timer-based registration is performed when the counter reaches a maximum value (REG_COUNT_MAX) that is controlled by the base station via the REG_PRD field of the System Parameters Message. The base station disables timer-based registration by setting REG_PRD to zero.

The mobile station shall maintain a timer-based registration counter (REG_COUNT). The mobile station shall compute and store the timer expiration count (REG_COUNT_MAX) as

\[ \text{REG_COUNT_MAX} = \left\lfloor 2^{\text{REG_PRD}/4} \right\rfloor. \]
The mobile station shall maintain an indicator of timer-based registration timer enable status \( \text{COUNTER\_ENABLED}_{s} \).

The counter is reset when the mobile station powers on and when the mobile station switches from different band classes, different serving systems, different frequency blocks, and alternate operating modes. The counter is also reset after each successful registration.

Whenever the mobile station changes \( \text{COUNTER\_ENABLED}_{s} \) from NO to YES, it shall set \( \text{REG\_COUNT}_{s} \) to a pseudorandom value between 0 and \( \text{REG\_COUNT\_MAX}_{s} - 1 \), using the pseudorandom number generator specified in 2.6.7.2.

If the mobile station is operating in the non-slotted mode, it shall increment the timer-based registration counter once per 80 ms whenever \( \text{COUNTER\_ENABLED}_{s} \) equals YES. If the mobile station is operating in slotted mode, it may increment the timer-based registration counter when it begins to monitor the Paging Channel (see 2.6.2.1.1.3). A mobile station operating in the slotted mode shall increment the counter by the same amount that the counter would have been incremented if the mobile station had been operating in the non-slotted mode.\(^{10}\)

### 2.6.5.1.4 Distance-Based Registration

Distance-based registration causes a mobile station to register when the distance between the current base station and the base station in which it last registered exceeds a threshold. The mobile station determines that it has moved a certain distance by computing a distance measure based on the difference in latitude and longitude between the current base station and the base station where the mobile station last registered. If this distance measure exceeds the threshold value, the mobile station registers.

The mobile station stores the base station latitude (\( \text{BASE\_LAT\_REG}_{s-p} \)), the base station longitude (\( \text{BASE\_LONG\_REG}_{s-p} \)) and the registration distance (\( \text{REG\_DIST\_REG}_{s-p} \)), of the base station to which the first access probe (for a Registration Message, Origination Message, or Page Response Message sent on the r-csch) was transmitted after entering the System Access State. The mobile station shall compute the current base station’s distance from the last registration point (DISTANCE) as:

\[
\text{DISTANCE} = \left\lfloor \frac{\sqrt{(\Delta \text{lat})^2 + (\Delta \text{long})^2}}{16} \right\rfloor,
\]

where

\[
\Delta \text{lat} = \text{BASE\_LAT}_{s} - \text{BASE\_LAT\_REG}_{s-p}
\]

and

\[
\Delta \text{long} = (\text{BASE\_LONG}_{s} - \text{BASE\_LONG\_REG}_{s-p}) \times \cos (\pi/180 \times \text{BASE\_LAT\_REG}_{s-p}/14400).
\]

\(^{10}\) For example, if the mobile station uses a 2.56 second slot cycle, then it may increment the counter by 32 every time it becomes active.
The mobile station shall compute DISTANCE with an error of no more than ±5% of its true value when $|\text{BASE LAT}_\text{REGS}_\text{p}/14400| < 60$ and with an error of no more than ±7% of its true value when $|\text{BASE LAT}_\text{REGS}_\text{p}/14400| > 60$ and $< 70$.\(^\text{11}\)

2.6.5.1.5 Zone-Based Registration

Registration zones are groups of base stations within a given system and network. A base station's zone assignment is identified by the REG_ZONE field of the System Parameters Message.

Zone-based registration causes a mobile station to register whenever it determines it is in a new zone, not on its internally stored list of visited registration zones. A zone is added to the list whenever a registration (including implicit registration) occurs, and is deleted upon expiration of a timer. After a system access, timers are enabled for every zone except one that was successfully registered by the access.

A mobile station can be registered in more than one zone. Zones are uniquely identified by a zone number (REG_ZONE) plus the SID and NID of the zone.

The mobile station shall store a list of the zones in which the mobile station has registered (ZONE_LISTs). Each entry in ZONE_LISTs shall include the zone number (REG_ZONE) and the (SID, NID) pair for the zone. The mobile station shall be capable of storing at least $N_{\text{min}}$ entries in ZONE_LISTs. A base station shall be considered to be in ZONE_LISTs only if the base station's REG_ZONE, SID and NID are found in an entry in ZONE_LISTs. The mobile station provides storage for one entry of ZONE_LISTs in semi-permanent memory, ZONE_LISTs-p (see 2.3.4).

The mobile station shall maintain a zone list entry timer for each entry in ZONE_LISTs. When an entry in ZONE_LISTs is removed from the list, the corresponding zone list entry timer shall be disabled. The timer duration shall be as determined from the stored value of ZONE_TIMERS using Table 3.7.2.3.2.1-1. The mobile station shall provide a means to examine each timer's value while the timer is active, so that the age of list entries can be compared.

If the mobile station supports Band Class 1, Band Class 2, Band Class 4, Band Class 5, or Band Class 7, or Band Class 10, the mobile station shall maintain an identifier of the frequency block for each entry in ZONE_LISTs (see [2]). When the mobile station adds a zone to ZONE_LISTs, the mobile station shall include the identifier for the frequency block.\(^\text{12}\)

If the mobile station supports multiple band classes, the mobile station shall maintain an identifier of the band class for each entry in ZONE_LISTs (see [2]). When the mobile station

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\(^{11}\) BASE_LAT and BASE_LONG are given in units of 1/4 seconds. BASE_LAT/14400 and BASE_LONG/14400 are in units of degrees.

\(^{12}\) The mobile station need not maintain a separate identifier for Band Class 0, as the least significant bit of the SID identifies the serving system.
adds a zone to ZONE_LISTs, the mobile station shall include the identifier for the band class.

The base station controls the maximum number of zones in which a mobile station may be considered registered, by means of the TOTAL_ZONES field of the System Parameters Message. When an entry is added to the zone list, or if TOTAL_ZONES is decreased, the mobile station removes entries from the zone list if there are more entries than allowed by the setting of TOTAL_ZONES.

Whenever ZONE_LISTs contains more than TOTAL_ZONES entries, the mobile station shall delete the excess entries according to the following rules:

- If TOTAL_ZONES is equal to zero, the mobile station shall delete all entries.
- If TOTAL_ZONES is not equal to zero, the mobile station shall delete those entries having active zone list entry timers, starting with the oldest entry, as determined by the timer values, and continuing in order of decreasing age until no more than TOTAL_ZONES entries remain.

The mobile station shall store a list of the systems/networks in which the mobile station has registered (SID_NID_LISTs). Each entry in SID_NID_LISTs shall include the (SID, NID) pair for the system/network. The mobile station shall be capable of storing $N_{10m}$ entries in SID_NID_LISTs. A base station shall be considered to be in the SID_NID_LISTs only if the base station’s SID and NID are found in an entry in SID_NID_LISTs. The mobile station shall provide storage for one entry of SID_NID_LISTs in semi-permanent memory (SID_NID_LISTs-p).

If the mobile station supports Band Class 1, Band Class 2, Band Class 4, Band Class 5, or Band Class 7, or Band Class 10, the mobile station shall maintain an identifier of the frequency block for each entry in SID_NID_LISTs (see [2]). When the mobile station adds an entry to SID_NID_LISTs, the mobile station shall include the identifier for the frequency block.

If the mobile station supports multiple band classes, the mobile station shall maintain an identifier of the band class for each entry in SID_NID_LISTs (see [2]). When the mobile station adds an entry to SID_NID_LISTs, the mobile station shall include the identifier for the band class.

The mobile station shall maintain a SID/NID list entry timer for each entry in SID_NID_LISTs. When an entry in SID_NID_LISTs is removed from the list, the corresponding SID/NID list entry timer shall be disabled. The timer duration shall be as determined from the stored value of ZONE_TIMERs using Table 3.7.2.3.2.1-1. The mobile station shall provide a means to examine each timer’s value while the timer is active, so that the age of list entries can be compared.

Whenever SID_NID_LISTs contains more than $N_{10m}$ entries, the mobile station shall delete the excess entries according to the following rule:

- The mobile station shall delete those entries having active SID/NID list entry timers, starting with the oldest entry, as determined by the timer values, and continuing in order of decreasing age.
Whenever \text{MULT\_SIDS} is equal to '0' and \text{SID\_NID\_LIST} contains entries with different SIDs, the mobile station shall delete the excess entries according to the following rules:

- If the SID/NID entry timer for any entry is disabled, the mobile station shall delete all entries not having the same SID as the entry whose timer is disabled;
- Otherwise, the mobile station shall delete all entries not having the same SID as the newest entry in \text{SID\_NID\_LIST}, as determined by the timer values.

Whenever \text{MULT\_NIDS}\text{S}\text{s} is equal to '0', and \text{SID\_NID\_LIST} contains more than one entry for any SID, the mobile station shall delete the excess entries for each SID according to the following rules:

- If the SID/NID entry timer for any entry is disabled, the mobile station shall delete all entries for that SID except the entry whose timer is disabled;
- For all other SIDs, the mobile station shall delete all entries for each SID except the newest entry, as determined by the timer values.

### 2.6.5.1.6 Parameter-Change Registration

Parameter-change registration is performed when a mobile station modifies any of the following stored parameters:

- The preferred slot cycle index (\text{SLOT\_CYCLE\_INDEX}_{p})
- The station class mark (\text{SCM}_{p})
- The call termination enabled indicators (\text{MOB\_TERM\_HOME}_{p}, \text{MOB\_TERM\_FOR\_SID}_{p}, \text{and MOB\_TERM\_FOR\_NID}_{p})

Parameter-change registration is also performed when any of the following capabilities supported by the mobile station changes:

- The band classes
- The power classes
- The radio configurations
- The operating modes
- Quick Paging Channel

Parameter-change registration is performed whenever there is no entry in the mobile station’s \text{SID\_NID\_LIST}_{S} that matches the base station’s SID and NID.

Parameter-change registration is independent of the roaming status of the mobile station.\textsuperscript{13}

Whenever a parameter changes, the mobile station shall delete all entries from \text{SID\_NID\_LIST}_{S}.

\textsuperscript{13} The indicator \text{REG\_ENABLED} does not govern parameter-change registration.
2.6.5.1.7 Ordered Registration

The base station can command the mobile station to register by sending a Registration Request Order. Ordered registration is performed in the Mobile Station Order and Message Processing Operation (2.6.2.4). Requirements are specified in 2.6.5.5.2.3.

2.6.5.1.8 Implicit Registration

Whenever an Origination Message or Page Response Message is sent, the base station can infer the location of the mobile station. This is considered an implicit registration. Requirements are specified in 2.6.5.5.3.

2.6.5.1.9 Traffic Channel Registration

While a mobile station is assigned a Traffic Channel, the mobile station is notified that it is registered through the Mobile Station Registered Message. Requirements are specified in 2.6.5.5.4.3.

2.6.5.1.10 User Zone Registration

User Zone registration is performed when the mobile station selects an active User Zone (see 2.6.9.2.1).

2.6.5.2 Systems and Networks

A base station is a member of a cellular or PCS system and a network. A network is a subset of a system.

Systems are labeled with an identification called the system identification or SID; networks within a system are given a network identification or NID. A network is uniquely identified by the pair (SID, NID). The SID number 0 is a reserved value. The NID number 0 is a reserved value indicating all base stations that are not included in a specific network. The NID number 65535 (2\(^{16} - 1\)) is a reserved value the mobile station may use for roaming status determination (see 2.6.5.3) to indicate that the mobile station considers the entire SID (regardless of NID) as home (non-roaming).

Figure 2.6.5.2-1 shows an example of systems and networks. SID i contains three networks labeled t, u, and v. A base station in system i that is not in one of these three networks is in NID 0.
2.6.5.3 Roaming

The mobile station has a list of one or more home (non-roaming) (SID, NID) pairs. A mobile station is roaming if the stored (SID_s, NID_s) pair (received in the System Parameters Message) does not match one of the mobile station’s non-roaming (SID, NID) pairs. Two types of roaming are defined: A mobile station is a foreign NID roamer if the mobile station is roaming and there is some (SID, NID) pair in the mobile station’s (SID, NID) list for which SID is equal to SID_s. A mobile station is a foreign SID roamer if there is no (SID, NID) pair in the mobile station’s (SID, NID) list for which SID is equal to SID_s. The mobile station

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14 For example, suppose a mobile station has the following SID, NID list: (2, 3), (2, 0), (3, 1). If the base station (SID, NID) pair is (2, 3), then the mobile station is not roaming because the (SID, NID) pair is in the list. If the base station (SID, NID) pair is (2, 7), then the mobile station is a foreign NID roamer.

(footnote continued on next page)
may use the special NID value 65535 to indicate that the mobile station considers all NIDs within a SID to be non-roaming (i.e., that the mobile station is not roaming when operating with any base station in that system).

The mobile station shall store three 1-bit parameters in its permanent memory (see 2.3.8). These parameters are MOB_TERM_HOME_p, MOB_TERM_FOR_SID_p, and MOB_TERM_FOR_NID_p. The mobile station shall set MOB_TERM_HOME_p to ‘1’ if the mobile station is configured to receive mobile station terminated calls when using a home (SID, NID) pair; otherwise, the mobile station shall set MOB_TERM_HOME_p to ‘0’. The mobile station shall set MOB_TERM_FOR_SID_p to ‘1’ if the mobile station is configured to receive mobile station terminated calls when it is a foreign SID roamer; otherwise MOB_TERM_FOR_SID_p shall be set to ‘0’. The mobile station shall set MOB_TERM_FOR_NID_p to ‘1’ if the mobile station is configured to receive mobile station terminated calls when it is a foreign NID roamer; otherwise the mobile station shall set MOB_TERM_FOR_NID_p to ‘0’.

The mobile station determines the registration status using these parameters and the HOME_REG, FOR_NID_REG, and FOR_SID_REG fields of the System Parameters Message.

The mobile station shall store a mobile station call termination enabled indicator, MOB_TERMs. The mobile station shall set MOB_TERMs to YES if any of the following conditions is met:

- The mobile station is not roaming, and MOB_TERM_HOME_p is equal to ‘1’; or
- The mobile station is a foreign NID roamer and MOB_TERM_FOR_NID_p is equal to ‘1’; or
- The mobile station is a foreign SID roamer and MOB_TERM_FOR_SID_p is equal to ‘1’; otherwise the mobile station shall set MOB_TERMs to NO.

The mobile station shall store a registration status indicator, REG_ENABLEDs. The mobile station shall set the indicator REG_ENABLEDs to YES if any of the following conditions is met for the mobile station:

- The mobile station is not roaming, and both HOME_REGs and MOB_TERM_HOME_p are equal to ‘1’; or
- The mobile station is a foreign NID roamer and both FOR_NID_REGs and MOB_TERM_FOR_NID_p are equal to ‘1’; or
- The mobile station is a foreign SID roamer and both FOR_SID_REGs and MOB_TERM_FOR_SID_p are equal to ‘1’; otherwise the mobile station shall set REG_ENABLEDs to NO.

The mobile station performs autonomous registrations if REG_ENABLEDs is YES.

roamer, because the SID 2 is in the list, but the (SID, NID) pair (2, 7) is not in the list. If the base station (SID, NID) pair is (4, 0), then the mobile station is a foreign SID roamer, because SID 4 is not in the list.
2.6.5.4 Registration Timers and Indicators

The mobile station shall provide the following registration timers:

- Power-up/initialization timer (see 2.6.5.1.1).
- Timer-based registration timer (see 2.6.5.1.3).
- Zone list entry timers (see 2.6.5.1.5).
- SID/NID list entry timers (see 2.6.5.1.5).

The mobile station shall provide a means of enabling and disabling each timer. When a timer is disabled, it shall not be considered expired. A timer that has been enabled is referred to as active.

2.6.5.5 Registration Procedures

2.6.5.5.1 Actions in the Mobile Station Initialization State

2.6.5.5.1.1 Power-Up or Change to a Different Operating Mode, Band Class, Serving System, or Frequency Block

Upon power-up, the mobile station shall perform the following actions:

- Delete all entries of ZONE_LISTs.
- If ZONE_LISTs-p contains an entry, copy the entry to ZONE_LISTs and disable the corresponding entry timer.
- Delete all entries of SID_NID_LISTs.
- If SID_NID_LISTs-p contains an entry, copy the entry to SID_NID_LISTs and disable the corresponding entry timer.
- Set the registered flag (REGISTEREDs) to NO.
- Set timer-based registration enable status (COUNTER_ENABLEDs) to NO.
- Set autonomous registration enable status (REG_ENABLEDs) to NO.
- Set RETURN_CAUSEs to ‘0000’.

Upon switching from CDMA in a different band class, from CDMA in a different serving system in a band class that supports multiple serving systems (e.g., Band Class 0), from CDMA in a different frequency block in a band class that supports frequency block allocations (e.g. Band Class 1), or from the 800 MHz analog system, the mobile station shall perform the following actions:

- Set timer-based registration enable status (COUNTER_ENABLEDs) to NO.
- Set autonomous registration enable status (REG_ENABLEDs) to NO.
- Set RETURN_CAUSEs to ‘0000’.
2.6.5.5.1.2 Timer Maintenance

While in the Mobile Station Initialization State, the mobile station shall update all active registration timers (see 2.6.5.4). If any timer expires while in this state, the mobile station shall preserve the expiration status so that further action can be taken in the Mobile Station Idle State.

2.6.5.5.1.3 Entering the Mobile Station Idle State

Before entering the Mobile Station Idle State from the Mobile Station Initialization State, the mobile station shall perform the following action:

- If REGISTEREDₚ is equal to NO, enable the power-up/initialization timer with an expiration time of T₅₇ₗₘ seconds (see 2.6.5.1.1) only when the mobile station is entering this state with a power-up indication.

2.6.5.5.2 Actions in the Mobile Station Idle State

Requirements in this section and its subsections apply only when the mobile station is in the Mobile Station Idle State.

2.6.5.5.2.1 Idle Registration Procedures

These procedures are performed whenever the mobile station is in the Mobile Station Idle State (see 2.6.2.1.3).

While in the Mobile Station Idle State, the mobile station shall update all active registration timers (see 2.6.5.4).

If the power-up/initialization timer has expired or is disabled, the mobile station shall perform the following actions in the order given. If any action necessitates a registration, the mobile station shall enter the Update Overhead Information Substate of the System Access State (see 2.6.3) with a registration indication.

1. The timer-based registration timer shall be enabled (COUNTER_ENABLEDₚ = YES) and the timer count (REG_COUNTₚ) shall be set to a pseudorandom number as specified in 2.6.5.1.3, if the following conditions are met:
   a. COUNTER_ENABLEDₚ is equal to NO; and
   b. The stored configuration parameters are current (see 2.6.2.2); and
   c. REG_ENABLEDₚ is equal to YES; and
   d. REG_PRDₚ is not equal to zero.

2. If any zone list entry timer (see 2.6.5.1.5) has expired, the mobile station shall delete the corresponding entry from ZONE_LISTₚ.

3. If any SID/NID list entry timer (see 2.6.5.1.5) has expired, the mobile station shall delete the corresponding entry from SID_NID_LISTₚ.

4. The mobile station shall perform power-up registration, as specified in 2.6.5.1.1, if all the following conditions are met:
a. POWER_UP_REGs is equal to '1'; and
b. The stored configuration parameters are current (see 2.6.2.2); and
c. REGISTEREDs is equal to NO, and
d. REG_ENABLEDs is equal to YES.

5. The mobile station shall perform parameter-change registration (see 2.6.5.1.6) if all the following conditions are met:
   a. PARAMETER_REGs is equal to '1'; and
   b. The stored configuration parameters are current (see 2.6.2.2); and
   c. There is no entry of SID_NID_LISTs whose SID and NID fields match the stored SIDs and NIDs.

6. The mobile station shall perform timer-based registration (see 2.6.5.1.3) if all the following conditions are met:
   a. COUNTER_ENABLEDs is equal to YES; and
   b. The stored configuration parameters are current (see 2.6.2.2); and
   c. REG_ENABLEDs is equal to YES; and
   d. REG_COUNTs is greater than or equal to REG_COUNT_MAXs.

7. The mobile station shall perform distance-based registration (see 2.6.5.1.4) if all the following conditions are met:
   a. REG_DISTs is not equal to zero; and
   b. The stored configuration parameters are current (see 2.6.2.2); and
   c. REG_ENABLEDs is equal to YES; and
   d. The current base station’s distance from the base station in which the mobile station last registered (see 2.6.5.1.4) is greater than or equal to REG_DIST_REGs-p.

8. The mobile station shall perform zone-based registration (see 2.6.5.1.5) if all the following conditions are met:
   a. TOTAL_ZONESs is not equal to zero; and
   b. The stored configuration parameters are current (see 2.6.2.2); and
   c. REG_ENABLEDs is equal to YES; and
   d. There is no entry of ZONE_LISTs whose SID, NID and REG_ZONE fields match the stored SIDs, NIDs and REG_ZONES.

9. The mobile station shall perform User Zone registration (see 2.6.2.5.1.10) if it selects an active User Zone (see 2.6.9.1.2).
2.6.5.5.2.2 Processing the Registration Fields of the System Parameters Message

When the mobile station processes the System Parameters Message, it shall perform the following actions:

1. If REG_PRDₚ is equal to zero, the mobile station shall set COUNTER_ENABLEDₚ to NO.
2. If REG_PRDₚ is not equal to zero, the mobile station shall set REG_COUNT_MAXₚ as specified in 2.6.5.1.3.
3. The mobile station shall update its roaming status and set REG_ENABLEDₚ as specified in 2.6.5.3.
4. If ZONE_LISTₚ contains more than TOTAL_ZONESᵦ entries, the mobile station shall delete the excess entries according to the rules specified in 2.6.5.1.5.
5. If MULT_SIDSₚ is equal to ‘0’ and SID_NID_LIST contains entries with different SIDs, delete the excess entries according to the rules specified in 2.6.5.1.5.
6. If MULT_NIDSₚ is equal to ‘0’ and SID_NID_LIST contains more than one entry for any SID, delete the excess entries according to the rules specified in 2.6.5.1.5.

2.6.5.5.2.3 Ordered Registration

Ordered registration is performed after receiving a Registration Request Order while in the Mobile Station Order and Message Processing Operation (see 2.6.2.4).

The mobile station shall enter the Update Overhead Information Substate of the System Access State with a registration indication within T₃₃ₘ seconds after the Registration Request Order is received.

2.6.5.5.2.4 Power Off

These procedures are performed when the mobile station is directed by the user to power off.

The mobile station shall perform the following actions:

- If an entry of ZONE_LISTₚ does not have an active timer, copy that entry to ZONE_LISTₚ₋ₚ; otherwise, delete any entry in ZONE_LISTₚ₋ₚ.
- If an entry of SID_NID_LISTₚ does not have an active timer, copy that entry to SID_NID_LISTₚ₋ₚ; otherwise, delete any entry in SID_NID_LISTₚ₋ₚ.

The mobile station shall perform power-down registration (see 2.6.5.1.2) by entering the System Access State with a registration indication within T₃₃ₘ seconds after the user directs the mobile station to power off, if all the following conditions are true:

- REG_ENABLEDₚ equals YES; and
- POWER_DOWN_REGₚ equals ‘1’; and
- There is an entry of SID_NID_LISTₚ for which the SID and NID fields are equal to SIDₚ and NIDₚ; and
• The power-up/initialization timer (see 2.6.5.1.1) is disabled or has expired.

2.6.5.5.2.5 Full-TMSI Timer Expiration

When the mobile station sets all the bits of TMSI_CODEs-p to ‘1’ upon expiration of the full-TMSI timer (see 2.6.2), the mobile station shall delete all entries from SID_NID_LISTs and ZONE_LISTs.

2.6.5.5.3 Actions in the System Access State

Requirements in this section and its subsections apply only when the mobile station is in the System Access State.

2.6.5.5.3.1 Successful Access, Registration, or Implicit Registration

These procedures shall be performed after the mobile station receives confirmation of delivery of a Registration Message, Origination Message, or Page Response Message sent on the r-csch (see 2.6.3.1.2).

• Disable the power-up/initialization timer (see 2.6.5.1.1).

• If the mobile station supports the 800 MHz analog mode, set the First-Idle ID status to enabled (see 2.6.3.11).

• Set DIGITAL_REGs-p to ‘00000001’.

• Set REG_COUNTs to zero.

• Set REGISTEREDs to YES.

• Delete all entries from ZONE_LISTs belonging to a different band class (see [2]) than CDMABANDs.

• If CDMABANDs = ‘00000’ or CDMABANDs = ‘00011’, delete all entries from ZONE_LISTs that have a SID from a different serving system than SERVSYSs.

• If CDMABANDs = ‘00001’, CDMABANDs = ‘00010’, CDMABANDs = ‘00100’, CDMABANDs = ‘00101’, or CDMABANDs = ‘00111’, delete all entries from ZONE_LISTs belonging to a different frequency block (see [2]) than the frequency block associated with SIDs.

• Add REG_ZONEs, SIDs, and NIDs to ZONE_LISTs if not already in the list. If required, include the band class identifier and block identifier for the current band and frequency block as specified in 2.6.5.1.5.

• Disable the zone list entry timer for the entry of ZONE_LISTs containing REG_ZONEs, SIDs, and NIDs. For any other entry of ZONE_LISTs whose entry timer is not active, enable the entry timer with the duration specified by ZONE_TIMERs (see 2.6.5.1.5).

• If ZONE_LISTs contains more than TOTAL_ZONESs entries, delete the excess entries according to the rules specified in 2.6.5.1.5.

• Delete all entries from SID_NID_LISTs belonging to a different band class (see [2]) than CDMABANDs.
If CDMABANDs = '00000' or CDMABANDs = '00011', delete all entries from SID_NID_LISTs that have a SID from a different serving system than SERVSYSs.

If CDMABANDs = '00001', CDMABANDs = '00010', CDMABANDs = '00100', CDMABANDs = '00101', or CDMABANDs = '00111', or CDMABANDs = '01010', delete all entries from SID_NID_LISTs belonging to a different frequency block (see [2]) than the frequency block associated with SIDs.

Add SIDs and NIDs to SID_NID_LISTs if not already in the list. If required, include the band class identifier and block identifier for the current band and frequency block as specified in 2.6.5.1.5.

Disable the SID/NID list entry timer for the entry of SID_NID_LISTs containing SIDs, and NIDs. For any other entry of SID_NID_LISTs whose entry timer is not active, enable the entry timer with the duration specified in 2.6.5.1.5.

If SID_NID_LISTs contains more than N10m entries, delete the excess entries according to the rules specified in 2.6.5.1.5.

If MULT_SIDSs is equal to '0' and SID_NID_LIST contains entries with different SIDs, delete the excess entries according to the rules specified in 2.6.5.1.5.

If MULT_NIDSs is equal to '0' and SID_NID_LIST contains more than one entry for any SID, delete the excess entries according to the rules specified in 2.6.5.1.5.

Set the stored location of last registration (BASE_LAT_REGs-p and BASE_LONG_REGs-p) to the current base station's location (BASE_LATs and BASE_LONGs). Set the stored registration distance (REG_DIST_REGs-p) to the current base station's registration distance (REG_DISTs).

These procedures shall be performed after the mobile station receives confirmation of delivery of any other message:

If the mobile station supports the 800 MHz analog mode, set the First-Idle ID status to enabled (see 2.6.3.11).

Set DIGITAL_REGs-p to '00000001'.

Delete all entries from ZONE_LISTs belonging to a different band class (see [2]) than CDMABANDs.

If CDMABANDs = '00000' or CDMABANDs = '00011', delete from ZONE_LISTs all entries from ZONE_LISTs that have a SID from a different serving system than SERVSYSs.

If CDMABANDs = '00011', CDMABANDs = '00010', CDMABANDs = '00100', CDMABANDs = '00101', or CDMABANDs = '00111', or CDMABANDs = '01010', delete all entries from ZONE_LISTs belonging to a different frequency block (see [2]) than the frequency block associated with SIDs.

For any entry of ZONE_LISTs not matching REG_ZONEs, SIDs, and NIDs and not having an active entry timer, enable the entry timer with the duration specified by ZONE_TIMERs (see 2.6.5.1.5).
• Delete all entries from SID_NID_LISTs belonging to a different band class (see [2]) than CDMABANDs.

• If CDMABANDs = ‘00000’ or CDMABANDs = ‘00011’, delete from SID_NID_LISTs all entries from SID_NID_LISTs that have a SID from a different serving system than SERVSYSs.

• If CDMABANDs = ‘00001’, CDMABANDs = ‘00010’, CDMABANDs = ‘00100’, CDMABANDs = ‘00101’, or CDMABANDs = ‘00111’, or CDMABANDs = ‘01010’, delete all entries from SID_NID_LISTs belonging to a different frequency block (see [2]) than the frequency block associated with SIDs.

• For any entry of SID_NID_LISTs not matching SIDs and NIDs and not having an active entry timer, enable the entry timer with the duration specified by ZONE_TIMERs (see 2.6.5.1.5).

2.6.5.5.3.2 Unsuccessful Access

These procedures are performed when the mobile station declares an access attempt failure when in the System Access State (see 2.6.3).

The mobile station shall perform the following actions:

• If the mobile station supports the 800 MHz analog mode, set the First-Idle ID status to enabled (see 2.6.3.11).

• Set DIGITAL_REGs-p to ‘00000001’.

• Delete all entries from ZONE_LISTs belonging to a different band class (see [2]) than CDMABANDs.

• If CDMABANDs = ‘00000’ or CDMABANDs = ‘00011’, delete from ZONE_LISTs all entries from ZONE_LISTs that have a SID from a different serving system than SERVSYSs.

• If CDMABANDs = ‘00001’, CDMABANDs = ‘00010’, CDMABANDs = ‘00100’, CDMABANDs = ‘00101’, or CDMABANDs = ‘00111’, or CDMABANDs = ‘01010’, delete all entries from ZONE_LISTs belonging to a different frequency block (see [2]) than the frequency block associated with SIDs.

• For any entry of ZONE_LISTs not matching REG_ZONEs, SIDs, and NIDs and not having an active entry timer, enable the entry timer with the duration specified by ZONE_TIMERs (see 2.6.5.1.5).

• Delete all entries from SID_NID_LISTs belonging to a different band class (see [2]) than CDMABANDs.

• If CDMABANDs = ‘00000’ or CDMABANDs = ‘00011’, delete from SID_NID_LISTs all entries from SID_NID_LISTs that have a SID from a different serving system than SERVSYSs.
• If CDMABAND$_s$ = ‘00001’, CDMABAND$_s$ = ‘00010’, CDMABAND$_s$ = ‘00100’,
  CDMABAND$_s$ = ‘00101’, or CDMABAND$_s$ = ‘00111’, or CDMABAND$_s$ = ‘01010’, delete
  all entries from SID_NID_LIST$_s$ belonging to a different frequency block (see [2]) than
  the frequency block associated with SID$_s$.

• For any entry of SID_NID_LIST$_s$ not matching SID$_s$ and NID$_s$ and not having an
  active entry timer, enable the entry timer with the duration specified by
  ZONE_TIMER$_s$ (see 2.6.5.1.5).

2.6.5.5.3.3 Power Off

These procedures are performed when the mobile station is directed by the user to power
off.

The mobile station shall perform the following actions:

• If an entry of ZONE_LIST$_s$ does not have an active timer, copy that entry to
  ZONE_LIST$_s$-p; otherwise, delete any entry in ZONE_LIST$_s$-p.

• If an entry of SID_NID_LIST$_s$ does not have an active timer, copy that entry to
  SID_NID_LIST$_s$-p; otherwise, delete any entry in SID_NID_LIST$_s$-p.

2.6.5.5.4 Actions in the Mobile Station Control on the Traffic Channel State

Requirements in this section and its subsections apply only when the mobile station is in
the Mobile Station Control on the Traffic Channel State.

2.6.5.5.4.1 Traffic Channel Initialization

Upon entering the Traffic Channel Initialization Substate of the Mobile Station Control on the
Traffic Channel State, the mobile station shall set COUNTER_ENABLED$_s$ to NO.

2.6.5.5.4.2 Timer Maintenance

While in the Mobile Station Control on the Traffic Channel State, the mobile station shall
update all active registration timers.

If a zone list entry timer expires, the mobile station shall delete the corresponding entry
from ZONE_LIST$_s$. If a SID/NID list entry timer expires, the mobile station shall delete the
corresponding entry from SID_NID_LIST$_s$.

2.6.5.5.4.3 Processing the Mobile Station Registered Message

The mobile station receives the Mobile Station Registered Message on the Forward Traffic
Channel when the mobile station is considered registered for the base station whose
location and other parameters are included in the message.

The mobile station shall store the following parameters:

• System identification (SID$_s$ = SID$_r$)
• Network identification (NID$_s$ = NID$_r$)
• Registration zone (REG_ZONE$_s$ = REG_ZONE$_r$)
The mobile station shall perform the following actions:

- If the mobile station supports the 800 MHz analog mode, set the First-Idle ID status to enabled (see [6]).
- Set DIGITAL_REGs-p to ‘00000001’.
- Add REG_ZONEs, SID_s, and NID_s to ZONE_LIST_s if not already in the list. If required, include the band class identifier and block identifier for the current band and frequency block as specified in 2.6.5.1.5.
- Delete all entries from ZONE_LIST_s belonging to a different band class (see [2]) than CDMABAND_s.
- Disable the zone list entry timer for the entry of ZONE_LIST_s containing REG_ZONEs, SID_s, and NID_s. For any other entry of ZONE_LIST_s whose entry timer is not active, enable the entry timer with the duration specified by ZONE_TIMERs (see 2.6.5.1.5).
- If ZONE_LIST_s contains more than TOTAL_ZONES_s entries, delete the excess entries according to the rules specified in 2.6.5.1.5.
- Delete all entries from SID_NID_LIST_s belonging to a different band class (see [2]) than CDMABAND_s.
- Add SID_s and NID_s to SID_NID_LIST_s if not already in the list. If required, include the band class identifier and block identifier for the current band and PCS frequency block as specified in 2.6.5.1.5.
- Disable the SID/NID list entry timer for the entry of SID_NID_LIST_s containing SID_s, and NID_s. For any other entry of SID_NID_LIST_s whose entry timer is not active, enable the entry timer with the duration specified in 2.6.5.1.5.
- If SID_NID_LIST_s contains more than N10m entries, delete the excess entries according to the rules specified in 2.6.5.1.5.
- If MULT_SIDS_s is equal to ‘0’ and SID_NID_LIST contains entries with different SIDs, delete the excess entries according to the rules specified in 2.6.5.1.5.
- If MULT_NIDS_s is equal to ‘0’ and SID_NID_LIST contains more than one entry for any SID, delete the excess entries according to the rules specified in 2.6.5.1.5.
• Set the stored location of last registration (BASE_LAT_REGs-p and BASE_LONG_REGs-p) to the base station’s location (BASE_LATs and BASE_LONGs). Set the stored registration distance (REG_DIST_REGs-p) to the base station’s registration distance (REG_DISTs).

• Update its roaming status and set MOB_TERM as specified in 2.6.5.3. The mobile station should indicate to the user whether the mobile station is roaming.

2.6.5.5.4.4 Power Off

These procedures are performed when the mobile station is directed by the user to power off.

The mobile station shall perform the following actions:

• If an entry of ZONE_LISTs does not have an active timer, copy that entry to ZONE_LISTs-p; otherwise, delete the entry in ZONE_LISTs-p if ZONE_LISTs-p contains an entry.

• If an entry of SID_NID_LISTs does not have an active timer, copy that entry to SID_NID_LISTs-p; otherwise, delete the entry in SID_NID_LISTs-p if SID_NID_LISTs-p contains an entry.

2.6.6 Handoff Procedures

This section presents an overview and mobile station requirements for handoffs occurring while the mobile station is in the Mobile Station Control on the Traffic Channel State (see 2.6.4). Mobile station requirements for handoffs occurring while the mobile station is in the Mobile Station Idle State are specified in 2.6.2.1.4.

2.6.6.1 Overview

2.6.6.1.1 Types of Handoff

The mobile station supports the following three handoff procedures while in the Mobile Station Control on the Traffic Channel State:

• **Soft Handoff**: A handoff in which the mobile station commences communications with a new base station without interrupting communications with the old base station. Soft handoff can only be used between CDMA Channels having identical Frequency Assignments. Soft handoff provides diversity of Forward Traffic Channels and Reverse Traffic Channel paths on the boundaries between base stations.

• **CDMA-to-CDMA Hard Handoff**: A handoff in which the mobile station is transitioned between disjoint sets of base stations, different band classes, different Frequency Assignments, or different frame offsets.

• **CDMA-to-Analog Handoff**: A handoff in which the mobile station is directed from a CDMA traffic channel to an analog voice channel.

The mobile station shall support soft handoffs on the same Frequency Assignment (see 2.6.6.2.7). The mobile station shall support CDMA-to-CDMA hard handoffs between band classes on which it supports CDMA operation (see 2.6.6.2.8). The mobile station shall
support CDMA-to-Analog handoffs from band classes on which it supports CDMA operation to band classes on which it supports analog operation (see 2.6.6.2.9).

2.6.6.1.2 Pilot Sets

Within section 2.6.6 the term pilot refers to a Pilot Channel identified by a pilot sequence offset (see 3.1.3.2.1) and a Frequency Assignment (see 3.1.1.1). A pilot is associated with the Forward Traffic Channels in the same Forward CDMA Channel. All pilots in a pilot set have the same CDMA Frequency Assignment.

The mobile station searches for pilots on the current CDMA Frequency Assignment to detect the presence of CDMA Channels and to measure their strengths. When the mobile station detects a pilot of sufficient strength that is not associated with any of the Forward Traffic Channels assigned to it, it sends a *Pilot Strength Measurement Message* to the base station. The base station can then assign a Forward Traffic Channel associated with that pilot to the mobile station and direct the mobile station to perform a handoff.

The pilot search parameters and the rules for *Pilot Strength Measurement Message* transmission are expressed in terms of the following sets of pilots:

- **Active Set**: The pilots associated with the Forward Traffic Channels assigned to the mobile station.
- **Candidate Set**: The pilots that are not currently in the Active Set but have been received by the mobile station with sufficient strength to indicate that the associated Forward Traffic Channels could be successfully demodulated.
- **Neighbor Set**: The pilots that are not currently in the Active Set or the Candidate Set and are likely candidates for handoff.
- **Remaining Set**: The set of all possible pilots in the current system on the current CDMA Frequency Assignment, excluding the pilots in the Neighbor Set, the Candidate Set, and the Active Set. This set of possible pilots consists of pilots whose pilot PN sequence offset indices are integer multiples of PILOT_INCs.

The base station may direct the mobile station to search for pilots on a different CDMA frequency to detect the presence of CDMA Channels and to measure their strengths. The mobile station reports the results of the search to the base station using the *Candidate Frequency Search Report Message*. Depending upon the pilot strength measurements reported in the *Candidate Frequency Search Report Message*, the base station can direct the mobile station to perform an inter-frequency hard handoff.

The pilot search parameters are expressed in terms of the following sets of pilots on the CDMA Candidate Frequency:

- **Candidate Frequency Neighbor Set**: A list of pilots on the CDMA Candidate Frequency.
- **Candidate Frequency Search Set**: A subset of the Candidate Frequency Neighbor Set that the base station may direct the mobile station to search.
2.6.6.2 Requirements

2.6.6.2.1 Pilot Search

For the pilot sets defined in 2.6.6.1.2, the base station sets the search window (range of PN offsets) in which the mobile station is to search for usable multipath components (i.e., multipath components that the mobile station can use for demodulation of the associated Forward Traffic Channel) of the pilots in the set.

Search performance criteria are defined in [14] and [10].

This search shall be governed by the following:

- *Active Set and Candidate Set*: The search procedures for pilots in the Active Set and Candidate Set shall be identical. The search window size for each pilot in the Active Set and Candidate Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_As. The mobile station should center the search window for each pilot of the Active Set and Candidate Set around the earliest arriving usable multipath component of the pilot. If the mobile station receives a value greater than or equal to 13 for SRCH_WIN_AR, it may store and use the value 13 in SRCH_WIN_As.

<table>
<thead>
<tr>
<th>SRCH_WIN_A</th>
<th>SRCH_WIN_N</th>
<th>SRCH_WIN_NGHBR</th>
<th>SRCH_WIN_R</th>
<th>CF_SRCH_WIN_N</th>
</tr>
</thead>
<tbody>
<tr>
<td>window_size (PN chips)</td>
<td>window_size (PN chips)</td>
<td>window_size (PN chips)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>8</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6</td>
<td>9</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>10</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>11</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>12</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>13</td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>28</td>
<td>14</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>40</td>
<td>15</td>
<td>452</td>
<td></td>
</tr>
</tbody>
</table>

The table defines the entire search range. For example, SRCH_WIN_As = 6 corresponds to a 28 PN chip search window or ±14 PN chips around the search window center.
Table 2.6.6.2.1-2. Search Window Offset

<table>
<thead>
<tr>
<th>SRCH_OFFSET_NGHBR_CF_SRCH_OFFSET_NGHBR</th>
<th>Offset (PN chips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>window_size/2</td>
</tr>
<tr>
<td>2</td>
<td>window_size</td>
</tr>
<tr>
<td>3</td>
<td>3 × window_size /2</td>
</tr>
<tr>
<td>4</td>
<td>- window_size /2</td>
</tr>
<tr>
<td>5</td>
<td>- window_size</td>
</tr>
<tr>
<td>6</td>
<td>-3 × window_size /2</td>
</tr>
<tr>
<td>7</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

- **Neighbor Set:** If SRCH_WIN_NGHBR_INCLs is equal to ‘1’, the search window size for each pilot in the Neighbor Set shall be the number of PN chips specified in Table 2.6.6.2.1-1, corresponding to SRCH_WIN_NGHBRs associated with the pilot being searched. If SRCH_WIN_NGHBR_INCLs is equal to ‘0’, the search window size for each pilot in the Neighbor Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_Ns. If SRCH_OFFSET_INCLs is equal to ‘1’, the search window offset for each pilot in the Neighbor Set shall be the number of PN chips specified in Table 2.6.6.2.1-2, corresponding to SRCH_OFFSET_NGHBRs associated with the pilot being searched. If SRCH_OFFSET_INCLs is equal to ‘0’, the search window offset for each pilot in the Neighbor Set shall be zero PN chip. The mobile station should center the search window for each pilot in the Neighbor Set around the pilot’s PN sequence offset plus the corresponding search window offset, using timing defined by the mobile station’s time reference (see [2]). If SEARCH_PRIORITY_INCLs is equal to ‘1’, the mobile station should use SEARCH_PRIORITYs for the corresponding pilot to schedule its neighbor search. If the mobile station supports hopping pilot beacons and the TIMING_INCL field of the NGHBR_REC for the corresponding pilot is equal to ‘1’, then the mobile station shall use the information included in the NGHBR_TX_OFFSET, NGHBR_TX_DURATION, and NGHBR_TX_PERIOD fields of the NGHBR_REC for the corresponding pilot to schedule the time for searching the neighbor. If ADD_PILOT_REC_INCL field of the NGHBR_REC for the corresponding pilot is equal to ‘1’, the mobile station shall use the information included in the NGHBR_PILOT_REC field for searching the neighbor.

- **Remaining Set:** The search window size for each pilot in the Remaining Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to SRCH_WIN_RSs. The mobile station should center the search window for each pilot in the Remaining Set around the pilot’s PN sequence offset, using timing defined by the mobile station’s time reference (see [2]). The mobile station should only search for Remaining Set pilots whose pilot PN sequence offset indices are equal to integer multiples of PILOT_INCs.
Candidate Frequency Search Set: If CF_SRCH_WIN_NGHBRN_INCLs is equal to ‘1’, the search window size for each pilot in the Candidate Frequency Search set shall be the number of PN chips specified in Table 2.6.6.2.1-1, corresponding to SRCH_WIN_NGHBRs associated with the pilot being searched. If CF_SRCH_WIN_NGHBRN_INCLs is equal to ‘0’, the search window size for each pilot in the Candidate Frequency Search Set shall be the number of PN chips specified in Table 2.6.6.2.1-1 corresponding to CF_SRCH_WIN_Ns. If CF_SRCH_OFFSET_INCLs is equal to ‘1’, the search window offset for each pilot in the Candidate Frequency Search Set shall be the number of PN chips specified in Table 2.6.6.2.1-2, corresponding to SRCH_OFFSET_NGHBRs associated with the pilot being searched. If CF_SRCH_OFFSET_INCLs is equal to ‘0’, the search window offset for each pilot in the Candidate Frequency Search Set shall be zero PN chip. The mobile station should center the search window for each pilot in the Candidate Frequency Search Set around the pilot’s PN sequence offset plus the corresponding search window offset using timing defined by the mobile station’s time reference (see [2]). If CF_SEARCH_PRIORITY_INCLs is equal to ‘1’, the mobile station should use SEARCH_PRIORITYs associated with each pilot to schedule a search of its Candidate Frequency Search Set.

2.6.6.2.2 Pilot Strength Measurements

The mobile station assists the base station in the handoff process and in the Reverse Supplemental Code Channel operation and in the Reverse Supplemental Channel operation by measuring and reporting the strengths of received pilots. The mobile station should use the searcher element (see [2]) to compute the strength of a pilot (PS) by adding the ratios of received pilot energy per chip, $E_c$, to total received spectral density (noise and signals), $I_o$, of at most k usable multipath components, where k is the number of demodulating elements (see [2]) supported by the mobile station.

2.6.6.2.3 Handoff Drop Timer

The mobile station shall maintain a handoff drop timer for each pilot in the Active Set and Candidate Set.

If P_REV_IN_USEs is less than or equal to three or SOFT_SLOPEs is equal to ‘000000’, the mobile station shall perform the following:

- For the Candidate Set, the mobile station shall start the timer whenever the strength of the corresponding pilot becomes less than T_DROPs. The mobile station shall reset and disable the timer if the strength of the corresponding pilot exceeds T_DROPs.
- For the Active Set, the mobile station shall start the timer whenever the strength of the corresponding pilot becomes less than T_DROPs. The mobile station shall start the timer even if the timer has previously expired. The mobile station shall reset and disable the timer if the strength of the corresponding pilot exceeds T_DROPs.

If P_REV_IN_USEs is greater than three and SOFT_SLOPEs is not equal to ‘000000’, the mobile station shall perform the following:
For the Candidate Set, the mobile station shall start the timer whenever the strength of the corresponding pilot becomes less than $T_{\text{DROP}s}$. The mobile station shall reset and disable the timer if the strength of the corresponding pilot exceeds $T_{\text{DROP}s}$.

For the Active Set, the mobile station shall sort the $N_A$ pilots in the Active Set in order of increasing strengths, i.e., $P_{S1} < P_{S2} < P_{S3} < \ldots < P_{S_{NA}}$ where the strength $P_S$ is as defined in 2.6.6.2.2. The mobile station shall start the timer whenever the strength $P_{Si}$ satisfies the following inequality:

$$10 \times \log_{10} P_{Si} < \max \left( \frac{\text{SOFT\_SLOPE}}{8} \times 10 \times \log_{10} \sum_{j=1}^{PS_{j}} + \frac{\text{DROP\_INTERCEPT}}{2}, \frac{T_{\text{DROP}s}}{2} \right)$$

$i = 1, 2, \ldots, P_{S_{NA}} - 1$

For the Active Set, the mobile station shall start the timer even if the timer has previously expired. The mobile station shall reset and disable the timer whenever the above inequality is not satisfied for the corresponding pilot.

If $T_{\text{TDROP}s}$ equals zero, the mobile station shall consider the timer expired within 100 ms of enabling it. Otherwise, the mobile station shall consider the timer expired within 10% of the timer expiration value shown in Table 2.6.6.2.3-1 corresponding to $T_{\text{TDROP}s}$. If $T_{\text{TDROP}s}$ changes, the mobile station shall begin using the new value for all handoff drop timers within 100 ms.

<table>
<thead>
<tr>
<th>$T_{\text{TDROP}}$</th>
<th>Timer Expiration (seconds)</th>
<th>$T_{\text{TDROP}}$</th>
<th>Timer Expiration (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$\leq 0.1$</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>9</td>
<td>39</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>10</td>
<td>55</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>11</td>
<td>79</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>12</td>
<td>112</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>13</td>
<td>159</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
<td>14</td>
<td>225</td>
</tr>
<tr>
<td>7</td>
<td>19</td>
<td>15</td>
<td>319</td>
</tr>
</tbody>
</table>

The mobile station shall indicate the status of the handoff drop timer for all pilots in the Active Set and Candidate Set when transmitting a Pilot Strength Measurement Message.
2.6.6.2.4 Pilot PN Phase

The mobile station shall measure the arrival time, PILOT_ARRIVAL, for each pilot reported to the base station. The pilot arrival time shall be the time of occurrence, as measured at the mobile station antenna connector, of the earliest arriving usable multipath component of the pilot. The arrival time shall be measured relative to the mobile station’s time reference (see [2]) in units of PN chips. The mobile station shall compute the reported pilot PN phase, PILOT_PN_PHASE, as

\[
\text{PILOT_PN_PHASE} = (\text{PILOT_ARRIVAL} + (64 \times \text{PILOT_PN})) \mod 2^{15},
\]

where PILOT_PN is the PN sequence offset index of the pilot (see [2]).

2.6.6.2.5 Handoff Messages

2.6.6.2.5.1 Processing of Forward Traffic Channel Handoff Messages

If the mobile station receives any of the following messages, then the mobile station shall process the message as described.

1. **Pilot Measurement Request Order**: The mobile station shall send, within T56m seconds, a *Pilot Strength Measurement Message*.

2. **Analog Handoff Direction Message**: The mobile station shall process the message as specified in 2.6.6.2.9.

3. **Neighbor List Update Message**: The mobile station shall process the message as specified in 2.6.6.2.6.3 and set SEARCH_PRIORITY_INCLs, SRCH_WIN_NGHBR_INCLs, and SRCH_OFFSET_INCLs to ‘0’, and set TIMING_INCL for each of the neighboring base stations in the *Neighbor List Update Message* to ‘0’.

4. **Extended Handoff Direction Message**: The mobile station shall process the message as follows:

   The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000110’ (capability not supported), if the mobile station does not support the band class specified in the *Extended Handoff Direction Message*.

   If the mobile station does not send a *Mobile Station Reject Order* in response to the *Extended Handoff Direction Message*, the mobile station shall perform the following at the action time of the message:

   - The mobile station shall send a *Handoff Completion Message* as specified in 2.6.6.2.5.2.
   - Update the Active Set, Candidate Set, and Neighbor Set in accordance with the *Extended Handoff Direction Message* processing (see 2.6.6.2.6.1, 2.6.6.2.6.2, and 2.6.6.2.6.3).
The mobile station shall delete all pilots that are not listed in the Active Set of the Fundamental Channel from the Active Set of the Supplemental Channel for the Forward Supplemental Channel Assignment (if any). If these deleted pilots include all pilots in the Active Set of the Supplemental Channel, the mobile station shall cancel the Forward Supplemental Channel Assignment.

Discontinue use of all Forward Traffic Channels associated with pilots not listed in the **Extended Handoff Direction Message**.

The mobile station shall update the Code Channel List, \text{CODE\_CHAN\_LISTs}, as specified in 2.6.8.

If the mobile station is currently processing Forward Supplemental Code Channels, then it shall continue processing the Forward Supplemental Code Channels using the updated Code Channel List, \text{CODE\_CHAN\_LISTs}.

The mobile station shall set \text{IGNORE\_SCAM}s and \text{IGNORE\_ESCAM}s to ‘0’.

If HARD\_INCLUDED is equal to ‘1’, perform the following actions:

- If FRAME\_OFFSET_r is not equal to FRAME\_OFFSET_s, change the frame offset on all of the code channels of the Forward Traffic Channel and of the Reverse Traffic Channel.
- If RESET\_L2_r is equal to ‘1’, Layer 3 shall send a L2-Supervision.Request primitive to Layer 2 to reset the acknowledgment procedures as specified in [4]. The acknowledgment procedures shall be reset immediately after the action time of the **Extended Handoff Direction Message**.
- If RESET\_FPC_r is equal to ‘1’, initialize the Forward Traffic Channel power control counters as specified in 2.6.4.1.1.1.
- If SERV\_NEG\_TYPE_r is equal to ‘1’, set SERV\_NEG_s to enabled; otherwise set SERV\_NEG_s to disabled. Use the long code mask specified by the PRIVATE\_LCM_r (see 2.3.12.3) and indicate to the user the voice privacy mode status.
- Process the ENCRYPT\_MODE field as specified in 2.3.12.2.

Store the following parameters from the current configuration:

- Serving Frequency Assignment (SF\_CDMACH_s = CDMACH_s)
- Serving Frequency band class (SF\_BAND\_CLASS_s = BAND\_CLASS_s)
- Serving Frequency frame offset (SF\_FRAME\_OFFSET_s = FRAME\_OFFSET_s)

If HARD\_INCLUDED is not equal to ‘1’, set NUM\_PREAMBLE_s = ‘000’.

Store the following parameters from the **Extended Handoff Direction Message**:

- **Extended Handoff Direction Message** sequence number (HDM\_SEQ_s = HDM\_SEQ_r)
- If SEARCH\_INCLUDED is equal to ‘1’, then store the following:
+ Search window size for the Active Set and Candidate Set
   (SRCH_WIN_As = SRCH_WIN_Ar)
+ Pilot detection threshold (T_ADDs = T_ADDr)
+ Pilot drop threshold (T_DROPs = T_DROPr)
+ Active Set versus Candidate Set comparison threshold
   (T_COMPs = T_COMPr)
+ Drop timer value (T_TDROPs = T_TDROPr)

- If HARD_INCLUDED is equal to ‘1’, then store the following:
  + Frame offset (FRAME_OFFSETs = FRAME_OFFSETr)
  + Nominal power setting of the target cell (NOM_PWRs = NOM_PWRr)
  + Hard handoff traffic channel preamble count required before transmitting
    Handoff Completion Message (NUM_PREAMBLEs = NUM_PREAMBLEr)
  + CDMA band class (CDMABANDs = BAND_CLASSr)
  + Frequency assignment (CDMACHs = CDMA_FREQr)
  + Nominal power setting of the target cell (If CDMABANDs = '00000' or
    CDMABANDs = '00011', then NOM_PWR_EXTs = '0'; otherwise,
    NOM_PWR_EXTs = NOM_PWR_EXTr)

- One occurrence of PILOT_PN and PWR_COMB_IND for each included
  member of the Active Set.

- If ADD_LENGTH is not equal to ‘000’, then store the following:
  + Protocol revision level (P_REVs = P_REVr)
  + Protocol revision level currently in use (P_REV_IN_USEs = the minimum
    value of P_REVs and MOB_P_REVp of the current band class)
- Disable return on failure (RETURN_IF_HANDOFF_FAILs = ‘0’)

* Perform a soft or hard handoff depending on the following conditions:
  - If any of the following conditions is true, the mobile station shall perform a
    hard handoff:
    + HARD_INCLUDED is set to ‘1’ and either BAND_CLASSr is not equal to
      SF_CDMABANDs, CDMA_FREQr is not equal to SF_CDMACHs, or
      FRAME_OFFSETr is not equal to SF_FRAME_OFFSETs, or
    + The set of pilots specified by the message is disjoint from the Active Set
      prior to the action time of the message.
  - If the mobile station performs a hard handoff, it shall do the following:
    + If a Periodic Serving Frequency Pilot Report Procedure is in progress, abort
      the procedure (see 2.6.6.2.12).
If a Candidate Frequency periodic search is in progress, abort the periodic search (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4) and set $\text{PERIODIC\_SEARCH}_s$ to '0'.

The mobile station shall cancel the Forward Supplemental Channel assignment or the Reverse Supplemental Channel assignment (if any).

Perform the actions specified in 2.6.6.2.8.1. If the message specifies more than one pilot, the mobile station shall also perform the actions specified in 2.6.6.2.7.1 and 2.6.6.2.7.2.

– Otherwise, the mobile station shall perform a soft handoff as specified in 2.6.6.2.7.

5. *Candidate Frequency Search Request Message*: The mobile station shall process the message as follows:

The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '00000110' (capability not supported), if the following conditions is true:

- SEARCH_MODE$_r$ is not equal to '0000', and the mobile station does not support the capability specified by SEARCH_MODE$_r$

If none of the above conditions is true, the mobile station shall perform the actions described in the remainder of this section to process the *Candidate Frequency Search Request Message*.

If SEARCH_MODE$_r$ is equal to '0000', the mobile station shall process the *Candidate Frequency Search Request Message* as follows:

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '00001100' (invalid Frequency Assignment), if the Frequency Assignment specified in the message is the same as the Serving Frequency (BAND_CLASS$_r$ is equal to CDMA_BAND$_s$ and CDMA_FREQ$_r$ is equal to CDMA_FREQ$_s$).

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '00001010' (search set not specified), if SEARCH_TYPE$_r$ is equal to '01' or '11', and one of the following conditions is true:
  - PILOT_UPDATE$_r$ is equal to '0' and the Candidate Frequency Search Set before the action time of the *Candidate Frequency Search Request Message* is empty, or
  - PILOT_UPDATE$_r$ is equal to '1' and the message specifies an empty search set.

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '0001101' (search period too short), if SEARCH_TYPE$_r$ is equal to '11' and search_period is less than ($\text{max (fwd\_time, rev\_time) + T71m}$) seconds, where search_period, fwd_time and rev_time are defined below.
(In the following, if PILOT_UPDATE_r is equal to '1', \(\text{rec\_search\_set}\) is the set of pilots specified in the Candidate Frequency Search Request Message with the corresponding SEARCH_SET field set to '1'; otherwise, \(\text{rec\_search\_set}\) is the Candidate Frequency Search Set before the action time of the Candidate Frequency Search Request Message.)

\[
\text{search\_period} = \text{time period corresponding to SEARCH\_PERIOD_r shown in Table 2.6.6.2.8.3.2-1}
\]

\[
\text{fwd\_time} = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to the Candidate Frequency, to search \(\text{rec\_search\_set}\), and to re-tune to the Serving Frequency; if the mobile station searches \(\text{rec\_search\_set}\) in multiple visits, \(\text{fwd\_time}\) is the total time for all visits to the Candidate Frequency in a search period (see 2.6.6.2.8.3.2)}
\]

\[
\text{rev\_time} = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to the Candidate Frequency, to search \(\text{rec\_search\_set}\), and to re-tune to the Serving Frequency; if the mobile station searches \(\text{rec\_search\_set}\) in multiple visits, \(\text{rev\_time}\) is the total time for all visits to the Candidate Frequency in a search period}
\]

- If the mobile station does not send a Mobile Station Reject Order in response to the Candidate Frequency Search Request Message, it shall perform the following:
  - The mobile station shall send a Candidate Frequency Search Response Message in assured mode, within T56m seconds of receiving the Candidate Frequency Search Request Message. The mobile station shall set the fields of the Candidate Frequency Search Response Message as follows:
    + The mobile station shall set TOTAL_OFF\_TIME\_FWD and TOTAL\_OFF\_TIME\_REV to its estimate of the total number of frames or power control groups for which it will need to suspend its current Forward Traffic Channel processing and Reverse Traffic Channel processing, respectively, in order to tune to the Candidate Frequency, to search \(\text{rec\_search\_set}\), and to re-tune to the Serving Frequency (see 2.6.6.2.8.3.2). If the mobile station searches \(\text{rec\_search\_set}\) in multiple visits to the Candidate Frequency, the mobile station shall report the total number of frames or power control groups in all visits in a search period for which it will need to suspend its current Forward Traffic Channel and the Reverse Traffic Channel processing.
+ The mobile station shall set MAX_OFF_TIME_FWD and MAX_OFF_TIME_REV to its estimate of the maximum number of frames or power control groups for which it will need to suspend its current Forward Traffic Channel processing and Reverse Traffic Channel processing, respectively, during any single visit to tune to the Candidate Frequency, to search a subset of rec_search_set, and to re-tune to the Serving Frequency.\(^{16}\)

+ The mobile station shall set PCG_OFF_TIMES to ‘1’ if TOTAL_OFF_TIME_FWD, MAX_OFF_TIME_FWD, TOTAL_OFF_TIME_FWD and MAX_OFF_TIME_FWD are expressed in units of power control groups. If these time estimates are expressed in units of frames, the mobile station shall set PCG_OFF_TIMES to ‘0’. The mobile station shall not use power control groups as the unit of delay if \(P_{REV\_IN\_USEs}\) is less than six.

+ If ALIGN_TIMING\(_r\) is equal to ‘1’, the mobile station shall set ALIGN_TIMING_USED to ‘1’ to indicate if it will align its search as requested by the base station; otherwise, the mobile station shall set ALIGN_TIMING_USED to ‘0’. If ALIGN_TIMING_USED is set to ‘1’, the mobile station shall set MAX_NUM_VISITS to the maximum number of visits per search period minus one and, if MAX_NUM_VISITS is not equal to 0, the mobile station shall set INTER_VISIT_TIME, in units of frames or power control groups, to its estimate of the time between subsequent visits within the same search period.

- When the message takes effect, the mobile station shall perform the following actions:
  + If any periodic search is in progress, the mobile station shall abort it (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
  + Store the following parameters from the Candidate Frequency Search Request Message:
    - Candidate Frequency Search Request Message sequence number (CFSRM_SEQs = CFSRM_SEQ\(_r\))
    - Periodic search flag: If SEARCH_TYPE\(_r\) is equal to ‘11’, the mobile station shall set PERIODIC_SEARCHs to ‘1’; otherwise, the mobile station shall set PERIODIC_SEARCHs to ‘0’.
    - Search period on the Candidate Frequency (SEARCH_PERIODs = SEARCH_PERIOD\(_r\))

\(^{16}\) If the mobile station searches the entire Candidate Frequency Search Set in a single visit to the Candidate Frequency, TOTAL_OFF_TIME_FWD will be equal to MAX_OFF_TIME_FWD, and TOTAL_OFF_TIME_REV will be equal to MAX_OFF_TIME_REV.
Candidate Frequency search mode
(SEARCH_MODEs = SEARCH_MODEr)

Band class for the Candidate Frequency
(CF_CDMABANDs = BAND_CLASSr)

CDMA Channel number for the CDMA Candidate Frequency
(CF_CDMACHs = CDMA_FREQr)

Serving Frequency total pilot Ec threshold
(SF_TOTAL_EC_THRESHs = SF_TOTAL_EC_THRESHr)

Serving Frequency total pilot Ec/Io threshold
(SF_TOTAL_EC_IO_THRESHs = SF_TOTAL_EC_IO_THRESHr)

Received power difference threshold
(DIFF_RX_PWR_THRESHs = DIFF_RX_PWR_THRESHr)

Candidate Frequency Total pilot Ec/Io threshold
(MIN_TOTAL_PILOT_EC_IOs = MIN_TOTAL_PILOT_EC_IOr)

Pilot detection threshold on the CDMA Candidate Frequency
(CF_T_ADDs = CF_T_ADDR)

Maximum time on the CDMA Target Frequency that the mobile station may wait to receive a period of \((N_{11m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs
(TF_WAIT_TIMEs = TF_WAIT_TIMEr)

Pilot PN sequence offset increment on the CDMA Candidate Frequency (CF_PILOT_INCs = CF_PILOT_INCr)

Search window for pilots in the Neighbor Set on the CDMA Candidate Frequency (CF_SRCH_WIN_Ns = CF_SRCH_WIN_Nr)

Search window for pilots in the Remaining Set on the CDMA Candidate Frequency (CF_SRCH_WIN_Rs = CF_SRCH_WIN_Rr)

If PILOT_UPDATE is equal to ‘1’, the mobile station shall perform the following:

◊ Set CF_SEARCH_PRIORITY_INCLs and CF_SRCH_WIN_NGHBR_INCLs to the values corresponding to CF_NGHBR_SRCH_MODE shown in Table 2.6.6.2.5.1-1.

◊ Set CF_SRCH_OFFSET_INCLs to CF_SRCH_OFFSET_INCLR.

If PILOT_UPDATE is equal to ‘1’, the mobile station shall replace the Candidate Frequency Neighbor Set with all neighbor pilots specified in the Candidate Frequency Search Request Message.
If PILOT_UPDATE is equal to ‘1’ and CF_SEARCH_PRIORITY_INCLs is equal to ‘1’, the mobile station shall store the search priority (SEARCH_PRIORITYs = SEARCH_PRIORITYr) associated with each of the neighboring base stations contained in the Candidate Frequency Neighbor Set.

If PILOT_UPDATE is equal to ‘1’ and CF_SRCH_WIN_NGHBR_INCLs is equal to ‘1’, the mobile station shall perform the following:

1. Store the neighbor pilot channel search window size (SRCH_WIN_NGHBRs = SRCH_WIN_NGHBRr) associated with each of the neighboring base stations contained in the Candidate Frequency Neighbor Set,

2. If CF_SRCH_OFFSET_INCL r equals to ‘1’, store the neighbor pilot channel search window offset (SRCH_OFFSET_NGHBRs = SRCH_OFFSET_NGHBRr) associated with each of the neighboring base stations contained in the Candidate Frequency Neighbor Set.

If PILOT_UPDATE is equal to ‘1’, the mobile station shall replace the Candidate Frequency Search Set with all flagged pilots (those with the corresponding SEARCH_SET field set to ‘1’) specified in the Candidate Frequency Search Request Message.

+ If ALIGN_TIMING r is equal to ‘1’ and the mobile station will align its search as requested by the base station, the mobile station shall set ALIGN_TIMING_USEDs to ‘1’ and SEARCH_OFFSETs to SEARCH_OFFSETr; otherwise, the mobile station shall set ALIGN_TIMING_USEDs to ‘0’ and SEARCH_OFFSETs to ‘000000’.

+ If the mobile station sets the PCG_OFF_TIMES field of the Candidate Frequency Search Response Message to ‘1’, it shall set SEARCH_TIME_RESOLUTIONs to 0.00125; otherwise, it shall set SEARCH_TIME_RESOLUTIONs to 0.02.

+ If SEARCH_TYPE r is equal to ‘01’, the mobile station shall perform a single search of the Candidate Frequency Search Set, as described in 2.6.6.2.8.3.1. If SEARCH_TYPE r is equal to ‘11’, the mobile station shall perform the periodic search procedures, as described in 2.6.6.2.8.3.2.
Table 2.6.6.2.5.1-1. Search Parameter Settings

<table>
<thead>
<tr>
<th>NGHBR_SRCH_MODE</th>
<th>SEARCH_-PRIORITY_INCL</th>
<th>SRCH_WIN_-NGHBR_INCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF_NGHBRSRCH_MODE</td>
<td>CF_SEARCH_-PRIORITY_INCL</td>
<td>CF_SRCH_-WIN_NGHBRSRCH_MODE</td>
</tr>
<tr>
<td>00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>01</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

If SEARCH_MODE is equal to ‘0001’, and if the mobile station supports analog searching, the mobile station shall process the Candidate Frequency Search Request Message as follows:

- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘0001101’ (search period too short), if SEARCH_TYPE is equal to ‘11’ and search_period is less than (max (fwd_time, rev_time) + T71m) seconds where search_period, fwd_time and rev_time are defined below.

(In the following, rec_search_set is the set of analog frequencies specified in the Candidate Frequency Search Request Message.)

search_period = time period corresponding to SEARCH_PERIOD shown in Table 2.6.6.2.8.3.2-1

fwd_time = the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to each analog frequency in rec_search_set and measure its strength, and to re-tune to the Serving Frequency; if the mobile station searches rec_search_set in multiple visits, fwd_time is the total time for all visits away from the Serving Frequency in a search period (see 2.6.6.2.10.2)

rev_time = the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to each analog frequency in rec_search_set and measure its strength, and to re-tune to the Serving Frequency; if the mobile station searches rec_search_set in multiple visits, rev_time is the total time for all visits away from the Serving Frequency in a search period

- If the mobile station does not send a Mobile Station Reject Order in response to the Candidate Frequency Search Request Message, it shall perform the following:
− The mobile station shall send a Candidate Frequency Search Response Message in assured mode, within T56m seconds of receiving the Candidate Frequency Search Request Message. The mobile station shall set the fields of the Candidate Frequency Search Response Message as follows:

+ The mobile station shall set TOTAL_OFF_TIME_FWD and TOTAL_OFF_TIME_REV to its estimate of the total number of frames or power control groups for which it will need to suspend its current Forward Traffic Channel processing and Reverse Traffic Channel processing, respectively, in order to tune to each analog frequency in rec_search_set, and to re-tune to the Serving Frequency (see 2.6.6.2.8.3.2). If the mobile station searches rec_search_set in multiple visits away from the Serving Frequency, the mobile station shall report the total number of frames or power control groups in all visits in a search period for which it will need to suspend its current Forward Traffic Channel and the Reverse Traffic Channel processing.

+ The mobile station shall set MAX_OFF_TIME_FWD and MAX_OFF_TIME_REV to its estimate of the maximum number of frames or power control groups for which it will need to suspend its current Forward Traffic Channel processing and Reverse Traffic Channel processing, respectively, during any single visit away from the Serving Frequency, to search a subset of rec_search_set, and to re-tune to the Serving Frequency.

+ The mobile station shall set PCG_OFF_TIMES to ‘1’ if TOTAL_OFF_TIME_FWD, MAX_OFF_TIME_FWD, TOTAL_OFF_TIME_FWD and MAX_OFF_TIME_FWD are expressed in units of power control groups. If these time estimates are expressed in units of frames, the mobile station shall set PCG_OFF_TIMES to ‘0’. The mobile station shall not use power control groups as the unit of delay if P_REV_IN_USEs is less than six.

+ If ALIGN_TIMINGr is equal to ‘1’, the mobile station shall set ALIGN_TIMING_USED to ‘1’ to indicate if it will align its search as requested by the base station; otherwise, the mobile station shall set ALIGN_TIMING_USED to ‘0’. If ALIGN_TIMING_USED is set to ‘1’, the mobile station shall set MAX_NUM_VISITS to the maximum number of visits per search period minus one and, if MAX_NUM_VISITS is not equal to 0, the mobile station shall set INTER_VISIT_TIME, in units of frames or power control groups, to its estimate of the time between subsequent visits within the same search period.

− When the message takes effect, the mobile station shall perform the following actions:

+ If any periodic search is in progress, the mobile station shall abort it (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
+ Store the following parameters from the Candidate Frequency Search Request Message:

  o Candidate Frequency Search Request Message sequence number
    (CFSRM_SEQs = CFSRM_SEQr)

  o Periodic search flag: If SEARCH_TYPEr is equal to ‘11’, the mobile station shall set PERIODIC_SEARCHs to ‘1’; otherwise, the mobile station shall set PERIODIC_SEARCHs to ‘0’.

  o Search period for the analog frequencies search
    (SEARCH_PERIODs = SEARCH_PERIODr)

  o Candidate Frequency search mode
    (SEARCH_MODEs = SEARCH_MODEr)

  o Band class for the analog frequencies
    (CF_CDMABANDs = BAND_CLASSr)

  o Serving Frequency total pilot Ec threshold
    (SF_TOTAL_EC_THRESHs = SF_TOTAL_EC_THRESHr)

  o Serving Frequency total pilot Ec/Io threshold
    (SF_TOTAL_EC_IO_THRESHs = SF_TOTAL_EC_IO_THRESHr)

  o Candidate Frequency Analog Search Set: The mobile station shall replace the Candidate Frequency Analog Search Set with the analog frequencies included in the Candidate Frequency Search Request Message.

+ If ALIGN_TIMINGr is equal to ‘1’ and the mobile station will align its search as requested by the base station, the mobile station shall set ALIGN_TIMING_USEDs to ‘1’ and SEARCH_OFFSETs to SEARCH_OFFSETr; otherwise, the mobile station shall set ALIGN_TIMING_USEDs to ‘0’ and SEARCH_OFFSETs to ‘000000’.

+ If the mobile station sets the PCG_OFF_TIMES field of the Candidate Frequency Search Response Message to ‘1’, it shall set SEARCH_TIME_RESOLUTIONs to 0.00125; otherwise, it shall set SEARCH_TIME_RESOLUTIONs to 0.02.

+ If SEARCH_TYPEr is equal to ‘01’, the mobile station shall perform a single search of the Candidate Frequency Analog Search Set as described in 2.6.6.2.10.1. If SEARCH_TYPEr is equal to ‘11’, the mobile station shall perform the periodic search procedures described in 2.6.6.2.10.2.

6. Candidate Frequency Search Control Message: The mobile station shall process the message as follows:

   If SEARCH_MODEs is equal to ‘0000’:

   - The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00001010’ (search set not specified), if SEARCH_TYPEr is not equal to ‘00’ and the Candidate Frequency Search Set is empty.
• The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '00001011' (invalid search request), if SEARCH_TYPE<sub>r</sub> is not equal to '00' and the Candidate Frequency is the same as the Serving Frequency (CF<sub>CDMABAND<sub>s</sub> is equal to CDMABAND<sub>s</sub> and CF<sub>CDMACH<sub>s</sub> is equal to CDMACH<sub>s</sub>).

• The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '0001101' (search period too short), if SEARCH_TYPE<sub>r</sub> is equal to '11' and search<sub>period</sub> is less than (max (fwd_time, rev_time) + T<sub>71m</sub>) seconds, where

\[
\text{search<sub>period</sub>} = \text{time period corresponding to SEARCH_PERIOD<sub>r</sub> shown in Table 2.6.6.2.8.3.2-1},
\]

\[
fwd_time = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to the Candidate Frequency, to search the Candidate Frequency Search Set and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } fwd_time \text{ is the total time for all visits to the Candidate Frequency in a search period (see 2.6.6.2.8.3.2),}
\]

and

\[
rev_time = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to the Candidate Frequency, to search the Candidate Frequency Search Set and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } rev_time \text{ is the total time for all visits to the Candidate Frequency in a search period.}
\]

• If the mobile station does not reject the *Candidate Frequency Search Control Message*, it shall perform the following actions when the message takes effect:

  − If any periodic search is in progress, the mobile station shall abort it (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).

  − If ALIGN_TIMING<sub>r</sub> is equal to ‘1’ and the mobile station will align its search as requested by the base station, the mobile station shall set ALIGN_TIMING USED<sub>s</sub> to ‘1’; otherwise, the mobile station shall set ALIGN_TIMING USED<sub>s</sub> to ‘0’ and SEARCH OFFSET<sub>s</sub> to ‘000000’. – If SEARCH_TYPE<sub>r</sub> is equal to ‘00’, the mobile station shall set PERIODIC SEARCH<sub>s</sub> to ‘0’.

  − If SEARCH_TYPE<sub>r</sub> is equal to ‘01’:

    + The mobile station shall set PERIODIC SEARCH<sub>s</sub> to ‘0’.

    + The mobile station shall perform a single search of the Candidate Frequency Search Set, as described in 2.6.6.2.8.3.1.
If SEARCH_TYPE is equal to ‘11’:

- The mobile station shall set PERIODIC_SEARCH to ‘1’.
- The mobile station shall perform the periodic search procedures for the Candidate Frequency Search Set, as described in 2.6.6.2.8.3.2.

If SEARCH_MODE is equal to ‘0001’:

- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘0001010’ (search set not specified), if SEARCH_TYPE is not equal to ‘00’ and the Candidate Frequency Analog Search Set is empty.
- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘0001101’ (search period too short), if SEARCH_TYPE is equal to ‘11’ and search_period is less than (max (fwd_time, rev_time) + T71m) seconds, where

\[
\text{search\_period} = \text{time period corresponding to SEARCH\_PERIOD shown in Table 2.6.6.2.8.3.2-1},
\]

\[
\text{fwd\_time} = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to each analog frequency in the Candidate Frequency Analog Search Set and measure its strength, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Analog Search Set in multiple visits, fwd\_time is the total time for all visits away from the Serving Frequency in a search period (see 2.6.6.2.10.2)},
\]

and

\[
\text{rev\_time} = \text{the mobile station’s estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to each analog frequency in the Candidate Frequency Analog Search Set and measure its strength, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Analog Search Set in multiple visits, fwd\_time is the total time for all visits away from the Serving Frequency in a search period (see 2.6.6.2.10.2)},
\]

- If the mobile station does not reject the Candidate Frequency Search Control Message, it shall perform the following actions when the message takes effect:

- If any periodic search is in progress, the mobile station shall abort it (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
- If ALIGN_TIMING is equal to ‘1’ and the mobile station will align its search as requested by the base station, the mobile station shall set ALIGN_TIMING_USED to ‘1’; otherwise, the mobile station shall set ALIGN_TIMING_USED to ‘0’ and SEARCH_OFFSET to ‘000000’.
If SEARCH_TYPE_r is equal to '00', the mobile station shall set PERIODIC_SEARCH_s to '0'.

If SEARCH_TYPE_r is equal to '01':
+ The mobile station shall set PERIODIC_SEARCH_s to '0'.
+ The mobile station shall perform a single search of the Candidate Frequency Analog Search Set, as described in 2.6.6.2.10.1.

If SEARCH_TYPE_r is equal to '11':
+ The mobile station shall set PERIODIC_SEARCH_s to '1'.
+ The mobile station shall perform the periodic search procedures for the Candidate Frequency Analog Search Set, as described in 2.6.6.2.10.2.

7. Extended Neighbor List Update Message: The mobile station shall update its neighbor set as specified in 2.6.6.2.6.3 and perform the following:

• If NGHBR_SRCH_MODE_r is equal to '01' or '11', the mobile station shall store the search priority (SEARCH_PRIORITY_s = SEARCH_PRIORITY_r) associated with each of the neighboring base stations contained in the Extended Neighbor List Update Message which are in the mobile’s neighbor set.

• If NGHBR_SRCH_MODE_r is equal to '01' or '00', the mobile station shall set the SRCH_OFFSET_INCL_s field '0'.

• If NGHBR_SRCH_MODE_r is equal to '10' or '11', the mobile station shall perform the following:
  – Store the neighbor pilot channel search window size (SRCH_WIN_NGHBR_s = SRCH_WIN_NGHBR_r) associated with each of the neighboring base stations contained in the Extended Neighbor List Updated Message which are in the mobile’s neighbor set,
  – If SRCH_OFFSET_INCL_r equals to '1', set the SRCH_OFFSET_NGHBR field of NGHBR_REC[i] to the i-th occurrence of SRCH_OFFSET_NGHBR_r,
  – Set SRCH_OFFSET_INCL_s to SRCH_OFFSET_INCL_r.

• The mobile station shall update the default search window size for its Neighbor Set (SRCH_WIN_N_s = SRCH_WIN_N_r).

• The mobile station shall set SEARCH_PRIORITY_INCL_s and SRCH_WIN_NGHBR_INCL_s to the value specified in Table 2.6.6.2.5.1-1 corresponding to NGHBR_SRCH_MODE_r.

• If USE_TIMING is equal to '1', the mobile station shall store the timing included flag (TIMING_INCL) associated with each of the neighboring base stations contained in the Extended Neighbor List Update Message which are in the mobile station neighbor set; otherwise the mobile station shall set the timing included flag (TIMING_INCL) associated with each of the neighboring base stations to '0'.

2-295
• If USE_TIMING is equal to ‘1’ and TIMING_INCLr is equal to ‘1’, the mobile
station shall store the neighbor transmit time offset (NGHBR_TX_OFFSET =
NGHBR_TX_OFFSETr) associated with each of the neighboring base stations
contained in the Extended Neighbor List Update Message which are in the mobile
station neighbor set.

• If USE_TIMING is equal to ‘1’ and the TIMING_INCL is equal to ‘1’, then the
mobile station shall perform the following:
  - If the GLOBAL_TIMING_INCL field is equal to ‘1’, then the mobile station
    shall store the neighbor transmit time duration (NGHBR_TX_DURATION =
    GLOBAL_TX_DURATIONr) and the neighbor transmit time duration
    (NGHBR_TX_PERIOD = GLOBAL_TX_PERIODr) contained in the Extended
    Neighbor List Update Message.
  - If the GLOBAL_TIMING_INCL field is equal to ‘0’, then the mobile station
    shall store the neighbor transmit time duration (NGHBR_TX_DURATION =
    NGHBR_TX_DURATIONr) and the neighbor transmit time duration
    (NGHBR_TX_PERIOD = NGHBR_TX_PERIODr) associated with each of the
    neighboring base stations contained in the Extended Neighbor List Update
    Message which are in the mobile station neighbor set.

• For each of the neighboring base stations contained in the General Neighbor List
Message, the mobile station shall set ADD_PILOT_REC_INCL field of
NGHBR_REC[i] to the ith occurrence of ADD_PILOT_REC_INCLr. If
ADD_PILOT_REC_INCR equals ‘1’, for each pilot, the mobile station shall also
perform the following:
  - Set the NGHBR_PILOT_REC_TYPE field of NGHBR_PILOT_REC to
    NGHBR_PILOT_REC_TYPEr.
  - If NGHBR_PILOT_REC_TYPEr is equal to ‘000’. The mobile station shall set
    the OTD_POWER_LEVEL field of NGHBR_PILOT_REC to
    OTD_POWER_LEVELr.

8. Supplemental Channel Assignment Message: The mobile station shall process this
message as follows:

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set
to the specified value if any of the following conditions is true, and shall not perform
any other action described in this section for processing the Supplemental Channel
Assignment Message:

• The mobile station shall send a Mobile Station Reject Order with the ORDQ field
set to ‘00000110’ (capability not supported), if the number of forward or reverse
Supplemental Code Channels specified in the Supplemental Channel Assignment
Message is greater than the maximum number of Supplemental Code Channels
supported by the mobile station.
The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000011' (message structure not acceptable), if both USE_REV_HDM_SEQ and EXPL_REV_START_TIME or both USE_FOR_HDM_SEQ and EXPL_FOR_START_TIME specified in the Supplemental Channel Assignment Message are set to ‘1’.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000100' (message field not in valid range), if PILOT_PN specified in the Supplemental Channel Assignment Message is not in the Active Set and this message is not linked with a General Handoff Direction Message.

If none of the above conditions is true, the mobile station shall perform the following.

The mobile station shall store the following parameters from the Supplemental Channel Assignment Message:

- Use General Handoff Direction Message forward sequence number indicator (USE_FOR_HDM_SEQs = USE_FOR_HDM_SEQr)

- If USE_FOR_HDM_SEQr is equal to ‘1’, then the mobile station shall store the following:
  + The sequence number of the General Handoff Direction Message to which this message is linked for the Forward Supplemental Code Channel assignment (FOR_LINKED_HDM_SEQs = FOR_LINKED_HDM_SEQr)
  + The forward Supplemental Code Channel assignment order (SCAM_FOR_ORDERs = least significant bit of FOR_SUP_CONFIGr)
  + The forward duration assignment indicator (SCAM_FOR_DURATION_MODEs = USE_FOR_DURATIONr).

- Use General Handoff Direction Message reverse sequence number indicator (USE_REV_HDM_SEQs = USE_REV_HDM_SEQr)

- If USE_REV_HDM_SEQr is equal to ‘1’, then the mobile station shall store the following:
  + The sequence number of the General Handoff Direction Message to which this message is linked for the Reverse Supplemental Code Channel assignment (REV_LINKED_HDM_SEQs = REV_LINKED_HDM_SEQr)
  + The reverse duration assignment indicator (SCAM_REV_DURATION_MODEs = USE_REV_DURATIONr).

- If USE_RETRY_DELAYr is ‘0’, then the mobile station shall store 0 as RETRY_DELAYs. The mobile station may send subsequent Supplemental Channel Request Messages whenever RETRY_DELAYs is set to 0.

- If USE_RETRY_DELAYr is set to ‘1’, the mobile station shall interpret the Supplemental Channel Assignment Message as an indication that the base station has specified a Supplemental Channel Request Message retry delay in RETRY_DELAYr as follows:
The mobile station shall store the next system time 80 ms boundary + RETRY_DELAYr \times 320 ms as RETRY_DELAYs. The mobile station shall not send any subsequent Supplemental Channel Request Message until after the system time stored in RETRY_DELAYs. At the system time stored in RETRY_DELAYs, the mobile station shall reset RETRY_DELAYs to 0.

If RETRY_DELAYr is ‘00000000’, then the mobile station shall store 0 as RETRY_DELAYs. The mobile station may send subsequent Supplemental Channel Request Messages whenever RETRY_DELAYs is set to 0.

If RETRY_DELAYr is ‘11111111’, then the mobile station shall store infinity as RETRY_DELAYs, and the mobile station shall not send any further Supplemental Channel Request Messages until the mobile station receives a new Supplemental Channel Assignment Message with no retry delay or a non-infinite retry delay specified, or until the mobile station receives a General Handoff Direction Message with a CLEAR_RETRY_DELAY indication set.

- If REV_INCLUDEDr is equal to ‘1’, then the mobile station shall process Reverse Supplemental Code Channel assignment information for the Supplemental Channel Assignment Message. This information shall be processed as follows:
  - The mobile station shall store USE_T_ADD_ABORTr, the Reverse Supplemental Code Channel assignment T_ADD abort indicator, as USE_T_ADD_ABORTs.
  - The mobile station shall store REV_DTX_DURATIONr, Reverse Supplemental Channel Discontinuous Transmission Duration, as REV_DTX_DURATIONs.
  - If REV_PARMS_INCLUDEDr is equal to ‘1’, the mobile station shall store the following:
    + T_MULCHANs = T_MULCHANr
    + BEGIN_PREAMBLEs = BEGIN_PREAMBLEr
    + RESUME_PREAMBLEs = RESUME_PREAMBLEr
  - If IGNORE_SCAMs is equal to ‘1’ and SCRM_SEQ_NUMr is not present or is present and is not equal to SCRM_SEQ_NUMs, then the mobile station shall not process the remaining Reverse Supplemental Code Channel assignment information in this message.
  - If IGNORE_SCAMs is equal to ‘1’ and SCRM_SEQ_NUMr is present and is equal to SCRM_SEQ_NUMs, then the mobile station shall set IGNORE_SCAMs to ‘0’.
  - The mobile station shall set REV_START_TIMEs as follows:
    + If EXPL_REV_START_TIMEr is equal to ‘1’, the mobile station shall set the REV_START_TIMEs to REV_START_TIMEr.
    + If USE_REV_HDM_SEQr is equal to ‘1’ and REV_LINKED_HDM_SEQr is not equal to HDM_SEQs, the mobile station shall set the REV_START_TIMEs to NULL.
+ If USE_REV_HDM_SEQᵦ is equal to ‘1’, REV_LINKED_HDM_SEQᵦ is equal to HDM_SEQₛ, then the mobile station shall set the REV_START_TIMEₛ to the action time of the General Handoff Direction Message that is linked to the Supplemental Channel Assignment Message.

+ If EXPL_REV_START_TIMEᵦ is equal to ‘0’ and USE_REV_HDM_SEQᵦ is equal to ‘0’, the mobile station shall set the REV_START_TIMEₛ to the next 80 ms boundary following the action time of the Supplemental Channel Assignment Message.

– The mobile station shall set NUM_REV_CODESₛ to NUM_REV_CODESᵦ. If REV_START_TIMEₛ is not equal to NULL, the mobile station shall perform the following actions:

  + If NUM_REV_CODESᵦ is equal to ‘000’, the mobile station shall stop transmitting the Reverse Supplemental Code Channels at the start time specified by REV_START_TIMEₛ.

  + If NUM_REV_CODESᵦ is not equal to ‘000’, the mobile station may start transmitting on NUM_REV_CODESₛ Reverse Supplemental Code Channels at the start time specified by REV_START_TIMEₛ for a duration of time specified by the following rules:

    0 If USE_REV_DURATIONᵦ is equal to ‘1’, the mobile station shall set REV_DURATIONₛ to REV_DURATIONᵦ. The mobile station may continue transmitting on the Reverse Supplemental Code Channels for a period of (REV_DURATIONₛ × 80) ms, or until it receives the action time of a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental assignment duration or start time.

    0 If USE_REV_DURATIONᵦ is equal to ‘0’, the mobile station may continue to transmit indefinitely on the Reverse Supplemental Code Channels, or until it receives the action time of a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental assignment duration or start time.

• If FOR_INCLUDED is equal to ‘1’, then the mobile station shall process Forward Supplemental Code Channel assignment information as follows:

  – The mobile station shall assign a value to FOR_START_TIMEₛ according to the following rules:

    + If EXPL_FOR_START_TIME is equal to ‘1’, the mobile station shall set the FOR_START_TIMEₛ to FOR_START_TIMEᵦ.

    + If USE_FOR_HDM_SEQᵦ is equal to ‘1’ and FOR_LINKED_HDM_SEQᵦ is not equal to HDM_SEQₛ, the mobile station shall set the FOR_START_TIMEₛ to NULL.
If USE_FOR_HDM_SEQ\textsubscript{r} is equal to ‘1’, FOR_LINKED_HDM_SEQ\textsubscript{r} is equal to HDM_SEQ\textsubscript{s}, the mobile station shall set the FOR_START_TIME\textsubscript{s} to the action time of the General Handoff Direction Message that is linked to the Supplemental Channel Assignment Message.

If EXPL\textsubscript{r} FOR_START_TIME\textsubscript{r} is equal to ‘0’ and USE_FOR_HDM_SEQ\textsubscript{r} equals ‘0’, the mobile station shall set the FOR_START_TIME\textsubscript{s} to the action time of the Supplemental Channel Assignment Message.

- If FOR_SUP_CONFIG\textsubscript{r} is equal to ‘00’ and FOR_START_TIME\textsubscript{s} is not equal to NULL, the mobile station should stop processing the Forward Supplemental Code Channels at the time specified by FOR_START_TIME\textsubscript{s}.

- If FOR_SUP_CONFIG\textsubscript{r} is equal to ‘01’ and FOR_START_TIME\textsubscript{s} is not equal to NULL, the mobile station shall start processing the Forward Supplemental Code Channels in the CODE_CHAN_LIST\textsubscript{s} at FOR_START_TIME\textsubscript{s} for a period of time specified by the following rules:
  + If USE_FOR_DURATION is equal to ‘1’, the mobile station shall set FOR_DURATION\textsubscript{s} to FOR_DURATION\textsubscript{r}. The mobile station shall continue processing the Forward Supplemental Code Channels for a period of \((FOR\_DURATION\textsubscript{s} \times 80)\) ms, or until it receives the action time of a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental assignment duration or start time.
  + If USE_FOR_DURATION\textsubscript{r} is equal to ‘0’, the mobile station shall continue processing the Forward Supplemental Code Channels until it receives the action time of a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental assignment duration or start time.

- If FOR_SUP_CONFIG\textsubscript{r} is equal to ‘10’, the mobile station shall perform the following:
  + The mobile station shall update the CODE_CHAN_LIST\textsubscript{s} as specified in 2.6.8.
  + If FOR_START_TIME\textsubscript{s} is not equal to NULL the mobile station should stop processing Forward Supplemental Code Channels at the time specified by FOR_START_TIME\textsubscript{s}.

- If FOR_SUP_CONFIG\textsubscript{r} is equal to ‘11’, the mobile station shall perform the following:
  + The mobile station shall update the CODE_CHAN_LIST\textsubscript{s} as specified in 2.6.8.
  + If FOR_START_TIME\textsubscript{s} is not equal to NULL, then the mobile station shall start processing the Forward Supplemental Code Channels in the CODE_CHAN_LIST\textsubscript{s} at the time specified by FOR_START_TIME\textsubscript{s} for a period of time specified by the following rules:
If USE_FOR_DURATION_r is equal to ‘1’, the mobile station shall set FOR_DURATION_s to FOR_DURATION_r. The mobile station shall continue processing the Forward Supplemental Code Channels for (FOR_DURATION_s × 80) ms, until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental assignment duration or start time.

If USE_FOR_DURATION_r is equal to ‘0’, the mobile station shall continue processing the Forward Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental assignment duration or start time.

9. **General Handoff Direction Message**: The mobile station shall process the message as follows:

In addition to the requirements in this section, if the SCR_INCLUDED field is included in this message and is set to ‘1’ the mobile station shall also process this message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to the specified value if any of the following conditions is true, and shall not perform any other action described in this section for processing the General Handoff Direction Message:

- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported), if the mobile station does not support the band class specified in the General Handoff Direction Message.

- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported), if the number of forward or reverse Supplemental Code Channels specified in the General Handoff Direction Message is greater than the maximum number of Supplemental Code Channels supported by the mobile station.

- If the SCRINCLUDED field is included in this message and is set to ‘1’, the mobile station shall do the following:

  - The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000111’ (message cannot be handled by the current mobile station configuration), if the mobile station does not support the service configuration specified in the General Handoff Direction Message.

  - The mobile station shall send a Mobile Station Reject Order (ORDQ = ‘00000111’) within T_{56m} seconds, if the mobile station supports the service configuration specified but does not accept the service configuration specified in the General Handoff Direction Message.
The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000111' (message cannot be handled by the current mobile station configuration), if the NNSCR_INCLUDED field is included and set to '1' and the SCR_INCLUDED field is either not included or included but set to '0', and the mobile station does not support the configuration specified in the non-negotiable service configuration information record in the General Handoff Direction Message.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00001010' (search set not specified), if the PERIODIC_SEARCH field is included in the General Handoff Direction Message and is set to '1', and the Candidate Frequency Search Set is empty.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00001101' (search period too short), if the PERIODIC_SEARCH field is included in the General Handoff Direction Message and is set to '1', and search_period is less than (max (fwd_time, rev_time) + T71m seconds), where

\[
s_{e} = \text{time period corresponding to SEARCH_PERIODs shown in Table 2.6.2.8.3.2-1},
\]

\[
fwd_{time} = \text{the mobile station's estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to the CDMA Candidate Frequency, to search the Candidate Frequency Search Set, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } fward_{time} \text{ is the total time for all visits to the CDMA Candidate Frequency in a search period (see 2.6.2.8.3.2),}
\]

and

\[
rev_{time} = \text{the mobile station's estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to the CDMA Candidate Frequency, to search the Candidate Frequency Search Set, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } rev_{time} \text{ is the total time for all visits to the CDMA Candidate Frequency in a search period.}
\]

If none of the above conditions is true, the mobile station shall perform the actions described in the remainder of this section to process the General Handoff Direction Message at the action time of the message.

If EXTRA_PARMS is equal to '1', the mobile station shall store the return on failure indicator from the General Handoff Direction Message (RETURN_IF_HANDOFF_FAILs = RETURN_IF_HANDOFF_FAILr); otherwise the mobile station shall set RETURN_IF_HANDOFF_FAILs to '0'.

If none of the above conditions is true, the mobile station shall perform the actions described in the remainder of this section to process the General Handoff Direction Message at the action time of the message.
The mobile station shall set RETURN_IF_HANDOFF_FAILs to '0' (disable return on failure) if any of the following conditions is true:

- If P_REV_IN_USEs is less than or equal to four and the mobile station does not support hard handoff with return on failure, or
- At least one of the pilots specified by the message is also included in the Active Set prior to the action time of the message, and one of the following conditions is true:
  - EXTRA_PARMS is equal to '0', or
  - EXTRA_PARMS is equal to '1', the message specifies the same Frequency Assignment as the Serving Frequency (BAND_CLASSr is equal to CDMABANDs and CDMA_FREQr is equal to CDMACHs), and FRAME_OFFSETr is equal to FRAME_OFFSETs.

The mobile station shall store the following parameters from its current configuration:
- CDMA band class (SF_CDMABANDs = CDMABANDs)
- Frequency assignment (SF_CDMACHs = CDMACHs)
- Frame Offset (SF_FRAME_OFFSETs = FRAME_OFFSETs)

If RETURN_IF_HANDOFF_FAILs is equal to '1', the mobile station shall also store the following parameters from its current configuration:
- Protocol revision level (SF_P_REVs = P_REVs)
- Protocol revision level in use on the Serving Frequency (SF_P_REV_IN_USEs = P_REV_IN_USEs)
- Search window size for the Active Set and Candidate Set (SF_SRCH_WIN_As = SRCH_WIN_As)
- Search window size for the Neighbor Set (SF_SRCH_WIN_Ns = SRCH_WIN_Ns)
- Search window size for the Remainder Set (SF_SRCH_WIN_Rs = SRCH_WIN_Rs)
- Pilot detection threshold (SF_T_ADDs = T_ADDs)
- Pilot drop threshold (SF_T_DROPs = T_DROPs)
- Active Set versus Candidate Set comparison threshold (SF_T_COMPs = T_COMPs)
- Drop timer value (SF_T_TDROPs = T_TDROPs)
• Soft slope for the dynamic add and drop thresholds
  (SF_SOFT_SLOPEs = SOFT_SLOPEs)

• Intercept for the dynamic add threshold
  (SF_ADD_INTERCEPTs = ADD_INTERCEPTs)

• Intercept for the dynamic drop threshold
  (SF_DROP_INTERCEPTs = DROP_INTERCEPTs)

• Private long code mask indicator: If the mobile station is using the private long
  code mask on the Serving Frequency, it shall set SF_PRIVATE_LCMs to ‘1’;
  otherwise, it shall set SF_PRIVATE_LCMs to ‘0’.

• Service negotiation type
  (SF_SERV_NEGs = SERV_NEGs)

• Service configuration:
  Store the current service configuration (service configuration record and non-
  negotiable service configuration record) in SF_SERVICE_CONFIGs

• Message encryption mode: If message encryption is on, the mobile station shall
  set SF_ENCRYPT_MODEs to ‘1’; otherwise, the mobile station shall set
  SF_ENCRYPT_MODEs to ‘0’.

• Extended nominal power setting of the current cell
  (SF_NOM_PWR_EXTs = NOM_PWR_EXTs)

• Nominal power setting of the current cell
  (SF_NOM_PWRs = NOM_PWRs)

• Power control step
  (SF_PWR_CNTL_STEPs = PWR_CNTL_STEPs)

• Serving Frequency Active Set (SF Active Set = (For each pilot in the current
  Active Set: (PILOT_PN, PWR_COMB_IND))

• Serving Frequency Code Channel List
  (SF_CODE_CHAN_LISTs = CODE_CHAN_LISTs)

When the message takes effect, the mobile station shall perform the following
actions:

• The mobile station shall send a Handoff Completion Message as specified in
  2.6.2.5.2.

• Update the Active Set, Candidate Set, and Neighbor Set in accordance with the
  General Handoff Direction Message processing (see 2.6.6.2.6.1, 2.6.6.2.6.2, and
  2.6.6.2.6.3).

• The mobile station shall delete all pilots that are not listed in the Active Set of
  the Fundamental Channel from the Active Set of the Supplemental Channel for
  the Forward Supplemental Channel Assignment (if any). If these deleted pilots
  include all pilots in the Active Set of the Supplemental Channel, the mobile
  station shall cancel the Forward Supplemental Channel Assignment.
- Discontinue use of all Forward Traffic Channels associated with pilots not listed in the General Handoff Direction Message.

- If EXTRA_PARMS is equal to ‘1’, perform the following actions:
  - If FRAME_OFFSET_r is not equal to FRAME_OFFSET_s, change the frame offset on all of the code channels of the Forward Traffic Channel and of the Reverse Traffic Channel.
  - If RESET_L2_r is equal to ‘1’, and RETURN_IF_HANDOFF_FAIL_s is equal to ‘0’, Layer 3 shall send a L2-Supervision.Request primitive to Layer 2 to reset the acknowledgment procedures, as specified in [4]. The mobile station shall reset the acknowledgment procedures immediately after the action time of the General Handoff Direction Message.
  - If RESET_FPC_r is equal to ‘1’ and RETURN_IF_HANDOFF_FAIL_s is equal to ‘0’, initialize the Forward Traffic Channel power control counters, as specified in 2.6.4.1.1.1.
  - If SERV_NEG_TYPE_r is equal to ‘1’, set SERV_NEG_s to enabled; otherwise set SERV_NEG_s to disabled. Use the long code mask specified by the PRIVATE_LCM_r (see 2.3.12.3) and indicate to the user the voice privacy mode status.
  - Process the ENCRYPT_MODE field, as specified in 2.3.12.2.

- If EXTRA_PARMS is equal to ‘0’, set the following variables to the values indicated:
  - Hard handoff traffic channel preamble count required before transmitting a Handoff Completion Message (NUM_PREAMBLE_s = ‘000’)
  - Complete search flag (COMPLETE_SEARCH_s = ‘1’)
  - CDMA band class for the Target Frequency (TF_CDMABAND_s = SF_CDMABAND_s)
  - Frequency assignment for the Target Frequency (TF_CDMACH_s = SF_CDMACH_s)

- Store the following parameters from the General Handoff Direction Message:
  - General Handoff Direction Message sequence number (HDM_SEQ_s = HDM_SEQ_r)
  - Forward power control subchannel relative gain (FPC_SUBCHAN_GAIN_s = FPC_SUBCHAN_GAIN_r).
  - If the mobile station uses FPC_SUBCHAN_GAIN_s, the mobile station shall perform the following:
    + If PC_ACTION_TIME_r is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAIN_s at the time specified by PC_ACTION_TIME_r.
+ If PC_ACTION_TIME is not received and the explicit action time is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAINs at the action time.

+ If neither PC_ACTION_TIME nor explicit action time is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAINs at the first 80ms boundary occurring at least 80ms after the end of the frame containing the last bit of the General Handoff Direction Message sent to the mobile station.

- Reverse Eighth Gating Mode (REV_FCH_GATING_MODEs = REV_FCH_GATING_MODEr).

- Reverse Power Control Delay if REV_PWR_CNTL_DELAY_INCLr is equal to ‘1’ (REV_PWR_CNTL_DELAYs = REV_PWR_CNTL_DELAYr).

- If SEARCH_INCLUDED is equal to ‘1’, store the following:
  + Search window size for the Active Set and Candidate Set
    (SRCH_WIN_As = SRCH_WIN_Ar)
  + Pilot detection threshold
    (T_ADDs = T_ADDr)
  + Pilot drop threshold
    (T_DROPs = T_DROPr)
  + Active Set versus Candidate Set comparison threshold
    (T_COMPs = T_COMPr)
  + Drop timer value
    (T_TDROPs = T_TDROPr)
  + Soft slope for the dynamic add and drop thresholds
    (SOFT_SLOPEs = SOFT_SLOPEr)
  + Intercept for the dynamic add threshold
    (ADD_INTERCEPTs = ADD_INTERCEPTr)
  + Intercept for the dynamic drop threshold
    (DROP_INTERCEPTs = DROP_INTERCEPTr)

- If EXTRA_PARMS is equal to ‘1’, store the following:
  + Protocol revision level (P_REVs = P_REFr), and protocol revision level currently in use (P_REV_IN_USEs = min (P_REVs, MOB_P_REVP of the current band class))
  + If the mobile station supports packet data service options, the packet data services zone identifier (PACKET_ZONE_IDs = PACKET_ZONE_IDr)
  + Frame offset (FRAME_OFFSETs = FRAME_OFFSETr)
+ Acknowledgment procedures reset indicator
  (If RETURN_IF_HANDOFF_FAILS is equal to ‘1’, set TF_RESET_L2s to
  RESET_L2r)

+ Indicator to initialize the Forward Traffic Channel power control counters
  (If RETURN_IF_HANDOFF_FAILS is equal to ‘1’, set TF_RESET_FPCs to
  RESET_FPCr)

+ Nominal power setting of the target cell (NOM_PWRs = NOM_PWRr)

+ Extended nominal power setting of the target cell (If CDMABANDs =
  ‘00000’ or CDMABANDs = ‘00011’, then NOM_PWR_EXTs = ‘0’; otherwise,
  NOM_PWR_EXTs = NOM_PWR_EXTr)

+ Hard handoff traffic channel preamble count required before transmitting
  a Handoff Completion Message (NUM_PREAMBLEs = NUM_PREAMBLEr)

+ CDMA band class for the Target Frequency
  (TF_CDMABANDs = BAND_CLASSr and CDMABANDs = BAND_CLASSr)

+ Frequency assignment for the Target Frequency
  (TF_CDMACHs = CDMA_FREQr and CDMACHs = CDMA_FREQr)

+ Complete search flag (COMPLETE_SEARCHs = COMPLETE_SEARCHr)

+ Periodic search flag (PERIODIC_SEARCHs = PERIODIC_SEARCHr)

+ Nominal code channel output power offset relative to the Reverse Pilot
  Channel power (RLGAIN_TRAFFIC_PILOTs = RLGAIN_TRAFFIC_PILOTr)

- If EXTRA_PARMS is equal to ‘1’ and DEFAULT_RLAG is equal to ‘1’, the
  mobile station shall set each entry of the Reverse Link Attribute Adjustment
  Gain Table and Reverse Channel Adjustment Gain Table (see [2]) to 0.

- If REV_PARMS_INCLUDED is included and is equal to ‘1’, the mobile station
  shall store the following:

  + Reverse Supplemental Code Channel Request Message neighbor channel
    Neighbor pilot strength measurement threshold offset (T_MULCHANs =
    T_MULCHANr)

  + Reverse Supplemental Code Channel beginning of transmission preamble
    length (BEGIN_PREAMBLEs = BEGIN_PREAMBLEr)

  + Reverse Supplemental Code Channel resumption of transmission
    preamble length (RESUME_PREAMBLEs = RESUME_PREAMBLEr)

- For each pilot included in the message, the mobile station shall store the
  following:

  + PILOT_PN, the pilot PN sequence offset index

  + PWR_COMB_IND, the power control symbol combining indicator
If USE_PWR_CNTL_STEP is equal to ‘1’ and PWR_CNTL_STEP_r corresponds to a power control step size supported by the mobile station (see [2]), then the mobile station shall set PWR_CNTL_STEP_s to PWR_CNTL_STEP_r.

- Set the pilot detection threshold for the Target Frequency and the Candidate Frequency:
  - Set TF_T_ADD_s to T_ADD_s.
  - If the Target Frequency is the same as the Candidate Frequency (TF_CDMABAND_s is equal to CF_CDMABAND_s and TF_CDMACH_s is equal to CF_CDMACH_s), set CF_T_ADD_s to T_ADD_s.

- If FOR_INCLUDED is included and is equal to ‘0’, the mobile station shall perform the following:
  - The mobile station shall update the Code Channel List, CODE_CHAN_LIST_s, as specified in 2.6.8.
  - If USE_FOR_HDM_SEQ_s is equal to ‘1’ and FOR_LINKED_HDM_SEQ_s is equal to HDM_SEQ_r (this indicates that there is pending Forward Supplemental Code Channel assignment information, received in a Supplemental Channel Assignment Message, linked to this General Handoff Direction Message), then the mobile station shall perform the following actions:
    + The mobile station shall set USE_FOR_HDM_SEQ_s to ‘0’.
    + If SCAM_FOR_ORDER_s is equal to ‘0’, the mobile station shall stop processing all Forward Supplemental Code Channels at the action time of the General Handoff Direction Message.
    + If SCAM_FOR_ORDER_s is equal to ‘1’, the mobile station shall start processing the Forward Supplemental Code Channels specified in CODE_CHAN_LIST_s at the action time of the General Handoff Direction Message, for a period of time determined by the following rules:
      o If SCAM_FOR_DURATION_MODE_s is equal to ‘1’, the mobile station shall continue processing the Forward Supplemental Code Channels for a period of (FOR_DURATION_s × 80) ms, until it receives a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Forward Supplemental Code Channel assignment.
      o If SCAM_FOR_DURATION_MODE_s is equal to ‘0’, the mobile station shall continue processing the Forward Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental Code Channel assignment.
3GPP2 C.S0005-0

− If USE_FOR_HDM_SEQs is equal to ‘0’ or FOR_LINKED_HDM_SEQs is not equal to HDM_SEQr, and if the mobile station is currently processing Forward Supplemental Code Channels, it shall continue processing the Forward Supplemental Code Channels using the updated Code Channel List, CODE_CHAN_LISTs.

− If NNSCR_INCLUDED field is included and set to ‘1’ and SCR_INCLUDED field is either not included or included but set to ‘0’, the mobile station shall process the received Non-negotiable Service Configuration Record as specified in 2.6.4.1.13 at the action time of this message.

− If FOR_INCLUDED is included and is equal to ‘1’, then the mobile station shall process the Forward Supplemental Code Channel assignment information as follows:
  − The mobile station shall set USE_FOR_HDM_SEQs to ‘0’.
  − If FOR_START_TIMEs specifies a time which is after the action time of the General Handoff Direction Message, the mobile station shall cancel any pending Forward Supplemental Code Channel assignment and shall set FOR_START_TIMEs to NULL.
  − The mobile station shall update the Code Channel List, CODE_CHAN_LISTs, in accordance with the value of FOR_SUP_CONFIG, as specified in 2.6.8.
  − If FOR_SUP_CONFIG is equal to ‘00’ or ‘10’, the mobile station should stop processing Forward Supplemental Code Channels, if any, when the message takes effect.
  − If FOR_SUP_CONFIG is equal to ‘01’ or ‘11’, the mobile station shall start processing the Forward Supplemental Code Channels in the updated Code Channel List, CODE_CHAN_LISTs, at the action time of the message, for a period of time determined by the following rules:
    + If USE_FOR_DURATION is equal to ‘1’, the mobile station shall set FOR_DURATIONs to FOR_DURATIONr. The mobile station shall continue processing the Forward Supplemental Code Channels for a period of (FOR_DURATIONs \times 80) ms, until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental Code Channel assignment.
    + If USE_FOR_DURATION is equal to ‘0’, the mobile station shall continue processing the Forward Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental Code Channel assignment.

− If REV_INCLUDED is included and is equal to ‘0’, the mobile station shall perform the following:
If USE_REV_HDM_SEQs is equal to ‘1’ and REV_LINKED_HDM_SEQs is equal to HDM_SEQr (this indicates that there is pending Reverse Supplemental Code Channel assignment information, received in a Supplemental Channel Assignment Message, linked to this General Handoff Direction Message), the mobile station shall perform the following actions:

+ If NUM_REV_CODESs is equal to ‘000’, the mobile station shall stop transmitting on all Reverse Supplemental Code Channels at the action time of the message.

+ If NUM_REV_CODESs is not equal to ‘000’, the mobile station may start transmitting on NUM_REV_CODESs Reverse Supplemental Code Channels at the action time of the message, for a duration of time determined by the following rules:

  o If SCAM_REV_DURATION_MODEs is equal to ‘1’, the mobile station may continue transmitting on the Reverse Supplemental Code Channels for a period of \((REV_DURATIONS \times 80)\) ms, until it receives a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental Code Channel assignment.

  o If SCAM_REV_DURATION_MODEs is equal to ‘0’, the mobile station may continue transmitting on the Reverse Supplemental Code Channels until it receives a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental Code Channel assignment.

+ The mobile station shall set USE_REV_HDM_SEQs to ‘0’.

− If USE_REV_HDM_SEQs is equal to ‘0’ or REV_LINKED_HDM_SEQs is not equal to HDM_SEQr, and if the previous Reverse Supplemental Code Channel assignment is still valid, the mobile station may continue to transmit on the Reverse Supplemental Code Channels according to the previously specified Reverse Supplemental Code Channel assignment.

• If REV_INCLUDED is included and is equal to ‘1’, then the mobile station shall process the Reverse Supplemental Code Channel assignment information as follows:

  − The mobile station shall set REV_DTX_DURATIONS to REV_DTX_DURATIONSr.

  − The mobile station shall set USE_REV_HDM_SEQs to ‘0’.

  − If REV_START_TIMEs specifies a time which is after the action time of the General Handoff Direction Message, the mobile station shall cancel any pending Reverse Supplemental Code Channel assignment and shall set REV_START_TIMEs to NULL.
If CLEAR_RETRY_DELAY is equal to ‘1’, the mobile station shall cancel any previously indicated retry delay and shall set RETRY_DELAY{s} to 0, set RETRY_DELAY{s}[RETRY_TYPE] to 0, where RETRY_TYPE is equal to ‘001’, ‘010’ or ‘011’; otherwise, the mobile station shall continue to honor any previously active retry delay stored in RETRY_DELAY{s} and RETRY_DELAY{s}[RETRY_TYPE], where RETRY_TYPE is equal to ‘001’, ‘010’ or ‘011’.

The mobile station shall set NUM_REV_CODE{s} to NUM_REV_CODE{r}, and shall perform the following actions:

- If NUM_REV_CODE{s} is equal to ‘000’, the mobile station shall stop transmitting on all Reverse Supplemental Code Channels at the action time of the message.
- If NUM_REV_CODE{s} is not equal to ‘000’, the mobile station may start transmitting on NUM_REV_CODE{s} Reverse Supplemental Code Channels at the action time of the message, for a duration of time determined by the following rules:
  - If USE_REVERSE_DURATION{r} is equal to ‘1’, the mobile station shall set REV_DURATION{s} to REV_DURATION{r}. The mobile station may continue transmitting on the Reverse Supplemental Code Channels for a period of (REV_DURATION{s} × 80) ms, until it receives a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental Code Channel assignment.
  - If USE_REVERSE_DURATION is equal to ‘0’, the mobile station may continue to transmit on the Reverse Supplemental Code Channels until it receives a subsequent General Handoff Direction Message or a Supplemental Channel Assignment Message that specifies a different Reverse Supplemental Code Channel assignment.

The mobile station shall store USE_T_ADD_ABORT{r}, the Reverse Supplemental Code Channel assignment T_ADD abort indicator, as USE_T_ADD_ABORT{s}.

- The mobile station shall set IGNORE_SCAMS and IGNORE_ESCAMS to ‘0’.
- If PERIODIC_SEARCH{s} is equal to ‘0’ and a periodic search is in progress, the mobile station shall abort the periodic search (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
- Perform a soft or hard handoff depending on the following conditions:
  - If any of the following conditions is true, the mobile station shall perform a hard handoff:
    + EXTRA_PARMS is set to ‘1’ and either BAND_CLASS{r} is not equal to SF_CDMABAND{s}, CDMA_FREQ{r} is not equal to SF_CDMACH{s}, or FRAME_OFFSET{r} is not equal to SF_FRAME_OFFSET{s}, or
+ The set of pilots specified by the message is disjoint from the Active
Set prior to the action time of the message.

- If the mobile station performs a hard handoff, it shall do the following:
  + If a Periodic Serving Frequency Pilot Report Procedure is in progress, the
    mobile station shall abort the procedure (see 2.6.6.2.12).
  + If a Candidate Frequency periodic search is in progress, the mobile station
    shall abort the periodic search (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
  + The mobile station shall cancel the Forward Supplemental Channel
    assignment or the Reverse Supplemental Channel assignment (if any).
  + If RETURN_IF_HANDOFF_FAILs is equal to ‘0’, the mobile station shall
    perform actions specified in 2.6.6.2.8.1. If the message specifies more than
    one pilot, the mobile station shall also perform actions specified in
    2.6.6.2.7.1 and 2.6.6.2.7.2.
  + If RETURN_IF_HANDOFF_FAILs is equal to ‘1’, the mobile station shall
    perform actions specified in 2.6.6.2.8.2. If the message specifies more than
    one pilot, the mobile station shall also perform actions specified in
    2.6.6.2.7.1 and 2.6.6.2.7.2.

- Otherwise, the mobile station shall perform a soft handoff as specified in
  2.6.6.2.7.

10. Periodic Pilot Measurement Request Order: The mobile station shall perform the
    following:

    • If the PPSMM timer is enabled, disable it.
    • If ORDQ is equal to ‘11111111’, the mobile station shall send a Periodic Pilot
      Strength Measurement Message to the base station within T56m seconds.
    • If ORDQ is equal to ‘11111111’, the mobile station shall send a Periodic Pilot
      Strength Measurement Message to the base station within T56m seconds.
    • If ORDQ is not equal to ‘11111111’, the mobile station shall perform the
      following:
      - Set the MIN_PILOT_PWR_THRESHs to MIN_PILOT_PWR_THRESHr
        received from the Periodic Pilot Strength Measurement Request Order.
      - Set the MIN_PILOT_EC_IO_THRESHs to MIN_PILOT_EC_IO_THRESHr
        received from the Periodic Pilot Strength Measurement Request Order.
      - Set PPSMM_PERIODs equal to the larger value of ORDQ and the total
        length of time, in units of 80 ms, required by the mobile station to update
        the pilot strength measurement of each pilot in the Active Set and the
        Candidate Set.
      - Perform the Periodic Serving Frequency Pilot Report Procedure as
        specified in 2.6.6.2.12.
11. **Universal Handoff Direction Message**: The mobile station shall process the message as follows:

In addition to the requirements in this section, if the SCR_INCLUDED field is included in this message and is set to ‘1’ the mobile station shall also process this message in accordance with the requirements for the active service subfunction (see 2.6.4.1.2.2).

The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to the specified value if any of the following conditions is true, and shall not perform any other action described in this section for processing the *Universal Handoff Direction Message*:

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000110’ (capability not supported), if the mobile station does not support the band class specified in the *Universal Handoff Direction Message*.

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000111’ (message cannot be handled by the current mobile station configuration), if the mobile station does not support the service configuration specified in the *Universal Handoff Direction Message*.

- The mobile station shall send a *Mobile Station Reject Order* (ORDQ = ‘00000111’) within T56m seconds, if the mobile station supports the service configuration specified but does not accept the service configuration specified in the *Universal Handoff Direction Message*.

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000111’ (message cannot be handled by the current mobile station configuration), if the NNSCR_INCLUDED field is included and set to ‘1’ and the SCR_INCLUDED field is either not included or included but set to ‘0’, and the mobile station does not support the configuration specified in the non-negotiable service configuration information record in the *Universal Handoff Direction Message*.

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000111’ (message cannot be handled by the current mobile station configuration), if the PERIODIC_SEARCH field is included in the *Universal Handoff Direction Message* is set to ‘1’ and the Candidate Frequency Search Set is empty.

- The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to ‘00000011’ (message structure not acceptable), if the message specifies the Forward/Reverse Supplemental Channel assignment and the most significant bit of CH_IND_F is set to ‘0’.
The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000111' (message cannot be handled by the current mobile station configuration), if the message includes a reverse Supplemental Channel assignment, and any mobile station’s reverse supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00000111' (message cannot be handled by the current mobile station configuration), if the message includes a forward Supplemental Channel assignment and any mobile station’s forward supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL.

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to '00001101' (search period too short), if the PERIODIC_SEARCH field is included in the Universal Handoff Direction Message and is set to '1', and search_period is less than \( \max(fwd_time, rev_time) + T_{71m} \) seconds), where

\[
\text{search_period} = \text{time period corresponding to SEARCH_PERIODs shown in Table 2.6.6.2.8.3.2-1},
\]

\[
fwd_time = \text{the mobile station's estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to the CDMA Candidate Frequency, to search the Candidate Frequency Search Set, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } \]

\[
\text{fwd_time} \text{ is the total time for all visits to the CDMA Candidate Frequency in a search period (see 2.6.6.2.8.3.2)},
\]

and

\[
rev_time = \text{the mobile station's estimate of the total length of time, in seconds, for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to the CDMA Candidate Frequency, to search the Candidate Frequency Search Set, and to re-tune to the Serving Frequency; if the mobile station searches the Candidate Frequency Search Set in multiple visits, } \]

\[
\text{rev_time} \text{ is the total time for all visits to the CDMA Candidate Frequency in a search period.}
\]

If none of the above conditions is true, the mobile station shall perform the actions described in the remainder of this section to process the Universal Handoff Direction Message at the action time of the message.

If EXTRA_PARMS is equal to '1', the mobile station shall store the return on failure indicator from the Universal Handoff Direction Message \( \text{RETURN_IF_HANDOFF_FAILs} = \text{RETURN_IF_HANDOFF_FAILr} \); otherwise the mobile station shall set \( \text{RETURN_IF_HANDOFF_FAILs} \) to '0'.

The mobile station shall set \( \text{RETURN_IF_HANDOFF_FAILs} \) to '0' (disable return on failure) if any of the following conditions is true:

- If \( P_{\text{REV_IN_USE}} \) is less than or equal to four and the mobile station does not
support hard handoff with return on failure, or

- At least one of the pilots specified by the message is also included in the Active
  Set prior to the action time of the message, and one of the following conditions is
  true:
    - EXTRA_PARMS is equal to ‘0’, or
    - EXTRA_PARMS is equal to ‘1’, the message specifies the same Frequency
      Assignment as the Serving Frequency (BAND_CLASSr is equal to
      CDMABANDs and CDMA_FREQr is equal to CDMACHs), and
      FRAME_OFFSETr is equal to FRAME_OFFSETs.

The mobile station shall store the following parameters from its current
configuration:

- CDMA band class (SF_CDMABANDs = CDMABANDs)
- Frequency assignment (SF_CDMACHs = CDMACHs)
- Frame Offset (SF_FRAME_OFFSETs = FRAME_OFFSETs)

If RETURN_IF_HANDOFF_FAILs is equal to ‘1’, the mobile station shall also store the
following parameters from its current configuration:

- Protocol revision level (SF_P_REVs = P_REVs)
- Protocol revision level in use on the Serving Frequency (SF_P_REV_IN_USEs
  = P_REV_IN_USEs)
- Search window size for the Active Set and Candidate Set (SF_SRCH_WIN_As
  = SRCH_WIN_As)
- Search window size for the Neighbor Set
  (SF_SRCH_WIN_Ns = SRCH_WIN_Ns),
- Search window size for the Remainder Set
  (SF_SRCH_WIN_Rs = SRCH_WIN_Rs)
- Pilot detection threshold (SF_T_ADDs = T_ADDs)
- Pilot drop threshold (SF_T_DROPs = T_DROPs)
- Active Set versus Candidate Set comparison threshold
  (SF_T_COMPs = T_COMPs)
- Drop timer value (SF_T_TDROPs = T_TDROPs)
- Soft slope for the dynamic add and drop thresholds
  (SF_SOFT_SLOPEs = SOFT_SLOPEs)
- Intercept for the dynamic add threshold
  (SF_ADD_INTERCEPTs = ADD_INTERCEPTs)
- Intercept for the dynamic drop threshold
  (SF_DROP_INTERCEPTs = DROP_INTERCEPTs)
- Private long code mask indicator: If the mobile station is using the private long code mask on the Serving Frequency, it shall set SF_PRIVATE_LCMs to ‘1’; otherwise, it shall set SF_PRIVATE_LCMs to ‘0’.

- Service negotiation type (SF_SERV_NEGs = SERV_NEGs)

- Service configuration: Store the current service configuration (service configuration record and non-negotiable service configuration record) in SF_SERVICE_CONFIGs

- Message encryption mode: If message encryption is on, the mobile station shall set SF_ENCRYPT_MODEs to ‘1’; otherwise, the mobile station shall set SF_ENCRYPT_MODEs to ‘0’.

- If NNSCR_INCLUDED field is included and set to ‘1’ and SCR_INCLUDED field is either not included or included but set to ‘0’, the mobile station shall process the received Non-negotiable Service Configuration Record as specified in 2.6.4.1.13 at the action time of this message.

- Extended nominal power setting of the current cell (SF_NOM_PWR_EXTs = NOM_PWR_EXTs)

- Nominal power setting of the current cell (SF_NOM_PWRs = NOM_PWRs)

- Power control step (SF_PWR_CNTL_STEPs = PWR_CNTL_STEPs)

- Serving Frequency Active Set (SF Active Set = (For each pilot in the current Active Set: (PILOT_PN, PWR_COMB_IND) ) )

- Serving Frequency Code Channel List (SF_CODE_CHAN_LISTs = CODE_CHAN_LISTs)

When the message takes effect, the mobile station shall perform the following actions:

- The mobile station shall send a Handoff Completion Message as specified in 2.6.6.2.5.2.

- Update the Active Set, Candidate Set, and Neighbor Set in accordance with the Universal Handoff Direction Message processing (see 2.6.6.2.6.1, 2.6.6.2.6.2, and 2.6.6.2.6.3).

- Discontinue use of all Forward Traffic Channels associated with pilots not in the updated Active Set.

- If PARMS_INCL is equal to ‘1’, perform the following actions:
  - Set protocol revision level (P_REVs = P_REVs), and protocol revision level currently in use (P_REV_IN_USEs = min (P_REVs, MOB_P_REVs of the current band class)).
  - If SERV_NEG_TYPEr is equal to ‘1’, set SERV_NEGs to enabled; otherwise set SERV_NEGs to disabled.

- If EXTRA_PARMS is equal to ‘1’, perform the following actions:
– If FRAME_OFFSET_r is not equal to FRAME_OFFSET_s, change the frame offset on all of the code channels of the Forward Traffic Channel and of the Reverse Traffic Channel.

– If RESET_L2_r is equal to ‘1’, and RETURN_IF_HANDOFF_FAIL_s is equal to ‘0’, Layer 3 shall send a L2-Supervision.Request primitive to Layer 2 to reset the acknowledgment procedures, as specified in [4]. The mobile station shall reset the acknowledgment procedures immediately after the action time of the Universal Handoff Direction Message.

– If RESET_FPC_r is equal to ‘1’ and RETURN_IF_HANDOFF_FAIL_s is equal to ‘0’, initialize the Forward Traffic Channel power control counters, as specified in 2.6.4.1.1.1.

– Use the long code mask specified by the PRIVATE_LCM_r (see 2.3.12.3) and indicate to the user the voice privacy mode status.

– Process the ENCRYPT_MODE field, as specified in 2.3.12.2.

• If EXTRA_PARMS is equal to ‘0’, set the following variables to the values indicated:
  – Hard handoff traffic channel preamble count required before transmitting a Handoff Completion Message (NUM_PREAMBLE_s = ‘000’)
  – Complete search flag (COMPLETE_SEARCH_s = ‘1’)
  – CDMA band class for the Target Frequency (TF_CDMABAND_s = SF_CDMABAND_s)
  – Frequency assignment for the Target Frequency (TF_CDMACH_s = SF_CDMACH_s)

• Store the following parameters from the Universal Handoff Direction Message:
  – Universal Handoff Direction Message sequence number (HDM_SEQ_s = HDM_SEQ_r)
  – Forward power control subchannel relative gain (FPC_SUBCHAN_GAIN_s = FPC_SUBCHAN_GAIN_r).

  – If the mobile station uses FPC_SUBCHAN_GAIN_s, the mobile station shall perform the following:
    + If PC_ACTION_TIME_r is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAIN_s at the time specified by PC_ACTION_TIME_r.
    + If PC_ACTION_TIME is not received and the explicit action time is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAIN_s at the action time.
If neither PC_ACTION_TIMEr nor explicit action time is received, the mobile station shall apply its usage of the FPC_SUBCHAN_GAINs at the first 80ms boundary occurring at least 80ms after the end of the frame containing the last bit of the *Universal Handoff Direction Message* sent to the mobile station.

- Reverse Eighth Gating Mode (REV_FCH_GATING_MODEs = REV_FCH_GATING_MODEr).
- Reverse Power Control Delay if REV_PWR_CNTL_DELAY_INCLr is equal to ‘1’ (REV_PWR_CNTL_DELAYs = REV_PWR_CNTL_DELAYr).

- If SEARCH_INCLUDED is equal to ‘1’, store the following:
  + Search window size for the Active Set and Candidate Set (SRCH_WIN_As = SRCH_WIN_Ar)
  + Pilot detection threshold (T_ADDs = T_ADDr)
  + Pilot drop threshold (T_DROPs = T_DROPr)
  + Active Set versus Candidate Set comparison threshold (T_COMPs = T_COMPr)
  + Drop timer value (T_TDROPs = T_TDROPr)
  + Soft slope for the dynamic add and drop thresholds (SOFT_SLOPEs = SOFT_SLOPEr)
  + Intercept for the dynamic add threshold (ADD_INTERCEPTs = ADD_INTERCEPTr)
  + Intercept for the dynamic drop threshold (DROP_INTERCEPTs = DROP_INTERCEPTr)

- If EXTRA_PARMS is equal to ‘1’, store the following:
  + If the mobile station supports packet data service options, the packet data services zone identifier (PACKET_ZONE_IDs = PACKET_ZONE_IDr)
  + Frame offset (FRAME_OFFSETs = FRAME_OFFSETr)
  + Acknowledgment procedures reset indicator (If RETURN_IF_HANDOFF_FAILs is equal to ‘1’, set TF_RESET_L2s to RESET_L2r)
  + Indicator to initialize the Forward Traffic Channel power control counters (If RETURN_IF_HANDOFF_FAILs is equal to ‘1’, set TF_RESET_FPCs to RESET_FPCr)
  + Nominal power setting of the target cell (NOM_PWRs = NOM_PWRr)
  + Extended nominal power setting of the target cell (If CDMABANDs = ‘00000’ or CDMABANDs = ‘00011’, then NOM_PWR_EXTs = ‘0’; otherwise, NOM_PWR_EXTs = NOM_PWR_EXTr)
+ Hard handoff traffic channel preamble count required before transmitting a Handoff Completion Message \( \text{NUM\_PREAMBLE}_S = \text{NUM\_PREAMBLE}_T \)

+ CDMA band class for the Target Frequency \( \text{TF\_CDMABAND}_S = \text{BAND\_CLASS}_T \) and \( \text{CDMABAND}_S = \text{BAND\_CLASS}_T \)

+ Frequency assignment for the Target Frequency \( \text{TF\_CDMA\_FREQ}_S = \text{CDMA\_FREQ}_T \) and \( \text{CDMA\_FREQ}_S = \text{CDMA\_FREQ}_T \)

+ Complete search flag \( \text{COMPLETE\_SEARCH}_S = \text{COMPLETE\_SEARCH}_T \)

+ Periodic search flag \( \text{PERIODIC\_SEARCH}_S = \text{PERIODIC\_SEARCH}_T \)

+ Nominal code channel output power offset relative to the Reverse Pilot Channel power \( \text{RLGAIN\_TRAFFIC\_PILOT}_S = \text{RLGAIN\_TRAFFIC\_PILOT}_T \)

– If \( \text{EXTRA\_PARMS} \) is equal to ‘1’ and \( \text{DEFAULT\_RLAG} \) is equal to ‘1’, the mobile station shall set each entry of the Reverse Link Attribute Adjustment Gain Table and Reverse Channel Adjustment Gain Table (see [2]) to 0.

– If \( \text{USE\_PWR\_CNTL\_STEP} \) is equal to ‘1’ and \( \text{PWR\_CNTL\_STEP}_T \) corresponds to a power control step size supported by the mobile station (see [2]), then the mobile station shall set \( \text{PWR\_CNTL\_STEP}_S \) to \( \text{PWR\_CNTL\_STEP}_T \).

– If \( \text{CLEAR\_RETRY\_DELAY}_T \) is equal to ‘1’, the mobile station shall cancel any previously indicated retry delay and shall set \( \text{RETRY\_DELAY}_S \) to 0, set \( \text{RETRY\_DELAY}_S[\text{RETRY\_TYPE}] \) to 0, where \( \text{RETRY\_TYPE} \) is equal to ‘001’, ‘010’ or ‘011’; otherwise, the mobile station shall continue to honor any previously active retry delay stored in \( \text{RETRY\_DELAY}_S \) and \( \text{RETRY\_DELAY}_S[\text{RETRY\_TYPE}] \), where \( \text{RETRY\_TYPE} \) is equal to ‘001’, ‘010’ or ‘011’.

– If \( \text{SCH\_INCL}_T \) is equal to ‘1’ and \( \text{NUM\_FOR\_ASSIGN}_T \) is not equal to ‘00’, the mobile station shall store the following information for each occurrence of the record and process the Forward Supplemental Burst as specified in 2.6.6.2.5.1.1:

  + \( \text{FOR\_SCH\_START\_TIME\_INCL}_S[\text{FOR\_SCH\_ID}_T] = \text{FOR\_SCH\_START\_TIME\_INCL}_T \)
  + If \( \text{FOR\_SCH\_START\_TIME\_INCL}_S[\text{FOR\_SCH\_ID}_T] \) is equal to ‘1’, set \( \text{FOR\_SCH\_START\_TIME}_S[\text{FOR\_SCH\_ID}_T] = \text{FOR\_SCH\_START\_TIME}_T \)
  + \( \text{FOR\_SCH\_DURATION}_S[\text{FOR\_SCH\_ID}_T] = \text{FOR\_SCH\_DURATION}_T \)
  + \( \text{SCCL\_INDEX}_S[\text{FOR\_SCH\_ID}_T] = \text{SCCL\_INDEX}_T \)
If SCH_INCL\textsubscript{r} is equal to ‘1’ and NUM_REV_ASSIGN\textsubscript{r} is not equal to ‘00’, the mobile station shall store the following information for each occurrence of the record and process the Reverse Supplemental Burst as specified in 2.6.6.2.5.1.2:

+ REV_SCH_START_TIME\textsubscript{INCL}\textsubscript{s}[REV_SCH_ID\textsubscript{r}] = REV_SCH_START_TIME\textsubscript{INCL}\textsubscript{r}
+ If REV_SCH_START_TIME\textsubscript{INCL}\textsubscript{s}[REV_SCH_ID\textsubscript{r}] is equal to’1’, set REV_SCH_START_TIME\textsubscript{s}[REV_SCH_ID\textsubscript{r}] = REV_SCH_START_TIME\textsubscript{r}
+ REV_SCH_DURATION\textsubscript{s}[REV_SCH_ID\textsubscript{r}] = REV_SCH_DURATION\textsubscript{r}
+ REV_SCH_RATE\textsubscript{s}[REV_SCH_ID\textsubscript{r}] = REV_SCH_RATE\textsubscript{r}

If CH_IND\textsubscript{r} is equal to ‘101’, the mobile station shall perform the following:

+ The mobile station shall set CH_IND\textsubscript{s} = ‘01’.

+ If SCH_INCL\textsubscript{r} is equal to ‘1’ and NUM_FOR_SCH is not equal to ‘00000’, for all the NUM_FOR_SCH occurrences, the mobile station shall perform the following:
  o Set FOR_SCH_RATE\textsubscript{s}[FOR_SCH_ID\textsubscript{r}][SCCL_INDEX\textsubscript{r}] to FOR_SCH_RATE\textsubscript{r}.

+ If SCH_INCL\textsubscript{r} is equal to ‘1’ and NUM_REV_SCH is not equal to ‘00000’, for all the NUM_REV_SCH occurrences, the mobile station shall perform the following:
  o Set REV_SCH_RATE\textsubscript{s}[REV_SCH_ID\textsubscript{r}] to REV_SCH_RATE\textsubscript{r}.
  o Set REV_WALSH_ID\textsubscript{s}[REV_SCH_ID\textsubscript{r}][REV_SCH_RATE\textsubscript{s}] to REV_WALSH_ID\textsubscript{r}.

+ For each member of the Active Set included in the message, the mobile station shall perform the following:
  o Set PILOT_PN to PILOT_PNr.
  o If SRCH_OFFSET\textsubscript{INCL}\textsubscript{r} equals to ‘1’, set the SRCH_OFFSET field of PILOT_REC to SRCH_OFFSET\textsubscript{r}; otherwise, set the SRCH_OFFSET field of PILOT_REC to ‘000’.
  o Set ADD_PILOT_REC_INCL to ADD_PILOT_REC_INCL\textsubscript{r}.
  o If ADD_PILOT_REC_INC\textsubscript{r} equals ‘1’, the mobile station shall also perform the following:
    ◊ Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPE\textsubscript{r}. 

2-320
◊ If PILOT_REC_TYPE_r is equal to '000', the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVEL_r.

- Store PWR_COMB_IND, CODE_CHAN_FCH and QOF_MASK_ID_FCH.

◊ If SCH_INCL_r is equal to '1' and NUM_SCH is equal to '00000', the mobile station shall delete the corresponding pilot from all entries of the corresponding Supplemental Channel.

◊ If SCH_INCL_r is equal to '1' and NUM_SCH is not equal to '00000', for each Supplemental Channel included in this record, the mobile station shall:

◊ If PILOT_INCL is equal to '0', the mobile station shall delete the corresponding pilot from the Active Set of Supplemental Channel for the corresponding SCCL_INDEX_r.

◊ If PILOT_INCL is equal to '1', for each Supplemental Channel included in this record, the mobile station shall set PILOT_PNs[FOR_SCH_ID_r][SCCL_INDEX_r][i] to PILOT_PNr, QOF_IDs[FOR_SCH_ID_r][SCCL_INDEX_r][i] to QOF_MASK_ID_SCH_r, and FOR_SCH_CC_INDEXs[FOR_SCH_ID_r][SCCL_INDEX_r][i] to CODE_CHAN_SCH_r.

◊ The mobile station shall delete all pilots that are not included in the list specified by the NUM_PILOTS field from the Active Set of Supplemental Channel for the corresponding SCCL_INDEX_r.

- The mobile station shall delete all pilots that are not listed in the NUM_PILOTS field from the Active Set of Fundamental Channel.

- The mobile station shall delete all pilots that are not listed in the Active Set of the Fundamental Channel from the Active Set of the Supplemental Channel for the Forward Supplemental Channel Assignment (if any). If these deleted pilots include all pilots in the Active Set of the Supplemental Channel, the mobile station shall cancel the Forward Supplemental Channel Assignment.

- If CH_IND_r is equal to '010' or '110', the mobile station shall perform the following:

- The mobile station shall set CH_IND_s = '10'.

- If SCH_INCL_r is equal to '1' and NUM_FOR_SCH is not equal to '00000', for all the NUM_FOR_SCH occurrences, the mobile station shall perform the following:
Set \( \text{FOR_SCH_RATE}_{r} \) to \( \text{FOR_SCH_RATE}_{r} \).

If \( \text{SCH}_{-}\text{INCL}_{r} \) is equal to ‘1’ and \( \text{NUM}_{-}\text{REV}_{-}\text{SCH} \) is not equal to ‘00000’, for all the \( \text{NUM}_{-}\text{REV}_{-}\text{SCH} \) occurrences, the mobile station shall perform the following:

- Set \( \text{REV}_{-}\text{SCH}_{-}\text{RATE}_{s} \) to \( \text{REV}_{-}\text{SCH}_{-}\text{RATE}_{s} \).
- Set \( \text{REV}_{-}\text{WALSH}\_\text{ID}_{s} \) to \( \text{REV}_{-}\text{WALSH}\_\text{ID}_{s} \).

For each member of the Active Set included in the message, the mobile station shall perform the followings:

- Set \( \text{PILOT}\_\text{PN} \) to \( \text{PILOT}\_\text{PN}_{r} \).
- If \( \text{SRCH}_{-}\text{OFFSET}_{-}\text{INCL}_{r} \) equals to ‘1’, set the \( \text{SRCH}\_\text{OFFSET} \) field of \( \text{PILOT}\_\text{REC} \) to \( \text{SRCH}\_\text{OFFSET}_{r} \); otherwise, set the \( \text{SRCH}\_\text{OFFSET} \) field of \( \text{PILOT}\_\text{REC} \) to ‘000’.
- Set \( \text{ADD}_{-}\text{PILOT}_{-}\text{REC}_{-}\text{INCL} \) to \( \text{ADD}_{-}\text{PILOT}_{-}\text{REC}_{-}\text{INCL}_{r} \).
- If \( \text{ADD}_{-}\text{PILOT}_{-}\text{REC}_{-}\text{INC}_{r} \) equals ‘1’, the mobile station shall also perform the following:
  - Set the \( \text{PILOT}\_\text{REC}_{-}\text{TYPE} \) field of \( \text{PILOT}\_\text{REC} \) to \( \text{PILOT}\_\text{REC}_{-}\text{TYPE}_{r} \).
  - If \( \text{PILOT}\_\text{REC}_{-}\text{TYPE}_{r} \) is equal to ‘000’, the mobile station shall set the \( \text{OTD}\_\text{POWER}\_\text{LEVEL} \) field of \( \text{PILOT}\_\text{REC} \) to \( \text{OTD}\_\text{POWER}\_\text{LEVEL}_{r} \).
- Store \( \text{PWR}\_\text{COMB}\_\text{IND} \), \( \text{CODE}\_\text{CHAN}\_\text{DCCH} \) and \( \text{QOF}\_\text{MASK}\_\text{ID}\_\text{DCCH} \).
- If \( \text{SCH}_{-}\text{INCL}_{r} \) is equal to ‘1’ and \( \text{NUM}\_\text{SCH} \) is equal to ‘00000’, the mobile station shall delete the corresponding pilot from all entries of the corresponding Supplemental Channel.
- If \( \text{SCH}_{-}\text{INCL}_{r} \) is equal to ‘1’ and \( \text{NUM}\_\text{SCH} \) is not equal to ‘00000’, the mobile station shall:
  - If \( \text{PILOT}_{-}\text{INCL} \) is equal to ‘0’, the mobile station shall delete the corresponding pilot from the Active Set of Supplemental Channel for the corresponding \( \text{SCCL}\_\text{INDEX}_{r} \).
  - If \( \text{PILOT}_{-}\text{INCL} \) is equal to ‘1’, for each Supplemental Channel included in this record, the mobile station shall set \( \text{PILOT}\_\text{PN}_{s} \) to \( \text{PILOT}\_\text{PN}_{r} \), \( \text{QOF}\_\text{ID}_{s} \) to \( \text{QOF}\_\text{ID}_{s} \), and \( \text{FOR}\_\text{SCH}\_\text{CC}_{-}\text{INDEX}_{s} \) to \( \text{FOR}\_\text{SCH}\_\text{CC}_{-}\text{INDEX}_{s} \).
The mobile station shall delete all pilots that are not included in the list specified by the NUM_PILOTS field from the Active Set of Supplemental Channel for the corresponding SCCL_INDEXr.

- The mobile station shall delete all pilots that are not listed in the NUM_PILOTS field from the Active Set of Dedicated Control Channel.

- The mobile station shall delete all pilots that are not listed in the Active Set of the Dedicated Control Channel from the Active Set of the Supplemental Channel for the Forward Supplemental Channel Assignment (if any). If these deleted pilots include all pilots in the Active Set of the Supplemental Channel, the mobile station shall cancel the Forward Supplemental Channel Assignment.

- If CH_INDr is equal to ‘111’, the mobile station shall perform the following:

  + The mobile station shall set CH_INDs = ‘11’.

  + If SCH_INCLr is equal to ‘1’ and NUM_FOR_SCH is not equal to ‘00000’, for all the NUM_FOR_SCH occurrences, the mobile station shall perform the following:

    o Set FOR_SCH_RATEs[FOR_SCH_IDr][SCCL_INDEXr] to FOR_SCH_RATEr.

  + If SCH_INCLr is equal to ‘1’ and NUM_REV_SCH is not equal to ‘00000’, for all the NUM_REV_SCH occurrences, the mobile station shall perform the following:

    o Set REV_SCH_RATEs[REV_SCH_IDr][REV_SCH_RATEs] to REV_SCH_RATEr.

    o Set REV_WALSH_IDs[REV_SCH_IDr][REV_SCH_RATEs] to REV_WALSH_IDr.

  + For each member of the Active Set included in the message, the mobile station shall perform the followings:

    o Set PILOT_PN to PILOT_PNr.

    o If SRCH_OFFSET_INCLr equals ‘1’, set the SRCH_OFFSET field of PILOT_REC to SRCH_OFFSETr; otherwise, set the SRCH_OFFSET field of PILOT_REC to ‘000’.

    o Set ADD_PILOT_REC_INCL to ADD_PILOT_REC_INCr.

    o If ADD_PILOT_REC_INCr equals ‘1’, the mobile station shall also perform the following:

      ◊ Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPEr.
◊ If PILOT_REC_TYPE_r is equal to '000', the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVEL_r.

◊ Store PWR_COMB_IND, CODE_CHAN_FCH, QOF_MASK_ID_FCH, CODE_CHAN_DCCH and QOF_MASK_ID_DCCH.

◊ If SCH_INCL_r is equal to '1' and NUM_SCH is equal to '00000', the mobile station shall delete the corresponding pilot from all entries of the corresponding Supplemental Channel.

◊ If SCH_INCL_r is equal to '1' and NUM_SCH is not equal to '00000', the mobile station shall:

◊ If PILOT_INCL is equal to '0', the mobile station shall delete the corresponding pilot from the Active Set of Supplemental Channel for the corresponding SCCL_INDEX_r.

◊ If PILOT_INCL is equal to '1', for each Supplemental Channel included in this record, the mobile station shall set PILOT_PNs [FOR_SCH_ID_r][SCCL_INDEX_r][i] to PILOT_PNr, QOF_IDs[FOR_SCH_ID_r][SCCL_INDEX_r][i] to QOF_MASK_ID_SCH_r, and FOR_SCH_CC_INDEXs [FOR_SCH_ID_r][SCCL_INDEX_r][i] to CODE_CHAN_SCH_r.

◊ The mobile station shall delete all pilots that are not included in the list specified by the NUM_PILOTS field from the Active Set of Supplemental Channel for the corresponding SCCL_INDEX_r.

+ The mobile station shall delete all pilots that are not listed in the NUM_PILOTS field from the Active Set of Fundamental Channel and Dedicated Control Channel.

+ The mobile station shall delete all pilots that are not listed in the Active Set of the Fundamental Channel and Dedicated Control Channel from the Active Set of the Supplemental Channel for the Forward Supplemental Channel Assignment (if any). If these deleted pilots include all pilots in the Active Set of the Supplemental Channel, the mobile station shall cancel the Forward Supplemental Channel Assignment.

• If the most significant bit of CH_IND_r is set to '1' and PILOT_GATING_USE_RATE is equal to '1', the mobile station shall set PILOT_GATING_USE_RATE to '0' and shall start the continuous reverse pilot at the specified action time. If the most significant bit of CH_IND_r is set to '0' and PILOT_GATING_USE_RATE is equal to '0', the mobile station shall perform the following:

- The mobile station shall set PILOT_GATING_USE_RATE to '1' and shall start the reverse pilot gating at the specified action time.
- If the Fundamental Channel is also being released, the mobile station shall store the configuration used for the Fundamental Channel.

- The mobile station shall cancel the forward and reverse supplemental channel assignment, if any

- The mobile station shall set IGNORE_ESCAMS and IGNORE_SCAMs to ‘0’.

- Set the pilot detection threshold for the Target Frequency and the Candidate Frequency:
  - Set TF_T_ADDS to T_ADDS.
  - If the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDS is equal to CF_CDMABANDS and TF_CDMACHS is equal to CF_CDMACHS), set CF_T_ADDS to T_ADDS.

- If PERIODIC_SEARCHS is equal to ‘0’ and a periodic search is in progress, the mobile station shall abort the periodic search (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).

- Perform a soft or hard handoff depending on the following conditions:
  - If any of the following conditions is true, the mobile station shall perform a hard handoff:
    + EXTRA_PARMS is set to ‘1’ and either BAND_CLASSr is not equal to SF_CDMABANDS, CDMA_FREQr is not equal to SF_CDMACHS, or FRAME_OFFSETr is not equal to SF_FRAME_OFFSETS, or
    + The set of pilots specified by the message is disjoint from the Active Set prior to the action time of the message.
  - If the mobile station performs a hard handoff, it shall do the following:
    + If a Periodic Serving Frequency Pilot Report Procedure is in progress, abort the procedure (see 2.6.6.2.12).
    + If a Candidate Frequency periodic search is in progress, the mobile station shall abort the periodic search (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4).
    + If a Forward Supplemental Channel assignment or a Reverse Supplemental Channel assignment is in progress, the mobile station shall abort it.
    + The mobile station shall cancel any outstanding Forward Supplemental Channel assignment or Reverse Supplemental Channel assignment that is not specified by this message.
    + If RETURN_IF_HANDOFF_FAILS is equal to ‘0’, the mobile station shall perform actions specified in 2.6.6.2.8.1. If the message specifies more than one pilot, the mobile station shall also perform actions specified in 2.6.6.2.7.1 and 2.6.6.2.7.2.
If RETURN_IF_HANDOFF_FAIL is equal to ‘1’, the mobile station shall perform actions specified in 2.6.6.2.8.2. If the message specifies more than one pilot, the mobile station shall also perform actions specified in 2.6.6.2.7.1 and 2.6.6.2.7.2.

- Otherwise, the mobile station shall perform a soft handoff as specified in 2.6.6.2.7.

12. Mobile Assisted Burst Operation Parameters Message: The mobile station shall process this message as follows:

- The mobile station shall set ORDER_FLAG$_s$ to ORDER_FLAG$_r$.
- If ORDER_FLAG$_r$ is equal to ‘1’, the mobile station shall perform the following:
  - The mobile station shall set PS_MIN_DELTA$_s$ to PS_MIN_DELTA$_r$+ 1.
  - The mobile station shall set ORDER_INTERVAL$_s$ to ORDER_INTERVAL$_r$.
- If ORDER_FLAG$_r$ is equal to ‘0’, the mobile station shall perform the following:
  - The mobile station shall set PS_MIN_DELTA$_s$ to 0.
  - The mobile station shall set ORDER_INTERVAL$_s$ to 0.
- The mobile station shall set PERIODIC_FLAG$_s$ to PERIODIC_FLAG$_r$.
- If PERIODIC_FLAG$_r$ is equal to ‘1’, the mobile station shall perform the following:
  - The mobile station shall set NUM_PILOTS$_s$ to NUM_PILOTS$_r$.
  - The mobile station shall set PERIODIC_INTERVAL$_s$ to PERIODIC_INTERVAL$_r$.
- If PERIODIC_FLAG$_r$ is equal to ‘0’, the mobile station shall perform the following:
  - The mobile station shall set NUM_PILOTS$_s$ to 0.
  - The mobile station shall set PERIODIC_INTERVAL$_s$ to 0.
- The mobile station shall set THRESHOLD_FLAG$_s$ to THRESHOLD_FLAG$_r$.
- If THRESHOLD_FLAG$_r$ is equal to ‘1’, the mobile station shall perform the following:
  - The mobile station shall set PS_FLOOR_LOW$_s$ to PS_FLOOR_LOW$_r$.
  - The mobile station shall set PS_FLOOR_HIGH$_s$ to PS_FLOOR_HIGH$_r$.
  - The mobile station shall set PS_CEILING_LOW$_s$ to PS_CEILING_LOW$_r$.
  - The mobile station shall set PS_CEILING_HIGH$_s$ to PS_CEILING_HIGH$_r$.
- If THRESHOLD_FLAG$_r$ is equal to ‘0’, the mobile station shall perform the following:
– The mobile station shall set PS_FLOOR_LOWs to ‘0’.
– The mobile station shall set PS_FLOOR_HIGHs to ‘0’.
– The mobile station shall set PS_CEILING_LOWs to ‘0’.
– The mobile station shall set PS_CEILING_HIGHs to ‘0’.

13. Extended Supplemental Channel Assignment Message: The mobile station shall process this message as follows:

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to the specified value if any of the following conditions is true, and shall not perform any other action described in this section for processing the Extended Supplemental Channel Assignment Message:

- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported), if the number of forward or reverse Supplemental Channels specified in the Extended Supplemental Channel Assignment Message is greater than the maximum number of Supplemental Channels supported by the mobile station.
- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported), if the number of forward or reverse Supplemental Channels specified in the Extended Supplemental Channel Assignment Message is greater than the maximum number of Supplemental Channels supported by the mobile station.
- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000100’ (message field not in valid range), if PILOT_PN specified in the Extended Supplemental Channel Assignment Message is not in the Active Set.
- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000111’ (message can not be handled by the current mobile station configuration), if the message includes a reverse Supplemental Channel assignment, and any mobile station’s reverse supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL.
- The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000111’ (message can not be handled by the current mobile station configuration), if the message includes a forward Supplemental Channel assignment and any mobile station’s forward supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL.

If none of the above conditions is true, the mobile station shall perform the following:

- The mobile station shall store REV_SCH_DTX_DURATIONr, Reverse Supplemental Channel Discontinuous Transmission Duration, as REV_SCH_DTX_DURATIONs.
- The mobile station shall store the unit for START_TIME_UNITs = START_TIME_UNITr.
- The mobile station shall store USE_T_ADD_ABORTr, Reverse Supplemental Channel assignment T_ADD abort indicator, as USE_T_ADD_ABORTs.
If IGNORE_ESCAMs is equal to ‘1’ and SCRM_SEQ_NUMr is not present or is present and is not equal to SCRM_SEQ_NUMs, then the mobile station shall not process the remaining Reverse Supplemental Channel assignment information in this message.

If IGNORE_ESCAMs is equal to ‘1’ and SCRM_SEQ_NUMr is present and is equal to SCRM_SEQ_NUMs, then the mobile station shall set IGNORE_ESCAMs to ‘0’.

If ADD_INFO_INCLr is equal to ‘1’ the message includes a Supplemental Channel assignment (that is, NUM_FOR_SCHR is not equal to ‘00’ and/or NUM_REV_SCHR is not equal to ‘00’), and PILOT_GATING_USE_RATE is equal to ‘1’, the mobile station shall process the following information of the Extended Supplemental Channel Assignment Message as follows:

- The mobile station shall set FPC_PRI_CHANs = FPC_PRI_CHANr at the action time of the message.

If REV_CFG_INCLUDED is equal to ‘1’, for all the (NUM_REV_CFG_RECS + 1) occurrences of the reverse configuration record, the mobile station shall store the REV_WALSH_ID matrix as follows:

- REV_WALSH_IDS[REV_SCH_IDr][REV_SCH_RATEr] = REV_WALSH_IDr

If NUM_REV_SCHRr is not equal to ‘00’, then the mobile station shall store the following information for each occurrence of the record and process the Reverse Supplemental Burst as specified in 2.6.6.2.5.1.2:

- REV_SCH_START_TIME_INCLs[REV_SCH_IDr] = REV_SCH_START_TIME_INCLr
- If REV_SCH_START_TIME_INCLs[REV_SCH_IDr] is set to ‘1’, set REV_SCH_START_TIMEs[REV_SCH_IDr] = REV_SCH_START_TIMEr
- REV_SCH_DURATIONs[REV_SCH_IDr] = REV_SCH_DURATIONr
- REV_SCH_RATEs[REV_SCH_IDr] = REV_SCH_RATEr

If NUM_FOR_SCHRr is not equal to ‘00’, then the mobile station shall store the following information for each occurrence of the record and process the Forward Supplemental Burst as specified in 2.6.6.2.5.1.1:

- FOR_SCH_START_TIME_INCLs[FOR_SCH_IDr] = FOR_SCH_START_TIME_INCLr
- If FOR_SCH_START_TIME_INCLs[FOR_SCH_IDr] is set to ‘1’, set FOR_SCH_START_TIMEs[FOR_SCH_IDr] = FOR_SCH_START_TIMEr
- FOR_SCH_DURATIONs[FOR_SCH_IDr] = FOR_SCH_DURATIONr
- SCCL_INDEXs[FOR_SCH_IDr] = SCCL_INDEXr

If FOR_CFG_INCLUDEDs is equal to ‘1’, the mobile station shall perform the following:
- Set FOR_SCH_FER_REPS to FOR_SCH_FER_REPr.
- If FOR_SCH_FER_REPr is equal to ‘0’, set SCH_TOT_FRAMESs and SCH_BAD_FRAMESs to 0.
- Store NUM_FOR_CFG_RECS occurrences of Forward Supplemental Channel Configuration associated with the identification of Forward Supplemental Channel.

- For each record of the Forward Supplemental Channel Code list the mobile station shall store the Forward Supplemental Channel Code list associated with the FOR_SCH_IDr as follows:
  - FOR_SCH_RATEs[FOR_SCH_IDr][SCCL_INDEXr] = FOR_SCH_RATEr.
  - NUM_SUP_SHOs[FOR_SCH_IDr][SCCL_INDEXr] = NUM_SUP_SHOr.
  - For the i-th record of the Forward Supplemental Channel Active Set (for all values of i between 1 and NUM_SUP_SHO+1) specified in this message, the mobile station shall store the following three entries corresponding to the SCCL_INDEXr as follows:
    + PILOT_PNs[FOR_SCH_IDr][SCCL_INDEXr][i] = PILOT_PNr.
    + Set the ADD_PILOT_REC_INCL field to ADD_PILOT_REC_INCLr. If ADD_PILOT_REC_INCLr equals ‘1’, the mobile station shall store the following:
      o Set the PILOT_REC_TYPE field of PILOT_REC to PILOT_REC_TYPEr.
      o If PILOT_REC_TYPEr is equal to ‘000’, the mobile station shall set the OTD_POWER_LEVEL field of PILOT_REC to OTD_POWER_LEVELr.
    + QOF_MASK_ID_SChs[FOR_SCH_IDr][SCCL_INDEXr][i] = QOF_MASK_ID_SChr.
    + FOR_SCH_CC_INDEXs[FOR_SCH_IDr][SCCL_INDEXr][i]= FOR_SCH_CC_INDEXr.

- The mobile station may soft-combine the Forward Supplemental Channel frames received on the Forward Supplemental Channels in the same Forward Supplemental Channel Active Set.

- If the mobile station supports any Radio Configuration greater than 2, the mobile station shall perform the following:
  - If FPC_INCLr is equal to ‘1’, the mobile station shall set FPC_MODE_SCHs to FPC_MODE_SCHr
  - If FPC_INCL is equal to ‘1’ and FPC_MODE is equal to ‘001’ or ‘010’, the mobile station shall set FPC_SEC_CHANs to FPC_SEC_CHANr.
- If NUM_SUPᵣ is included and not equal to '00', for each Supplemental Channel included in the message, the mobile station shall:
  + Set SCH_IDₛ to SCH_IDᵣ.
  + Set FPC_SCH_FERₛ to FPC_SCH_FERᵣ.
  + Set FPC_SCH_INIT_SETPTₛ as follows:
    ◦ If FPC_SCH_INIT_SETPT_OPᵣ is set to '0', set FPC_SCH_INIT_SETPTₛ to FPC_SCH_INIT_SETPTᵣ.
    ◦ If FPC_SCH_INIT_SETPT_OPᵣ is set to '1':
      ◦ If FPC_PRI_CHANᵣ is equal to '0', set FPC_SCH_INIT_SETPTₛ to (FPC_FCH_CURR_SETPTₛ + FPC_SCH_INIT_SETPTᵣ).
      ◦ Otherwise, set FPC_SCH_INIT_SETPTₛ to (FPC_DCCH_CURR_SETPTₛ + FPC_SCH_INIT_SETPTᵣ).
  + Set FPC_SCH_MIN_SETPTₛ to FPC_SCH_MIN_SETPTᵣ.
  + Set FPC_SCH_MAX_SETPTₛ to FPC_SCH_MAX_SETPTᵣ.

- If FPC_THRESH_SCH_INCL is included and equal to '1', the mobile station shall set FPC_SETPT_THRESH_SCHₛ to FPC_SETPT_THRESH_SCHᵣ.

- If RPC_INCL is equal to '1', the mobile station shall store RLGAIN_SCH_PILOTᵣ, and use it as RLGAIN_SCH_PILOTₛ at the start time of the reverse Supplemental Channel assignment specified in the message.

- If PILOT_GATING_USE_RATE is set to '1' and if NUM_REV_SCHᵣ or NUM_FOR_SCHᵣ is not equal to '00', the mobile station shall perform the following:
  - The mobile station shall set PILOT_GATING_USE_RATE to '0' and shall start the continuous reverse pilot at the specified action time.
  - If the Fundamental Channel was previously established prior to transitioning to the Control Hold Mode, the mobile station shall start processing F-FCH and start transmitting on R-FCH at the action time of the message. The mobile station shall establish the Fundamental Channel with the same configuration as previously used.

14. **Forward Supplemental Channel Assignment Mini Message:** The mobile station shall process this message as follows:

The mobile station shall send a *Mobile Station Reject Order* with the ORDQ field set to '00000111' (message can not be handled by the current mobile station configuration), if any mobile station’s forward supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL. Otherwise the mobile station shall store the following information and process
the Forward Supplemental Burst as specified in 2.6.6.2.5.1.1:

- Set FOR_SCH_START_TIME_INCLs [FOR_SCH_IDr] to ‘1’
- FOR_SCH_START_TIMES[FOR_SCH_IDr] = FOR_SCH_START_TIMEr
- FOR_SCH_DURATIONs[FOR_SCH_IDr] = FOR_SCH_DURATIONr
- SCCL_INDEXs[FOR_SCH_IDr] = SCCL_INDEXr
- If PILOT_GATING_USE_RATE is set to ‘1’, the mobile station shall perform the following:
  - The mobile station shall set PILOT_GATING_USE_RATE to ‘0’ and shall start the continuous reverse pilot at the specified action time.
  - If the Fundamental Channel was previously established prior to transitioning to the Control Hold mode, the mobile station shall start processing F-FCH and start transmitting on R-FCH at the action time of the message. The mobile station shall establish the Fundamental Channel with the same configuration as previously used.

15. Reverse Supplemental Channel Assignment Mini Message: The mobile station shall process this message as follows:

The mobile station shall send a Mobile Station Reject Order with the ORDQ field set to ‘00000111’ (message can not be handled by the current mobile station configuration), if any mobile station’s reverse supplemental channel configuration parameter for the corresponding Supplemental Channel is NULL. If IGNORE_ESCAMs is equal to ‘1’, the mobile station shall not process the Reverse Supplemental Channel assignment information in this message.

Otherwise, the mobile station shall store the following information and process the Reverse Supplemental Burst as specified in 2.6.6.2.5.1.2:

- Set REV_SCH_START_TIME_INCLs [REV_SCH_IDr] to ‘1’
- REV_SCH_START_TIMES[REV_SCH_IDr] = REV_SCH_START_TIMEr
- REV_SCH_DURATIONs[REV_SCH_IDr] = REV_SCH_DURATIONr
- REV_SCH_RATEs[REV_SCH_IDr] = REV_SCH_RATEr
- If PILOT_GATING_USE_RATE is set to ‘1’, the mobile station shall perform the following:
  - The mobile station shall set PILOT_GATING_USE_RATE to ‘0’ and shall start the continuous reverse pilot at the specified action time.
  - If the Fundamental Channel was previously established prior to transitioning to the Control Hold mode, the mobile station shall start processing F-FCH and start transmitting on R-FCH at the action time of the message. The mobile station shall establish the Fundamental Channel with the same configuration as previously used.
2.6.6.2.5.1.1 Processing of the Forward Supplemental Burst Assignment

A Forward Supplemental Assignment specifies the explicit start time specified by
FOR_SCH_START_TIME, or the implicit start time (if FOR_SCH_START_TIME_INCL is set to
‘0’) FOR_SCH_DURATION, and SCCL_INDEX of a forward burst assignment. The time
interval of duration is specified by FOR_SCH_DURATION (see Table 3.7.3.3.2.37-3) and
starts at the time specified by the explicit start time FOR_SCH_START_TIME or the implicit
start time (if FOR_SCH_START_TIME_INCL is set to ‘0’). This time interval for a Forward
Supplemental Assignment is called the Forward Supplemental Assignment Interval. A
value of FOR_SCH_DURATION equal to ‘1111’ indicates infinite duration. The variable
SCCL_INDEXs[FOR_SCH_ID] specifies the rate, QOF index and the Active Set for the
Forward Supplemental Channel identified by FOR_SCH_ID for a given Forward
Supplemental Assignment. A value of FOR_SCH_DURATION equal to ‘0000’ indicates that
the mobile station should stop processing the forward Supplemental Channels at the
explicit start time specified by FOR_SCH_START_TIME or the implicit start time (if
FOR_SCH_START_TIME_INCL is set to ‘0’). The implicit start time is the time occurring no
later than the first 80 ms boundary (relative to System Time) which occurs at least 80 ms
after the end of the frame containing the last bit of the message carrying the forward
supplemental burst assignment.

For each Forward Supplemental Assignment the mobile station shall determine the start
time for processing forward supplemental channel as the time for which the following
equation holds:

\[
\lfloor \frac{t}{\text{START\_TIME\_UNITs}+1} \rfloor - \text{FOR\_SCH\_START\_TIME}_r \equiv 0 \mod 32,
\]

where \( t \) is the System Time in units of 20 ms.

Figure 2.6.6.2.5.1.1-1 illustrates the scenario in which a second Forward Supplemental
Assignment is received while the mobile station is processing the forward supplemental
channel according to a previously received assignment. Two cases are displayed in Figure
2.6.6.2.5.1.1-1: Case a) where the first assignment extends beyond the start time of the
second assignment and Case b) where the first assignment ends before the second one
starts.
a) "Assignment 1" extends beyond the start time for "Assignment 2"

b) "Assignment 1" ends prior to the start time of "Assignment 2"

Figure 2.6.6.2.5.1.1-1. New Supplemental Channel Assignment Received while a
Previous Supplemental Channel Assignment is in Progress

Figure 2.6.6.2.5.1.1-2 shows an example scenario in which the mobile station receives a
second Forward Supplemental Assignment before it starts processing the supplemental
channel according to the first assignment. In this case, the second assignment simply
replaces the first assignment.

Figure 2.6.6.2.5.1.1-2. New Supplemental Channel Assignment Received before a
Previous Supplemental Channel Assignment starts

The mobile station shall set FPC_MODEs to FPC_MODE_SCHs at the
FOR_SCH_START_TIMEs of the forward Supplemental Channel assignment. The mobile
station shall set FPC_MODEs to FPC_MODE_NO_SCHs at the end of the forward
Supplemental Channel assignment.
For each Forward Supplemental Channel assignment corresponding to each Forward Supplemental Channel (identified by FOR_SCH_ID), the mobile station should perform the following:

- If FOR_SCH_DURATIONs[FOR_SCH_ID] is not equal to ‘0000’, then
  - If the mobile station is currently processing the Forward Supplemental Channel identified by FOR_SCH_ID, then the mobile station should continue processing the Forward Supplemental Channel identified by FOR_SCH_ID according to the Forward Supplemental Assignment previously received for the Forward Supplemental Channel identified by FOR_SCH_ID up to the time specified by the FOR_SCH_START_TIMEs[FOR_SCH_ID] [i.e., the mobile station should stop processing the forward supplemental channel identified by FOR_SCH_ID at either the time specified by FOR_SCH_START_TIMEs[FOR_SCH_ID], the start time of the new assignment, or at the time the previously received assignment ends, whichever time is earlier). At the time specified by FOR_SCH_START_TIMEs[FOR_SCH_ID], the mobile station should start processing the Forward Supplemental Channel identified by FOR_SCH_ID for a duration of time specified by FOR_SCH_DURATIONs[FOR_SCH_ID] with the rate, QOF index, and the Supplemental Channel Active Set indexed by SCCL_INDEXs[FOR_SCH_ID].
  - Otherwise, if the mobile station is not currently processing the Forward Supplemental Channel identified by FOR_SCH_ID, then at the time specified by FOR_SCH_START_TIMEs[FOR_SCH_ID], the mobile station should start processing the Forward Supplemental Channel identified by FOR_SCH_ID for a duration of time specified by FOR_SCH_DURATIONs[FOR_SCH_ID] with the rate, QOF index, and the Supplemental Channel Active Set indexed by SCCL_INDEXs[FOR_SCH_ID].

- If FOR_SCH_DURATIONs[FOR_SCH_ID] is equal to ‘0000’, the mobile station should perform the following:
  - If FOR_SCH_START_TIME INCLs is equal to ‘1’, the mobile station should stop processing the Forward Supplemental Channel identified by FOR_SCH_ID at the time specified by FOR_SCH_START_TIMEs[FOR_SCH_ID].
  - If FOR_SCH_START_TIME INCLs is equal to ‘0’, the mobile station should stop processing the Forward Supplemental Channel identified by FOR_SCH_ID no later than the first 80 ms boundary (relative to System Time) occurring at least 80 ms at the end of the frame containing the last bit of the message.

2.6.6.2.5.1.2 Processing of the Reverse Supplemental Burst Assignment

A Reverse Supplemental Assignment specifies the explicit start time identified by REV_SCH_START_TIME or the implicit start time (if REV_SCH_START_TIME_INCL is set to ‘0’), REV_SCH_DURATION, and REV_SCH_RATE of a reverse burst assignment. The time interval of duration is specified by REV_SCH_DURATION (see Table 3.7.3.3.2.37-3) and starts at the time specified by the explicit start time REV_SCH_START_TIME or the implicit
start time (if REV_SCH_START_TIME_INCL is set to '0'). This time interval for a Reverse 
Supplemental Assignment is called the reverse supplemental assignment interval. A value 
of REV_SCH_DURATION equal to '1111' indicates infinite duration. A value of 
REV_SCH_DURATION equal to '0000' indicates that the mobile station should stop 
transmitting the reverse Supplemental Channels at the explicit start time specified by 
REV_SCH_START_TIME or the implicit start time (if REV_SCH_START_TIME_INCL is set to 
'0'). The implicit start time is the time occurring no later than the first 80 ms boundary 
(relative to System Time) which occurs at least 80 ms after the end of the frame containing 
the last bit of the message carrying the reverse supplemental burst assignment. 

For each Reverse Supplemental Assignment the mobile station shall determine the start 
time for processing reverse supplemental channel as the time for which the following 
equation holds:

\[
\left\lfloor \frac{t}{(\text{START\_TIME\_UNITs}+1)} \right\rfloor - \text{REV\_SCH\_START\_TIME}_r \mod 32 = 0,
\]

where \( t \) is the System Time in units of 20 ms.

Figure 2.6.6.2.5.1.1-1 illustrates the scenario in which a second Reverse Supplemental 
Assignment is received while the mobile station is transmitting on the reverse supplemental 
channel according to a previously received assignment. Two cases are displayed in Figure 
2.6.6.2.5.1.2-1: Case a) where the first assignment extends beyond the start time of the 
second assignment and Case b) where the first assignment ends before the second one 
starts.

Figure 2.6.6.2.5.1.1-2 shows an example scenario in which the mobile station receives a 
second Reverse Supplemental Assignment before it starts transmitting on the supplemental 
channel according to the first assignment. In this case, the second assignment simply 
replaces the first assignment.

For each Reverse Supplemental Channel assignment corresponding to each Reverse 
Supplemental Channel (identified by REV_SCH_ID), the mobile station shall perform the 
following:

- If REV_SCH_DURATIONs[REV_SCH_ID] is not equal to '0000', then
  
  - If the mobile station is currently transmitting on the Reverse Supplemental 
  Channel identified by REV_SCH_ID, then the mobile station may continue 
  transmitting on the Reverse Supplemental Channel identified by REV_SCH_ID 
  with the Walsh cover specified by 
  REV_WALSH_IDs[REV_SCH_ID][REV_SCH_RATE] according to the current 
  Reverse Supplemental Assignment for the Reverse Supplemental Channel 
  identified by REV_SCH_ID up to the time specified by the 
  REV_SCH_START_TIMEs[REV_SCH_ID] (i.e., the mobile station shall stop 
  transmitting on the reverse supplemental channel identified by REV_SCH_ID at 
  either the time specified by REV_SCH_START_TIMEs[REV_SCH_ID], the start 
  time of the new assignment, or at the time the previously received assignment 
  ends, whichever time is earlier).
At the time specified by $\text{REV\_SCH\_START\_TIME}[\text{REV\_SCH\_ID}]$, the mobile station may start transmitting on the Reverse Supplemental Channel identified by $\text{REV\_SCH\_ID}$ with the Walsh cover specified by $\text{REV\_WALSH\_ID}[\text{REV\_SCH\_ID}][\text{REV\_SCH\_RATE}[\text{REV\_SCH\_ID}]]$ and the rate specified by $\text{REV\_SCH\_RATE}[\text{REV\_SCH\_ID}]$.

- If the mobile station is not currently transmitting on the Reverse Supplemental Channel identified by $\text{REV\_SCH\_ID}$, then at the time specified by $\text{REV\_SCH\_START\_TIME}[\text{REV\_SCH\_ID}]$, the mobile station may start transmitting on the Reverse Supplemental Channel identified by $\text{REV\_SCH\_ID}$ with the Walsh cover specified by $\text{REV\_WALSH\_ID}[\text{REV\_SCH\_ID}][\text{REV\_SCH\_RATE}[\text{REV\_SCH\_ID}]]$ and the rate specified by $\text{REV\_SCH\_RATE}[\text{REV\_SCH\_ID}]$.

- If $\text{REV\_SCH\_DURATION}[\text{REV\_SCH\_ID}]$ is equal to '0000', the mobile station shall perform the followings:
  - If $\text{REV\_START\_TIME\_INCL}[\text{REV\_SCH\_ID}]$ is equal to '1', the mobile station shall stop transmitting on the Reverse Supplemental Channel identified by $\text{REV\_SCH\_ID}$ at the time specified by $\text{REV\_SCH\_START\_TIME}[\text{REV\_SCH\_ID}]$.
  - If $\text{REV\_START\_TIME\_INCL}[\text{REV\_SCH\_ID}]$ is equal to '0', the mobile station shall stop transmitting on the Reverse Supplemental Channel identified by $\text{REV\_SCH\_ID}$ no later than the first 80 ms boundary (relative to System Time) occurring at least 80 ms at the end of the frame containing the last bit of the message.

### 2.6.6.2.5.2 Processing of Reverse Traffic Channel Handoff Messages

The mobile station sends the following messages on the Reverse Traffic Channel in support of handoff when its transmitter is enabled, following the receipt of a forward dedicated channel acquired indication from Layer 2 (see [4]):

1. **Pilot Strength Measurement Message**: The mobile station shall send an autonomous Pilot Strength Measurement Message in assured mode. The mobile station shall send this message containing measurements consistent with the event whenever any of the following events occur:

   - $\text{P\_REV\_IN\_USE}[\text{REV\_SCH\_ID}]$ is less than or equal to three or $\text{SOFT\_SLOPE}[\text{REV\_SCH\_ID}]$ is equal to '000000' and the strength of a Neighbor Set or Remaining Set pilot is found to be above $\text{T\_ADD}[\text{REV\_SCH\_ID}]$.

   - $\text{P\_REV\_IN\_USE}[\text{REV\_SCH\_ID}]$ is greater than three, $\text{SOFT\_SLOPE}[\text{REV\_SCH\_ID}]$ is not equal to '000000', and the strength $\text{PS}$, as specified in 2.6.6.2.2, of any Candidate Set pilot is found to satisfy the following inequality:

\[
10 \times \log_{10} \text{PS} > \frac{\text{SOFT\_SLOPE}[\text{REV\_SCH\_ID}]}{8} \times 10 \times \log_{10} \sum_{i \in A} \text{PS}_i + \frac{\text{ADD\_INTERCEPT}[\text{REV\_SCH\_ID}]}{2}
\]
where the summation is performed over all pilots currently in the Active Set and a *Pilot Strength Measurement Message* carrying this information has not been sent since the last *Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message* was received.

- P_REV_IN_USEs is greater than three, SOFT_SLOPEs is not equal to '000000', and the strength PS, as specified in 2.6.6.2.2, of any Neighbor Set or Remaining Set pilot is found to satisfy the following inequality:

$$10 \times \log_{10} PS > \max \left( \frac{SOFT\_SLOPEs}{8} \times 10 \times \log_{10} \sum_{i \in A} \frac{PS_i + ADD\_INTERCEPTs}{2}, T\_ADDs \right)$$

where the summation is performed over all pilots currently in the Active Set.

- P_REV_IN_USEs is less than or equal to three or SOFT_SLOPEs is equal to '000000', the strength of a Candidate Set pilot exceeds the strength of an Active Set pilot by T_COMPs \times 0.5 dB, and a *Pilot Strength Measurement Message* carrying this information has not been sent since the last *Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message* was received.

- P_REV_IN_USEs is greater than three, SOFT_SLOPEs is not equal to '000000', and the strength of a Candidate Set pilot exceeds the strength of an Active Set pilot by T_COMPs \times 0.5 dB and satisfies the following inequality:

$$10 \times \log_{10} PS > \frac{SOFT\_SLOPEs}{8} \times 10 \times \log_{10} \sum_{i \in A} \frac{PS_i + ADD\_INTERCEPTs}{2}$$

where the summation is performed over all pilots currently in the Active Set and a *Pilot Strength Measurement Message* carrying this information has not been sent since the last *Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message* was received.

- The handoff drop timer of an Active Set pilot has expired and a *Pilot Strength Measurement Message* carrying this information has not been sent since the last *Extended Handoff Direction Message*, *General Handoff Direction Message*, or *Universal Handoff Direction Message* was received.

### 2. Handoff Completion Message:

The mobile station shall send a *Handoff Completion Message* in assured mode as follows:

- If the handoff message (*Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message*) specifies a soft handoff, the mobile station shall send the *Handoff Completion Message* within T_{S6m} seconds after the action time of the received handoff message.

- If the handoff message (*Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message*) specifies a hard handoff without return on failure (see 2.6.6.2.8.1), the mobile station shall send the *Handoff Completion Message* within T_{S3m} seconds after the action time of the received handoff message.
• If the handoff message (General Handoff Direction Message or Universal Handoff Direction Message) specifies a hard handoff with return on failure (see 2.6.6.2.8.2), the mobile station shall send the Handoff Completion Message within $T_{56m}$ seconds after mobile station declares the handoff to be successful (see 2.6.6.2.8.2).

3. **Candidate Frequency Search Report Message**: The mobile station shall send a Candidate Frequency Search Report Message in assured mode, whenever any of the following events occur:

- RETURN_IF_HANDOFF_FAILS is equal to ‘1’, and a handoff attempt is unsuccessful (see 2.6.6.2.8.2). In this case, the mobile station shall send a Candidate Frequency Search Report Message within $T_{56m}$ seconds after completing a search of all pilots in the Candidate Frequency Search Set and resuming the use of the Serving Frequency Active Set (see 2.6.6.2.8.2.1).

- RETURN_IF_HANDOFF_FAILS is equal to ‘1’, an inter-frequency handoff attempt is unsuccessful (see 2.6.6.2.8.2), and PERIODIC_SEARCHS is equal to ‘1’. In this case, the mobile station shall send a Candidate Frequency Search Report Message within $T_{56m}$ seconds after completing a search of all pilots in the Candidate Frequency Search Set and resuming the use of the Serving Frequency Active Set (see 2.6.6.2.8.2.1).

- The mobile station receives a Candidate Frequency Search Request Message or a Candidate Frequency Search Control Message with SEARCH_TYPE set to ‘01’. If none of the conditions requiring the mobile station to send a Mobile Station Reject Order is true (see 2.6.6.2.5.1), the mobile station shall send a Candidate Frequency Search Report Message in a search period if the conditions specified in 2.6.6.2.8.3.2 are met.

- The mobile station receives a Candidate Frequency Search Request Message or a Candidate Frequency Search Control Message with SEARCH_TYPE set to ‘11’, SEARCH_MODES is equal to ‘0000’ and the Candidate Frequency Search Set is not empty. If none of the conditions requiring the mobile station to send a Mobile Station Reject Order is true (see 2.6.6.2.5.1), the mobile station shall send a Candidate Frequency Search Report Message in a search period if the conditions specified in 2.6.6.2.10.1 are met.

- The mobile station receives a Candidate Frequency Search Request Message or a Candidate Frequency Search Control Message with SEARCH_TYPE set to ‘11’, SEARCH_MODES is equal to ‘0001’ and the Candidate Frequency Search Set is not empty. If none of the conditions requiring the mobile station to send a Mobile Station Reject Order is true (see 2.6.6.2.5.1), the mobile station shall send a Candidate Frequency Search Report Message in a search period if the conditions specified in 2.6.6.2.10.2 are met.

4. **Periodic Pilot Strength Measurement Message**: The mobile station shall send a Periodic Pilot Strength Measurement Message in unassured mode, as specified in 2.6.6.2.5.1 and 2.6.6.2.12.

5. **Pilot Strength Measurement Mini Message**: If the mobile station supports the Mobile Assisted Burst operation capability, the mobile station shall send this message while
processing any Supplemental Channel, according to the following:

- The mobile station shall transmit a Pilot Strength Measurement Mini Message for a pilot \( p \) in the Active Set on the r-dsch logical channel whenever all of the following conditions are true:
  - ORDER_FLAGs is equal to ‘1’.
  - The pilot \( p \) in the Active Set has a received signal strength that is greater than the signal strength of another pilot in the Active Set by PS_MIN_DELTA, in units of 0.5 dB, at the current time and has been for ORDER_INTERVALs most recent successive 20 ms frame intervals since this pilot was last reported in a rank order based Pilot Strength Measurement Mini Message.
  - The rank order of pilot \( p \) has changed.

- If PERIODIC_FLAGs is equal to ‘1’, the mobile station shall transmit a Pilot Strength Measurement Mini Message within PERIODIC_INTERVALs 20 ms frame intervals on the r-dsch for each of the \( n \) pilots in the Active Set with the largest signal strengths, where \( n = \min (\text{NUM PILOTS}, \text{the number of pilots in the Active Set}) \), whenever the following condition is true:
  - The mobile station has not transmitted another Pilot Strength Measurement Mini Message for the corresponding pilot during the last PERIODIC_INTERVALs 20 ms frame intervals.

- If THRESHOLD_FLAGs is equal to ‘1’, the mobile station shall transmit a Pilot Strength Measurement Mini Message for pilot \( p \) on the r-dsch logical channel whenever all of the following conditions are true:
  - The mobile station has not transmitted a previous Pilot Strength Measurement Mini Message for pilot \( p \) within the most recent THRESHOLD_INTERVALs 20 ms frames intervals.
  - Pilot \( p \) is in the Active Set.
  - The signal strength of pilot \( p \) is greater than PS_CEILING_HIGHs and the signal strength of pilot \( p \) was less than or equal to PS_CEILING_LOWs at any time since the mobile station last sent a Pilot Strength Measurement Mini Message for pilot \( p \); or the signal strength of pilot \( p \) is less than PS_FLOOR_LOWs and the signal strength for pilot \( p \) was greater than or equal to PS_FLOOR_HIGHs at any time since the last time that the mobile station sent a Pilot Strength Measurement Mini Message for pilot \( p \).

2.6.6.2.6 Set Maintenance

2.6.6.2.6.1 Maintenance of the Active Set

The mobile station shall support a maximum Active Set size of \( N_{6m} \) pilots. The mobile station shall track the pilot strengths of all pilots in the Active Set.
When the mobile station is first assigned Forward Traffic Channels, the mobile station shall initialize the Active Set to contain the pilots associated with the assigned Forward Traffic Channels. When the mobile station processes an Extended Handoff Direction Message, a General Handoff Direction Message or Universal Handoff Direction Message, it shall replace the pilots in the Active Set with the pilots listed in the message.

### 2.6.6.2.6.2 Maintenance of the Candidate Set

The mobile station shall support a maximum Candidate Set size of $N_{7m}$ pilots. When the mobile station is first assigned a Forward Traffic Channel, the mobile station shall initialize the Candidate Set to contain no pilots. The mobile station shall adjust the Candidate Set whenever any of the following events occur:

- If the mobile station detects that the strength of a Neighbor Set pilot or a Remaining Set pilot exceeds $T_{ADDs}$, the mobile station shall add the pilot to the Candidate Set.

- If the mobile station processes an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message which does not list a pilot in the current Active Set, and the handoff drop timer corresponding to that pilot has not expired, the mobile station shall add the pilot to the Candidate Set.

- If $P_{REV\_IN\_USES}$ is greater than three, and $SOFT\_SLOPES$ is not equal to ‘000000’, the mobile station shall perform the following: If the mobile station processes a General Handoff Direction Message or a Universal Handoff Direction Message which does not list a pilot in the current Active Set, the handoff drop timer corresponding to that pilot has expired, and that pilot is found to be above $T_{DROPs}$, the mobile station shall add the pilot to the Candidate Set.

- If the mobile station processes an Extended Handoff Direction Message, a General Handoff Direction Message or Universal Handoff Direction Message, which lists a pilot in the current Candidate Set, the mobile station shall delete the pilot from the Candidate Set.

- If the handoff drop timer corresponding to a Candidate Set pilot expires, the mobile station shall delete the pilot from the Candidate Set.

- If the mobile station adds a pilot to the Candidate Set, and the resulting Candidate Set size exceeds $N_{7m}$, the mobile station shall delete from the Candidate Set the pilot whose handoff drop timer is closest to expiration. If more than one such pilot exists, the mobile station shall delete one such pilot that has the lowest strength. If no pilot in the Candidate Set has an enabled handoff drop timer, the mobile station shall delete from the Candidate Set the pilot that has the lowest strength.

### 2.6.6.2.6.3 Maintenance of the Neighbor Set

The mobile station shall support a Neighbor Set size of at least $N_{8m}$ pilots. When the mobile station is first assigned a Forward Traffic Channel, the mobile station shall initialize the Neighbor Set to contain all the pilots specified in the most recently
received *Neighbor List Message, Extended Neighbor List Message* or *General Neighbor List Message*.

The mobile station shall maintain a counter, \( \text{AGE}_s \), for each pilot in the Neighbor Set. The mobile station shall initialize this counter to zero when it moves the pilot from the Active Set or the Candidate Set to the Neighbor Set. The mobile station shall initialize this counter to \( \text{NGHBR}_\text{MAX}_\text{AGE}_s \) when it moves the pilot from the Remaining Set to the Neighbor Set. The mobile station shall increment \( \text{AGE}_s \) for each pilot in the Neighbor Set upon receipt of a *Neighbor List Update Message* or an *Extended Neighbor List Update Message*. When the mobile station is first assigned to a Forward Traffic Channel, the mobile station shall set \( \text{AGE}_s \) for each pilot in the Neighbor Set to \( \text{NGHBR}_\text{MAX}_\text{AGE}_s \).

The mobile station shall adjust the Neighbor Set whenever any of the following events occur:

- If the mobile station receives a *Neighbor List Update Message* or an *Extended Neighbor List Update Message*, it shall perform the following:
  - Increment \( \text{AGE}_s \) for each pilot in the Neighbor Set.
  - Delete from the Neighbor Set all pilots whose \( \text{AGE}_s \) exceeds \( \text{NGHBR}_\text{MAX}_\text{AGE}_s \).
  - Add to the Neighbor Set each pilot named in the message, if it is not already a pilot of the Active Set, Candidate Set, or Neighbor Set. If the mobile station can store in the Neighbor Set only \( k \) additional pilots, and more than \( k \) new pilots were sent in the *Neighbor List Update Message* or the *Extended Neighbor List Update Message*, the mobile station shall store the first \( k \) new pilots listed in the message.

- If the handoff drop timer of a pilot in the Candidate Set expires, the mobile station shall add the pilot to the Neighbor Set.

- If \( \text{P}_\text{REV}_\text{IN}_\text{USE}_s \) is less than or equal to three or \( \text{SOFT}_\text{SLOPE}_s \) is equal to ‘000000’, the mobile station shall perform the following: If the mobile station processes an *Extended Handoff Direction Message*, a *General Handoff Direction Message*, or a *Universal Handoff Direction Message* in which a pilot in the Active Set is not listed, and the handoff drop timer corresponding to that pilot has expired, the mobile station shall add the pilot to the Neighbor Set.

- If \( \text{P}_\text{REV}_\text{IN}_\text{USE}_s \) is greater than three, and \( \text{SOFT}_\text{SLOPE}_s \) is not equal to ‘000000’, the mobile station shall perform the following: If the mobile station processes an *Extended Handoff Direction Message*, a *General Handoff Direction Message*, or a *Universal Handoff Direction Message* which does not list a pilot in the current Active Set, the handoff drop timer corresponding to that pilot has expired, and that pilot is found to be below \( T_\text{DROP}_s \), the mobile station shall add the pilot to the Neighbor Set.

- If the mobile station adds a pilot to the Candidate Set, and the resulting Candidate Set size exceeds the size supported by the mobile station, the mobile station shall add the deleted Candidate Set pilot to the Neighbor Set (see 2.6.6.2.6.2).
• If the mobile station detects that the strength of a Neighbor Set pilot exceeds $T_{ADD_s}$, the mobile station shall delete the pilot from the Neighbor Set.

• If the mobile station processes an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message which lists a pilot in the current Neighbor Set, the mobile station shall delete the pilot from the Neighbor Set.

• If the mobile station adds a pilot to the Neighbor Set, and the resulting Neighbor Set size exceeds the size supported by the mobile station, the mobile station shall delete from the Neighbor Set the pilot whose AGEs is the largest. If more than one such pilot exists, the mobile station shall delete one such pilot that has the lowest strength.

2.6.6.2.7 Soft Handoff

2.6.6.2.7.1 Forward Traffic Channel Processing

All Forward Traffic Channels associated with pilots in the Active Set of the mobile station carry identical modulation symbols with the exception of the power control subchannel (see [2]).

When the Active Set contains more than one pilot, the mobile station should provide diversity combining of the associated Forward Traffic Channels. The mobile station shall provide for differential propagation delays from zero to at least 150 $\mu$s.

2.6.6.2.7.2 Reverse Traffic Channel Power Control During Soft Handoff

The Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message identifies sets of Forward Fundamental Code Channels or Forward Dedicated Control Channels that carry identical closed loop power control subchannels. A set consists of one or more Forward Fundamental Code Channels or Forward Dedicated Control Channels with identical power control information.

In each power control group containing valid power control bits (see [2]), the mobile station should provide diversity combining of the identical closed loop power control subchannels and shall obtain at most one power control bit from each set of identical closed loop power control subchannels. The mobile station should only combine reliable power control bits (see [14]) as follows:

• If the reliable power control bits obtained from all sets are equal to '0', the mobile station shall increase its power as specified in [2].

• If the reliable power control bit obtained from any set is equal to '1', the mobile station shall decrease its power as specified in [2].

2.6.6.2.7.3 Starting Periodic Search following Soft Handoff

If the PERIODIC SEARCH$_S$ is equal to '1', a periodic search is not already in progress, and the Frequency Assignment after handoff is different from the Candidate Frequency...
The mobile station shall do the following:

- The mobile station shall set ALIGN_TIMING_USEDs to '0' and SEARCH_OFFSETs to '000000'.
- The mobile station shall start a periodic search as described in 2.6.6.2.8.3.2.

2.6.6.2.8 CDMA-to-CDMA Hard Handoff

The base station directs the mobile station to perform a CDMA-to-CDMA hard handoff by sending an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message in which the mobile station is transitioned between disjoint sets of base stations, different Frequency Assignments, or different frame offsets. If RETURN_IF_HANDOFF_FAILs is equal to '0', the mobile station performs the actions described in 2.6.6.2.8.1. If RETURN_IF_HANDOFF_FAILs is equal to '1', the mobile station performs the actions described in 2.6.6.2.8.2.

2.6.6.2.8.1 Hard Handoff without Return on Failure

At the action time specified of the Extended Handoff Direction Message, the General Handoff Direction Message or Universal Handoff Direction Message the mobile station shall disable its transmitter, reset the fade timer specified in 2.6.4.1.8, suspend incrementing TOT_FRAMESs, BAD_FRAMESs, DCCH_TOT_FRAMESs, and DCCH_BAD_FRAMESs if applicable as specified in 2.6.4.1.1, and tune to the assigned Forward Traffic Channel. The mobile station shall perform acquisition of the pilots in the new Active Set.

If a periodic Serving Frequency pilot report procedure is in progress, the mobile station shall abort it (see 2.6.6.2.12).

The mobile station shall begin monitoring the assigned Forward Traffic Channel within the time specified below:

- If the Extended Handoff Direction Message, General Handoff Direction Message or Universal Handoff Direction Message specifies a CDMA Frequency Assignment different from the Serving Frequency and an Active Set containing pilots with pilot PN sequence offsets identical to those of the pilots in the Serving Frequency Active Set, the mobile station shall begin monitoring the assigned Forward Traffic Channel within $T_{60m}$ seconds after the action time.
- If the Extended Handoff Direction Message, General Handoff Direction Message or Universal Handoff Direction Message specifies a CDMA Frequency Assignment different from the Serving Frequency and an Active Set containing a pilot with pilot PN sequence offset not equal to that of any pilot in the Serving Frequency Active Set, the mobile station shall begin monitoring the assigned Forward Traffic Channel within $T_{61m}$ seconds after the action time.
• If the *Extended Handoff Direction Message*, *General Handoff Direction Message* or *Universal Handoff Direction Message* specifies a CDMA-to-CDMA hard handoff without changing the CDMA Frequency Assignment, the mobile station shall begin monitoring the assigned Forward Traffic Channel within $T_{62m}$ seconds after the action time.

After the action time, upon receiving a period of $(N_{11m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN$_s$ on the assigned Forward Traffic Channel, the mobile station shall re-enable its transmitter. The mobile station shall transmit the Traffic Channel Preamble, as described in [2], followed by a *Handoff Completion Message*.

After the action time, upon receiving a period of $(N_{3m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN$_s$, the mobile station shall resume incrementing TOT_FRAMES$_s$, BAD_FRAMES$_s$, DCCH_TOT_FRAMES$_s$, and DCCH_BAD_FRAMES$_s$ if applicable as specified in 2.6.4.1.1.

If the PERIODIC SEARCH$_s$ is equal to ‘1’, a periodic search is not already in progress, and the Frequency Assignment after handoff is different from the Candidate Frequency (CDMABAND$_s$ is not equal to CF_CDMABAND$_s$ or CDMACH$_s$ is not equal to CF_CDMACH$_s$), the mobile station shall do the following:

• The mobile station shall set ALIGN_TIMING_USED$_s$ to ‘0’ and SEARCH_OFFSET$_s$ to ‘000000’.

• The mobile station shall start a periodic search as described in 2.6.6.2.8.3.2.

2.6.6.2.8.2 Hard Handoff with Return on Failure

At the action time specified in the *General Handoff Direction Message* or *Universal Handoff Direction Message*, the mobile station shall do the following:

• The mobile station shall stop processing the Forward Fundamental Code Channel, the Forward Dedicated Control Channel, the Forward Supplemental Code Channels (if any), and the Forward Supplemental Channels (if any).

• The mobile station shall stop transmitting on the Reverse Fundamental Code Channel, on the Reverse Dedicated Control Channel, and on the Reverse Supplemental Code Channels (if any), and on the Reverse Supplemental Channels (if any).

• The mobile station shall disable the fade timer (see 2.6.4.1.8) and the handoff drop timers corresponding to the Serving Frequency Active Set and Candidate Set (see 2.6.6.2.3), and shall suspend incrementing TOT_FRAMES$_s$, BAD_FRAMES$_s$, DCCH_TOT_FRAMES$_s$, and DCCH_BAD_FRAMES$_s$ if applicable (see 2.6.4.1.1).

• The mobile station shall lock the accumulation of valid level changes in the closed loop mean output power and shall ignore received power control bits related to the period that the transmitter is disabled (see [2]).
• If the Serving Frequency is different from the Target Frequency (SF_CDMACH_{S} is not equal to TF_CDMACH_{S} or SF_CDMABAND_{S} is not equal to TF_CDMABAND_{S}), the mobile station shall set CDMA{CH}_{S} to TF_CDMACH_{S} and CDMA{BAND}_{S} to TF_CDMABAND_{S}, and shall tune to the Target Frequency.

The mobile station shall not change its time reference (see [2]) until the handoff is successfully completed (as described later in this section) or the mobile station resumes using the Serving Frequency Active Set (as described in 2.6.6.2.8.2.1).

The mobile station shall maintain a handoff timer. The mobile station shall set the expiration time for the handoff timer to \((0.08 \times \text{TF\_WAIT\_TIME}_{S})\) seconds and enable the timer at the action time of the General Handoff Direction Message or Universal Handoff Direction Message.

The mobile station shall perform the following actions:

• If the Target Frequency is different from the Serving Frequency (TF_CDMABAND_{S} is not equal to SF_CDMABAND_{S}, or TF_CDMACH_{S} is not equal to SF_CDMACH_{S}), the mobile station shall measure the mean input power on the Target Frequency \((\text{target\_freq\_pwr}, \text{in dBm} / 1.23 \text{ MHz})\) and may use \text{target\_freq\_pwr} along with the measurement of the average input power on the Serving Frequency \((\text{avg\_serving\_freq\_pwr}, \text{in dBm} / 1.23 \text{ MHz})\) in the handoff procedure. The mobile station may declare the handoff attempt to be unsuccessful if all of the following conditions are true:
  – \(\text{DIFF\_RX\_PWR\_THRESH}_{S}\) is not equal to ‘00000’,
  – the mobile station has been measuring the received power on the Serving Frequency for at least the last \(N_{12\text{m}}\) frames, and
  – \((\text{target\_freq\_pwr} - \text{avg\_serving\_freq\_pwr})\) is less than \((-30 + 2 \times \text{DIFF\_RX\_PWR\_THRESH}_{S})\) dB.

If the mobile station declares the handoff attempt to be unsuccessful, it shall restore the configuration to what it was before the handoff attempt (see 2.6.6.2.5.1) and send a Candidate Frequency Search Report Message as described in 2.6.6.2.8.2.1.

• The mobile station shall measure \(E_{c}/I_{0}\) for each pilot in the Active Set using the procedures specified in 2.6.6.2.2, if any of the following conditions is true:
  – the Target Frequency is the same as the Serving Frequency (TF_CDMABAND_{S} is equal to SF_CDMABAND_{S}, and TF_CDMACH_{S} is equal to SF_CDMACH_{S}),
  – the mobile station does not use the power measurements in the handoff procedure,
  – \(\text{DIFF\_RX\_PWR\_THRESH}_{S}\) is equal to ‘00000’,
  – the mobile station has not been measuring the received power on the Serving Frequency for at least the last \(N_{12\text{m}}\) frames, or
  – \((\text{target\_freq\_pwr} - \text{avg\_serving\_freq\_pwr})\) is not less than \((-30 + 2 \times \text{DIFF\_RX\_PWR\_THRESH}_{S})\) dB.
If the mobile station measures $E_c/I_o$ for pilots in the Active Set, it shall compare the sum of the measured $E_c/I_o$ for all pilots with the minimum total pilot $E_c/I_o$ threshold (MIN_TOTAL_PILOT_EC_IOs).

- If MIN_TOTAL_PILOT_EC_IOs is not equal to '00000', and $( - 20 \times \log_{10} (E_c/I_o)_{\text{total}} )$ is less than MIN_TOTAL_PILOT_EC_IOs, where $(E_c/I_o)_{\text{total}}$ is the sum of the measured $E_c/I_o$ for the pilots in the Active Set. The mobile station shall declare the handoff attempt to be unsuccessful, and shall do the following:
  + If COMPLETE_SEARCHs is equal to '1', and the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs, and TF_CDMACHs is equal to CF_CDMACHs) and is different from the Serving Frequency (TF_CDMABANDs is not equal to SF_CDMABANDs, or TF_CDMACHs is not equal to SF_CDMACHs), the mobile station shall measure the strength of each pilot in its Candidate Frequency Search Set using the procedures specified in 2.6.6.2.2.
  + Otherwise, the mobile station shall end the search.

- The mobile station shall then restore its configuration to what it was before the handoff attempt (see 2.6.6.2.5.1) and send a Candidate Frequency Search Report Message as described in 2.6.6.2.8.2.1.

- If MIN_TOTAL_PILOT_EC_IOs is equal to '00000', or $( - 20 \times \log_{10} (E_c/I_o)_{\text{total}} )$ is not less than MIN_TOTAL_PILOT_EC_IOs, where $(E_c/I_o)_{\text{total}}$ is the sum of the measured $E_c/I_o$ for the pilots in the Active Set, the mobile station shall attempt to demodulate the Forward Traffic Channel(s). If the Active Set contains more than one pilot, the mobile station shall perform the actions specified in 2.6.6.2.7. If the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs, and TF_CDMACHs is equal to CF_CDMACHs), and is different for the Serving Frequency (TF_CDMABANDs is not equal to SF_CDMABANDs, or TF_CDMACHs is not equal to SF_CDMACHs), the mobile station shall measure the strength of each pilot in its Candidate Frequency Search Set using the procedures specified in 2.6.6.2.2, while waiting to receive a period of $(N_{11m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs. The mobile station shall wait for the first of the following events to occur:
  + The handoff timer expires and the mobile station has not received a period of $(N_{11m} \times 20)$ ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs. In this case, the mobile station shall declare the handoff attempt to be unsuccessful, and do the following:
If COMPLETE_SEARCHs is equal to ‘1’, and if the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs, and TF_CDMACHs is equal to CF_CDMACHs) and is different from the Serving Frequency (TF_CDMABANDs is not equal to SF_CDMABANDs, or TF_CDMACHs is not equal to SF_CDMACHs), and the mobile station has not completed the search of all pilots in its Candidate Frequency Search Set, then it shall complete the search, i.e., it shall obtain at least one measurement of the strength of each pilot in its Candidate Frequency Search Set, using the search procedures specified in 2.6.6.2.8.3.

Otherwise, the mobile station shall end the search.

The mobile station shall then restore its configuration to what it was before the handoff attempt (see 2.6.6.2.5.1) and send a Candidate Frequency Search Report Message as described in 2.6.6.2.8.2.1.

The mobile station receives a period of \((N_{11m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs. In this case, the mobile station shall declare the handoff attempt to be successful, and do the following:

- The mobile station shall disable the handoff timer.
- If TF_RESET_L2s is equal to ‘1’, Layer 3 shall send a L2-Supervision.Request primitive to Layer 2 to reset the acknowledgment procedures as specified in [4].
- If TF_RESET_FPCs is equal to ‘1’, the mobile station shall initialize the Forward Traffic Channel power control counters as specified in 2.6.4.1.1.1.

- If the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs, and TF_CDMACHs is equal to CF_CDMACHs) and is different from the Serving Frequency (TF_CDMABANDs is not equal to SF_CDMABANDs, or TF_CDMACHs is not equal to SF_CDMACHs), the mobile station shall do the following:
  - The mobile station shall replace its Neighbor Set with its Candidate Frequency Neighbor Set, excluding the pilots in its Active Set. When the mobile station adds a pilot from its Candidate Frequency Neighbor Set to its Active Set, it shall maintain SEARCH_PRIORITYs, SRCH_WIN_NGHBRs, and SRCH_OFFSET_NGHBRs associated with the pilot.
  - The mobile station shall set PILOT_INCs to CF_PILOT_INCs, SRCH_WIN_Ns to CF_SRCH_WIN_Ns, and SRCH_WIN_Rs to CF_SRCH_WIN_Rs.
The mobile station shall set SEARCH_PRIORITY_INCLs to CF_SEARCH_PRIORITY_INCLs, SRCH_OFFSET_INCLs to CF_SRCH_OFFSET_INCLs, and SRCH_WIN_NGHBR_INCLs to CF_SRCH_WIN_NGHBR_INCLs.

The mobile station shall re-enable its transmitter and shall re-enable the fade timer (see 2.6.4.1.8) and reset it for T5m seconds. Then, the mobile station shall transmit the Traffic Channel Preamble, as described in [2], followed by a Handoff Completion Message.

After starting the handoff timer, upon receiving the first period of (N3m × 20) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs, the mobile station shall resume incrementing TOT_FRAMESs, BAD_FRAMESs, DCCH_TOT_FRAMESs, and DCCH_BAD_FRAMESs if applicable as specified in 2.6.4.1.1.

If the Target Frequency is same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs and TF_CDMACHs is equal to CF_CDMACHs), then the mobile station shall set PERIODIC_SEARCHs to ‘0’.

If PERIODIC_SEARCHs is equal to ‘1’, the mobile station shall do the following:

○ The mobile station shall set ALIGN_TIMING_USEDs to ‘0’ and SEARCH_OFFSETs to ‘000000’.

○ The mobile station shall start a periodic search as described in 2.6.6.2.8.3.2.

The mobile station shall maintain its pilot sets using the procedures described in 2.6.6.2.6.

2.6.6.2.8.2.1 Restoring the Configuration

If the mobile station declares a handoff attempt to be unsuccessful (see 2.6.6.2.8.2), it shall perform the following actions:

- If the handoff timer is enabled, the mobile station shall disable it.

- The mobile station shall restore the following parameters:
  - Message encryption mode: If SF_ENCRYPT_MODEs is equal to ‘0’, the mobile station shall turn off message encryption; otherwise, it shall turn on message encryption.
  - Service configuration: The mobile station shall use the service configuration stored in SF_SERVICE_CONFIGs to process Forward and Reverse Traffic Channel frames.
  - Protocol revision level (P_REVs = SF_P_REVs)
- Protocol revision level in use on the serving frequency (P_REV_IN_USEs = SF_P_REV_IN_USEs)
- Service negotiation type (SERV_NEGs = SF_SERV_NEGs)
- Long code mask: If SF_PRIVATE_LCMs is equal to ‘1’, the mobile station shall use the private long code mask; otherwise, it shall use the public long code mask.
- Search window size for the Active Set and Candidate Set (SRCH_WIN_As = SF_SRCH_WIN_As)
- Search window size for the Neighbor Set (SRCH_WIN_Ns = SF_SRCH_WIN_Ns)
- Search window size for the Remaining Set (SRCH_WIN_Rs = SF_SRCH_WIN_Rs)
- Pilot detection threshold (T_ADDs = SF_T_ADDs)
- Pilot drop threshold (T_DROPs = SF_T_DROPs)
- Soft slope for the dynamic add and drop threshold (SOFT_SLOPEs = SF_SOFT_SLOPEs)
- Intercept for the dynamic add threshold (ADD_INTERCEPTs = SF_ADD_INTERCEPTs)
- Intercept for the dynamic drop threshold (DROP_INTERCEPTs = SF_DROP_INTERCEPTs)
- Active Set versus Candidate Set comparison threshold (T_COMPs = SF_T_COMPs)
- Drop timer value (T_TDROPs = SF_T_TDROPs)
- Frame offset (FRAME_OFFSETs = SF_FRAME_OFFSETs)
- Nominal power setting (NOM_PWRs = SF_NOM_PWRs)
- Extended nominal power setting (NOM_PWR_EXTs = SF_NOM_PWR_EXTs)
- Power control step (PWR_CNTL_STEPs = SF_PWR_CNTL_STEPs)
- CDMA band class (CDMABANDs = SF_CDMABANDs)
- Frequency assignment (CDMACHs = SF_CDMACHs)
- Active Set (For each pilot in the Serving Frequency Active Set: (PILOT_PN, PWR_COMB_IND))
- Code channel list (CODE_CHAN_LISTs = SF_CODE_CHAN_LISTs)

- The mobile station shall tune to the Serving Frequency and resume using the Serving Frequency Active Set as follows:
– If the mobile station was processing the Forward Fundamental Channel prior to tuning to the Candidate Frequency, the mobile station shall resume processing the Forward Fundamental Channel. If the mobile station was transmitting on the Reverse Fundamental Channel prior to tuning to the Candidate Frequency, the mobile station shall resume transmitting on the Reverse Fundamental Channel.

– If the mobile station was processing the Forward Dedicated Control Channel prior to tuning to the Candidate Frequency, the mobile station shall resume processing the Forward Dedicated Control Channel. If the mobile station was transmitting on the Reverse Dedicated Control Channel prior to tuning to the Candidate Frequency, the mobile station shall resume transmitting on the Reverse Dedicated Control Channel.

– The mobile station shall not resume transmitting on the Reverse Supplemental Code Channels and Reverse Supplemental Channels (if any). The mobile station shall not process on the Forward Supplemental Code Channels and Forward Supplemental Channels (if any).

– When the mobile station resumes transmission on the Reverse Traffic Channel, it shall use the following rules to re-enable its transmitter:

  + If the interval between the time that the mobile station disables its transmitter and the time that it resumes using the Serving Frequency Active Set is equal to or greater than \((N_{2m} \times 20)\) ms, then the mobile station shall wait to receive a period of \((N_{3m} \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to \(\text{FPC}_\text{PRICHANs}\) before it re-enables its transmitter.

  + Otherwise, the mobile station shall re-enable its transmitter no later than \(N_{3m} \times 20\) ms after the mobile station tunes to the Serving Frequency. The mobile station should re-enable its transmitter earlier. After the mobile station re-enables its transmitter, the mean output power shall be as specified in [2] for a step change in input power. If the mobile station re-enables its transmitter earlier than \(N_{3m} \times 20\) ms after it tunes to the Serving Frequency, the initial mean output power shall be as specified in [2], where the initial mean input power estimate is either:
    0 within 6 dB of the actual mean input power, or
    0 equal to the mean input power before the mobile station tuned to the Target Frequency.

• The mobile station shall enable the fade timer and the handoff drop timers corresponding to the pilots in its Active Set and Candidate Set. The mobile station shall resume incrementing \(\text{TOTFRAMESs}, \text{BADFRAMESs}, \text{DCCHTOTFRAMESs},\) and \(\text{DCCHBADFRAMESs}\) if applicable as specified in 2.6.4.1.1.
The mobile station shall send a *Candidate Frequency Search Report Message* within $T_{56m}$ seconds of declaring the handoff attempt to be unsuccessful. The mobile station shall report the contents of the *Candidate Frequency Search Report Message* as follows:

- The mobile station shall report the two components of the Target Frequency in the CDMA_FREQ and BAND_CLASS fields.
- The mobile station shall report the received power on the Target Frequency and on the Serving Frequency in the CF_TOTAL_RX_PWR and SF_TOTAL_RX_PWR fields, respectively.
- For each pilot in the Target Frequency Active Set that measures above TF_T_ADDs, the mobile station shall report its phase and strength in the fields PILOT_PN_PHASE and PILOT_STRENGTH, respectively.
- If the Target Frequency is the same as the Candidate Frequency (TF_CDMABANDs is equal to CF_CDMABANDs, and TF_CDMACHs is equal to CF_CDMACHs), and is different from the Serving Frequency (TF_CDMABANDs is not equal to SF_CDMABANDs or TF_CDMACHs is not equal to SF_CDMACHs), the mobile station shall also report the strength of each pilot in the Candidate Frequency Search Set that measures above CF_T_ADDs.

If the Serving Frequency is the same as the Candidate Frequency (SF_CDMABANDs is equal to CF_CDMABANDs and SF_CDMACHs is equal to CF_CDMACHs), then the mobile station shall set PERIODIC_SEARCHs to ‘0’.

- If PERIODIC_SEARCHs is equal to ‘1’ and the Candidate Frequency Search Set is not empty, the mobile station shall do the following:
  - The mobile station shall set ALIGN_TIMING_USEDs to ‘0’ and SEARCH_OFFSETs to ‘000000’.
  - The mobile station shall carry out the periodic search procedures described in 2.6.6.2.8.3.2.

2.6.6.2.8.3 Search of Pilots on the CDMA Candidate Frequency

If SEARCH_MODEs is equal to ‘0000’, the mobile station shall do the following: If PERIODIC_SEARCHs is equal to ‘0’, the mobile station shall search the Candidate Frequency Search Set once, as described in 2.6.6.2.8.3.1; otherwise, the mobile station shall search the Candidate Frequency Search Set periodically, as described in 2.6.6.2.8.3.2.

2.6.6.2.8.3.1 CDMA Candidate Frequency Single Search

The mobile station does a single search of the Candidate Frequency Search Set by performing the following actions at the action time of the *Candidate Frequency Search Control Message* or the *Candidate Frequency Search Request Message* that started the search.
• If ALIGN_TIMING_USEDs is set to ‘0’, the mobile station shall measure the strength of all pilots in the Candidate Frequency Search Set in one or more visits to the Candidate Frequency, as described in 2.6.6.2.8.3.3.

• If ALIGN_TIMING_USEDs is set to ‘1’, the mobile station shall measure the strength of all pilots in the Candidate Frequency Search Set in one or more scheduled visits (see below) to the Candidate Frequency, as described in 2.6.6.2.8.3.3.

The mobile station shall schedule visits to the Candidate Frequency only at

\[(0.00125 \times \text{SEARCH_OFFSETs}) + k \times (\text{SEARCH_TIME_RESOLUTIONs} \times \text{inter_visit_time})\]

seconds after the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that started the search, where

\[k = \text{an integer between 0 and max_num_visits, inclusive, where}\]

\[\text{max_num_visits is the value of MAX_NUM_VISITS field of the last Candidate Frequency Search Response Message sent by the mobile station.}\]

and

\[\text{inter_visit_time = the value of the INTER_VISIT_TIME field of the last Candidate Frequency Search Response Message sent by the mobile station.}\]

• The mobile station shall complete the measurements and send a Candidate Frequency Search Report Message within \((0.00125 \times \text{SEARCH_OFFSETs}) + \text{freshness_interval}\) seconds after the action time of the Candidate Frequency Search Control Message, or the Candidate Frequency Search Request Message, where \text{freshness_interval} is determined as follows:

  – If the value of the TOTAL_OFF_TIME_FWD field or of the TOTAL_OFF_TIME_REV field of the last Candidate Frequency Search Response Message sent by the mobile station to the base station is greater than or equal to \([\lceil \text{T70m} - \text{T71m} \rceil / \text{SEARCH_TIME_RESOLUTIONs} \rceil \), then

\[\text{freshness_interval} = (\max (\text{fwd_time, rev_time}) + \text{T71m seconds}),\]

where

\[\text{fwd_time} = \text{SEARCH_TIME_RESOLUTIONs} \times (\text{value of the TOTAL_OFF_TIME_FWD field of the last Candidate Frequency Search Response Message sent by the mobile station}),\]

and

\[\text{rev_time} = \text{SEARCH_TIME_RESOLUTIONs} \times (\text{value of the TOTAL_OFF_TIME_REV field of the last Candidate Frequency Search Response Message sent by the mobile station}).\]

  – Otherwise,
freshness\_interval = T70m seconds.

The mobile station shall set the fields of the Candidate Frequency Search Report Message as follows:

- The mobile station shall report the two components of the Candidate Frequency in the CDMA\_FREQ and BAND\_CLASS fields.
- The mobile station shall report the received power on the Candidate Frequency and on the Serving Frequency in the CF\_TOTAL\_RX\_PWR and SF\_TOTAL\_RX\_PWR fields, respectively.
- For each pilot in the Candidate Frequency Search Set that measures above CF\_T\_ADDSs, the mobile station shall report its phase and strength in the fields PILOT\_PN\_PHASE and PILOT\_STRENGTH, respectively.

2.6.6.2.8.3.2 Candidate Frequency Periodic Search

When the mobile station performs a periodic search, it periodically searches the Candidate Frequency Search Set and reports the results to the base station in the Candidate Frequency Search Report Message, as described in this section. The mobile station may measure all pilots in the Candidate Frequency Search Set in one visit to the Candidate Frequency, or it may visit the Candidate Frequency several times in a search period, each time measuring all or some of the pilots in the Candidate Frequency Search Set, as described in 2.6.6.2.8.3.3.

If SF\_TOTAL\_EC\_THRESH_S is not equal to ‘11111’, while tuned to the Serving Frequency (specified by CDMACH_S and CDMABAND_S), the mobile station shall measure the total received power spectral density, in mW/1.23 MHz, on the Serving Frequency at least once every 20 ms frame and shall maintain the average of the spectral density (spec\_density) over the last N12m frames.

(In the following, (E_c/I_o)_{total} is the total E_c/I_o of the pilots in the Active Set, measured as specified in 2.6.6.2.2, and total\_ec is defined as (10 \times \log_{10} ((E_c/I_o)_{total} \times spec\_density)).)

The mobile station shall maintain a periodic search timer as follows:

- When the mobile station starts a periodic search, it shall set the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH\_PERIOD_S and shall enable the timer.
  - If the periodic search is started by a Candidate Frequency Search Request Message or a Candidate Frequency Search Control Message, then the mobile station shall start the periodic search (0.00125 \times SEARCH\_OFFSET_S) seconds after the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that started the search.
  - If the periodic search is started following successful or unsuccessful handoff attempt, the mobile station shall start the periodic search:
    + Upon sending the Handoff Completion Message, in the case that the handoff was successful.
Upon sending the Candidate Frequency Search Report Message, in the case that the handoff was unsuccessful.

- When the periodic search timer expires, the mobile station shall reset the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs and shall re-enable the timer.

- If ALIGN_TIMING_USEDs is set to ‘0’, SF_TOTAL_EC_THRESHs is not equal to ‘11111’ and SF_TOTAL_EC_IO_THRESHs is equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the periodic search timer if total_ec is not less than \(-120 + 2 \times \text{SF}\_\text{TOTAL}\_\text{EC}\_\text{THRESHs}\).
  - Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:
    + the periodic search timer is disabled, and
    + total_ec is less than \(-120 + 2 \times \text{SF}\_\text{TOTAL}\_\text{EC}\_\text{THRESHs}\).

- If ALIGN_TIMING_USEDs is set to ‘0’, SF_TOTAL_EC_THRESHs is equal to ‘11111’ and SF_TOTAL_EC_IO_THRESHs is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the periodic search timer if \(-20 \times \log_{10} (E_c/I_o)_{\text{total}}\) is not greater than SF_TOTAL_EC_IO_THRESHs.
  - Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:
    + the periodic search timer is disabled, and
    + \(-20 \times \log_{10} (E_c/I_o)_{\text{total}}\) is greater than SF_TOTAL_EC_IO_THRESHs.

- If ALIGN_TIMING_USEDs is set to ‘0’, SF_TOTAL_EC_THRESHs is not equal to ‘11111’ and SF_TOTAL_EC_IO_THRESHs is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the periodic search timer if the following conditions are true:
    + total_ec is not less than \(-120 + 2 \times \text{SF}\_\text{TOTAL}\_\text{EC}\_\text{THRESHs}\), and
    + \(-20 \times \log_{10} (E_c/I_o)_{\text{total}}\) is not greater than SF_TOTAL_EC_IO_THRESHs.
  - Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:
    + the periodic search timer is disabled, and
    + total_ec is less than \(-120 + 2 \times \text{SF}\_\text{TOTAL}\_\text{EC}\_\text{THRESHs}\), or \(-20 \times \log_{10} (E_c/I_o)_{\text{total}}\) is greater than SF_TOTAL_EC_IO_THRESHs.
The mobile station shall maintain the periodic search timer independent of the total $E_c$ and the total $E_c/I_0$ of the pilots in the Serving Frequency Active Set, if any of the following conditions is true:

- ALIGN_TIMING_USED is set to '1', or
- SF_TOTAL_EC_THRES is equal to '11111' and SF_TOTAL_EC_IO_THRES is equal to '11111'.

Table 2.6.6.2.8.3.2-1. Search Period Values

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<thead>
<tr>
<th>SEARCH_PERIOD (s)</th>
<th>Search Period (seconds)</th>
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<td>10</td>
</tr>
<tr>
<td>7</td>
<td>20</td>
</tr>
</tbody>
</table>

If the periodic search timer is enabled, the mobile station shall perform the following actions before the timer expires:

- If ALIGN_TIMING_USED is set to '0', the mobile station shall measure the strength of all pilots in the Candidate Frequency Search Set at least once in one or more visits to the Candidate Frequency, as described in 2.6.6.2.8.3.3.
- If ALIGN_TIMING_USED is set to '1', the mobile station shall measure the strength of all pilots in the Candidate Frequency Search Set in one or more scheduled visits (see below) to the Candidate Frequency, as described in 2.6.6.2.8.3.3.

The mobile station shall schedule visits to the Candidate Frequency only at

$$((0.00125 \times \text{SEARCH_OFFSET}) + k \times (\text{SEARCH_TIME_RESOLUTION} \times \text{inter_visit_time}))$$

seconds after the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that started the search, where

$$k = \text{an integer between 0 and } \text{max_num_visits}, \text{ inclusive, where } \text{max_num_visits is the value of NUM_VISITS field of the last Candidate Frequency Search Response Message sent by the mobile station},$$

and
inter_visit_time = the value of the INTER_VISIT_TIME field of the last Candidate Frequency Search Response Message sent by the mobile station.

- The mobile station shall abort a scheduled visit to the Candidate Frequency if at the scheduled time, one or both of the following conditions hold:
  + SF_TOTAL_EC_THRESHs is not equal to ‘11111’ and total_ec is not less than (-120 + 2 × SF_TOTAL_EC_THRESHs). or
  + SF_TOTAL_EC_IO_THRESHs is not equal to ‘11111’ and (-20 × log10 (Ec/Io)total) is not greater than SF_TOTAL_EC_IO_THRESHs.

- If the mobile station aborts a scheduled visit during a search period, it may abort all remaining scheduled visits in that search period.

- The mobile station shall send a Candidate Frequency Search Report Message if MIN_TOTAL_PILOT_EC_IOs is equal to ‘00000’ or if (-20 × log10 (Ec/Io)total) is not less than MIN_TOTAL_PILOT_EC_IOs, where (Ec/Io)total is the sum of E_c/I_o for all those pilots that measure above CF_T_ADDs in the current search period.

The mobile station shall report the contents of the Candidate Frequency Search Report Message as follows:
- The mobile station shall report the two components of the Candidate Frequency in the CDMA_FREQ and BAND_CLASS fields.
- The mobile station shall report the received power on the Candidate Frequency and on the Serving Frequency in the CF_TOTAL_RX_PWR and SF_TOTAL_RX_PWR fields, respectively.
- For each pilot in the Candidate Frequency Search Set that measures above CF_T_ADDs, the mobile station shall report its phase and strength in the fields PILOT_PN_PHASE and PILOT_STRENGTH, respectively.

- The mobile station shall ensure that the strength measurement for all pilots in the Candidate Frequency Search Set were obtained within freshness_interval before the Candidate Frequency Search Report Message is sent, where freshness_interval is determined as follows:
  - If the value of the TOTAL_OFF_TIME_FWD field or of the TOTAL_OFF_TIME_REV field of the last Candidate Frequency Search Response Message sent by the mobile station to the base station is greater than or equal to [(T70m - T71m)/ SEARCH_TIME_RESOLUTIONs], then
    freshness_interval = (max (fwd_time, rev_time) + T71m) seconds,

    where

    fwd_time = SEARCH_TIME_RESOLUTIONs × (value of the TOTAL_OFF_TIME_FWD field of the last Candidate Frequency Search Response Message sent by the mobile station),
and

\[ \text{rev\_time} = \text{SEARCH\_TIME\_RESOLUTION}_{S} \times (\text{value of the TOTAL\_OFF\_TIME\_REV field of the last Candidate Frequency Search Response Message sent by the mobile station}). \]

- Otherwise,

\[ \text{freshness\_interval} = T_{70m} \text{ seconds}. \]

### 2.6.6.2.8.3.3 Candidate Frequency Pilot Measurements

The mobile station measures the strength of all pilots in the Candidate Frequency Search Set in one or more visits to the Candidate Frequency. The mobile station shall perform the following actions each time it visits the Candidate Frequency to measure pilot strengths:

- If the mobile station is processing the Forward Fundamental Channel, the mobile station shall stop processing the Forward Fundamental Code Channel. If the mobile station is transmitting on the Reverse Fundamental Channel, the mobile station shall stop transmitting on the Reverse Fundamental Channel.

- If the mobile station is processing the Forward Dedicated Control Channel, the mobile station shall stop processing the Forward Dedicated Control Channel. If the mobile station is transmitting on the Reverse Dedicated Control Channel, the mobile station shall stop transmitting on the Reverse Dedicated Control Channel.

- The mobile station shall stop processing the Forward Supplemental Code Channels and Forward Supplemental Channels (if any). The mobile station shall stop transmitting on the Reverse Supplemental Code Channels and Reverse Supplemental Channels (if any).

- The mobile station shall disable the fade timer (see 2.6.4.1.8) and the handoff drop timers corresponding to its current Active Set and Candidate Set (see 2.6.6.2.3), and shall suspend incrementing TOT\_FRAMES\_s, BAD\_FRAMES\_s, DCCH\_TOT\_FRAMES\_s, DCCH\_BAD\_FRAMES\_s, SCH\_TOT\_FRAMES\_s, and SCH\_BAD\_FRAMES\_s if applicable (see 2.6.4.1.1).

- The mobile station shall lock the accumulation of valid level changes in the closed loop mean output power and shall ignore received power control bits related to the period that the transmitter is disabled (see [2]).

- The mobile station shall store the following parameters from its current configuration:
  - CDMA band class (SF\_CDMABAND\_s = CDMABAND\_s)
  - Frequency assignment (SF\_CDMACH\_s = CDMACH\_s)
  - Pilot detection threshold (SF\_T\_ADD\_s = T\_ADD\_s)

- The mobile station shall set the following parameters:
  - CDMABAND\_s = CF\_CDMABAND\_s
– CDMACHs = CF_CDMACHs
– T_ADDs = CF_T_ADDs

The mobile station shall tune to the Candidate Frequency.

• The mobile station shall not change its time reference (see [2]) until it resumes using
  the Serving Frequency Active Set, as described below.

• The mobile station shall measure the mean input power on the Candidate Frequency
  \(cand\_freq\_pwr\), in dBm / 1.23 MHz], and may use \(cand\_freq\_pwr\) along with the
  measurement of the mean input power on the Serving Frequency
  \(avg\_serving\_freq\_pwr\), in dBm / 1.23 MHz] in the search procedure as follows:
  – If DIFF_RX_PWR_THRESHs is not equal to ‘00000’, and \((cand\_freq\_pwr -
    avg\_serving\_freq\_pwr)\) is less than \((-30 + 2 \times DIFF_RX_PWR_THRESHS\) dB, the
    mobile station may terminate the search for pilots in the current visit to the
    Candidate Frequency.
  – If DIFF_RX_PWR_THRESHS is equal to ‘00000’, the mobile station does not use
    the power measurements in the search procedure, or \((cand\_freq\_pwr -
    avg\_serving\_freq\_pwr)\) is not less than \((-30 + 2 \times DIFF_RX_PWR_THRESHS\) dB,
    the mobile station shall measure \(E_c/I_o\) for all or some of the pilots in its
    Candidate Frequency Search Set, using the search procedures specified in
    2.6.6.2.2.

• The mobile station shall restore the following parameters:
  – Pilot detection threshold \(T\_ADDs = SF\_T\_ADDs\)
  – CDMA band class \(CDMABANDs = SF\_CDMABANDs\)
  – Frequency assignment \(CDMACHs = SF\_CDMACHs\)

• The mobile station shall tune to the Serving Frequency and shall resume using the
  Serving Frequency Active Set as follows:
  – If the mobile station was processing the Forward Fundamental Channel prior to
    tuning to the Candidate Frequency, the mobile station shall resume processing
    the Forward Fundamental Channel. If the mobile station was transmitting on
    the Reverse Fundamental Channel prior to tuning to the Candidate Frequency,
    the mobile station shall resume transmitting on the Reverse Fundamental
    Channel.
  – If the mobile station was processing the Forward Dedicated Control Channel
    prior to tuning to the Candidate Frequency, the mobile station shall resume
    processing the Forward Dedicated Control Channel. If the mobile station was
    transmitting on the Reverse Dedicated Control Channel prior to tuning to the
    Candidate Frequency, the mobile station shall resume transmitting on the
    Reverse Dedicated Control Channel.
If the Forward Supplemental Code Channels and Forward Supplemental Channels assignment has not expired, the mobile station shall resume processing the Forward Supplemental Code Channels and Forward Supplemental Channels (if any). If the Reverse Supplemental Code Channel and Reverse Supplemental Channels assignment has not expired, the mobile station may resume transmitting on the Reverse Supplemental Code Channels and Reverse Supplemental Channels (if any).

When the mobile station resumes transmission on the Reverse Traffic Channel, it shall use the following rules to re-enable its transmitter:

+ If the interval between the time that the mobile station disables its transmitter and the time that it resumes using the Serving Frequency Active Set is equal to or greater than \((N_2m \times 20)\) ms, then the mobile station shall wait to receive a period of \((N_3m \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHANs before it re-enables its transmitter.

+ Otherwise, the mobile station shall re-enable its transmitter no later than \(N_3m \times 20\) ms after the mobile station tunes to the Serving Frequency. The mobile station should re-enable its transmitter earlier. After the mobile station re-enables its transmitter, the mean output power shall be as specified in 2.1.2.4.1 for a step change in input power. If the mobile station re-enables its transmitter earlier than \(N_3m \times 20\) ms after it tunes to the Serving Frequency, the initial mean output power shall be as specified in [2], where the initial mean input power estimate is either:
  
  o within 6 dB of the actual mean input power, or

  o equal to the mean input power before the mobile station tuned to the Target Frequency.

- The mobile station shall enable the fade timer and the handoff drop timers corresponding to the pilots in its Active Set and Candidate Set. The mobile station shall resume incrementing TOT_FRAMESs, BAD_FRAMESs, DCCH_TOT_FRAMESs, DCCH_BAD_FRAMESs, SCH_TOT_FRAMESs, SCH_BAD_FRAMESs, and SCH_BAD_FRAMESs if applicable as specified in 2.6.4.1.8.

2.6.6.2.8.3.4 Aborting CDMA Candidate Frequency Periodic Search

When the mobile station aborts a periodic search, it shall do the following:

- The mobile station shall cancel any remaining visits to the Candidate Frequency in the current search period, and shall not send a Candidate Frequency Search Report Message for the current search period.

- The mobile station shall disable the periodic search timer.
2.6.6.2.9 CDMA-to-Analog Handoff

The base station directs the mobile station to perform a CDMA-to-Analog handoff by sending an Analog Handoff Direction Message. If the mobile station has narrow analog capability, the base station may direct the handoff to a narrow analog channel.

If the mobile station supports analog operation in the requested band class, the mobile station shall set DTXₜ to ‘00’ and store the following parameters from the Analog Handoff Direction Message:

- System identification (SIDₛ = SIDᵣ)
- Voice mobile station attenuation code (VMACₛ = VMACᵣ)
- Analog voice channel number (ANALOG_CHANₛ = ANALOG_CHANᵣ)
- SAT color code (SCCₛ = SCCᵣ)
- Message encryption mode indicator (MEMₛ = MEMᵣ)
- Analog voice channel type (AN_CHAN_TYPEₛ = AN_CHAN_TYPEᵣ)
- Digital supervisory audio color code (DSCCₛ = DSCC_MSBᵣ × 4 + SCCᵣ)

If the mobile station does not support analog operation in the requested band class, the mobile station shall discard the message and send a Mobile Station Reject Order with the ORDQ field set to ‘00000110’ (capability not supported by the mobile station).

At the action time specified by the Analog Handoff Direction Message (see 2.6.4.1.5), the mobile station shall disable its transmitter. The mobile station shall enable its transmitter on the wide analog voice channel or optional narrow analog voice channel within T₆₃ₘ seconds after the action time.

2.6.6.2.10 Search of Analog Frequencies

If SEARCH_MODEₛ is equal to ‘0001’, and the mobile station supports analog searching, the mobile station shall do the following: If PERIODIC_SEARCHₛ is equal to ‘0’, the mobile station shall search the Candidate Analog Frequency Search Set once, as described in 2.6.6.2.10.1; otherwise, the mobile station shall search the Candidate Frequency Analog Search Set periodically, as described in 2.6.6.2.10.2.

2.6.6.2.10.1 Analog Frequencies Single Search

The mobile station does a single search of the Candidate Frequency Analog Search Set by performing the following actions at the action time of the Candidate Frequency Search Control Message or the Candidate Frequency Search Request Message that started the search:

- If ALIGN_TIMING_USEDₛ is set to ‘0’, the mobile station shall measure the strength of all analog frequencies in the Candidate Frequency Analog Search Set in one or more visits away from the Serving Frequency, as described in 2.6.6.2.10.3.
• If ALIGN_TIMING_USED₀ is set to ‘1’, the mobile station shall measure the strength of analog frequencies in the Candidate Frequency Analog Search Set in one or more scheduled visits (see below) away from the Serving Frequency, as described in 2.6.6.2.10.3.

The mobile station shall schedule visits away from the Serving Frequency only at
\(((0.00125 \times SEARCH_OFFSETs) + k \times (SEARCH_TIME_RESOLUTIONs \times inter\_visit\_time))\) seconds after the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that started the search, where

\[ k = \text{an integer between 0 and max\_num\_visits, inclusive, where max\_num\_visits is the value of NUM\_VISITS field of the last Candidate Frequency Search Response Message sent by the mobile station,} \]

and

\[ inter\_visit\_time = \text{the value of the INTER\_VISIT\_TIME field of the last Candidate Frequency Search Response Message sent by the mobile station.} \]

• The mobile station shall complete the measurements and send a Candidate Frequency Search Report Message within \(((0.00125 \times SEARCH_OFFSETs) + freshness\_interval)\) seconds after the action time of the Candidate Frequency Search Control Message or the Candidate Frequency Search Request Message, where freshness\_interval is determined as follows:

  - If the value of the TOTAL\_OFF\_TIME\_FWD field or of the TOTAL\_OFF\_TIME\_REV field of the last Candidate Frequency Search Response Message sent by the mobile station to the base station is greater than or equal to \(|(T_{70m} - T_{71m})/\text{SEARCH\_TIME\_RESOLUTIONs}|\), then

    \[ freshness\_interval = (\max (fwd\_time, rev\_time) + T_{71m}) \text{ seconds}, \]

    where

    \[ fwd\_time = \text{SEARCH\_TIME\_RESOLUTIONs} \times (\text{value of the TOTAL\_OFF\_TIME\_FWD field of the last Candidate Frequency Search Response Message sent by the mobile station}), \]

    and

    \[ rev\_time = \text{SEARCH\_TIME\_RESOLUTIONs} \times (\text{value of the TOTAL\_OFF\_TIME\_REV field of the last Candidate Frequency Search Response Message sent by the mobile station}). \]

  - Otherwise,

    \[ freshness\_interval = T_{70m} \text{ seconds.} \]
2.6.6.2.10.2 Analog Frequencies Periodic Search

When the mobile station performs a periodic search, it periodically searches the Candidate Frequency Analog Search Set, and reports the results to the base station in the Candidate Frequency Search Report Message, as described in this section. The mobile station may measure all analog frequencies in the Candidate Frequency Analog Search Set in one visit away from the Serving Frequency, or it may make multiple visits in a search period, each time measuring all or some of the analog frequencies in the Candidate Frequency Analog Search Set, as described in 2.6.6.2.10.3.

If SF_TOTAL_EC_THRESHs is not equal to ‘11111’, while tuned to the Serving Frequency (specified by CDMACHs and CDMABANDs), the mobile station shall measure the total received power spectral density, in mW/1.23 MHz, on the Serving Frequency at least once every 20 ms frame and shall maintain the average of the spectral density (spec_density) over the last N12m frames.

(In the following, (Ec/Io)total is the total Ec/Io of the pilots in the Active Set, measured as specified in 2.6.6.2.2, and total_ec is defined as (10 × log10 ((Ec/Io)total × spec_density)).)

The mobile station shall maintain a periodic search timer as follows:

- When the mobile station starts a periodic search, it shall set the periodic search timer to the value in Table 2.6.6.2.8.3.2.1 corresponding to SEARCH_PERIODs and shall enable the timer.
  - If the periodic search is started by a Candidate Frequency Search Request Message or a Candidate Frequency Search Control Message, then the mobile station shall start the periodic search (0.00125 × SEARCH_OFFSETs) seconds after the action time of the Candidate Frequency Search Request Message or the Candidate Frequency Search Control Message that started the search.
  - If the periodic search is started following successful or unsuccessful handoff attempt, the mobile station shall start the periodic search:
    + Upon sending the Handoff Completion Message, in the case that the handoff was successful.
    + Upon sending the Candidate Frequency Search Report Message, in the case that the handoff was unsuccessful.

- When the periodic search timer expires, the mobile station shall reset the periodic search timer to the value in Table 2.6.6.2.8.3.2.1 corresponding to SEARCH_PERIODs and shall re-enable the timer.

- If ALIGN_TIMING_USEDs is set to ‘0’, SF_TOTAL_EC_THRESHs is not equal to ‘11111’ and SF_TOTAL_EC_IO_THRESHs is equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the periodic search timer if total_ec is not less than (-120 + 2 × SF_TOTAL_EC_THRESHs).
– Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:

  + the periodic search timer is disabled, and
  + total_ec is less than \((-120 + 2 \times SF\_TOTAL\_EC\_THRESH)\).

- If ALIGN_TIMING_USED is set to '0', SF\_TOTAL\_EC\_THRESH is equal to ‘11111’ and SF\_TOTAL\_EC\_IO\_THRESH is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:

  – Disable the periodic search timer if \((-20 \times \log_{10} (E_c/I_o)_{total})\) is not greater than SF\_TOTAL\_EC\_IO\_THRESH.

  – Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:

    + the periodic search timer is disabled, and
    + \((-20 \times \log_{10} (E_c/I_o)_{total})\) is greater than SF\_TOTAL\_EC\_IO\_THRESH.

- If ALIGN_TIMING_USED is set to ‘0’, SF\_TOTAL\_EC\_THRESH is not equal to ‘11111’ and SF\_TOTAL\_EC\_IO\_THRESH is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:

  – Disable the periodic search timer if the following conditions are true:

    + total_ec is not less than \((-120 + 2 \times SF\_TOTAL\_EC\_THRESH)\), and
    + \((-20 \times \log_{10} (E_c/I_o)_{total})\) is not greater than SF\_TOTAL\_EC\_IO\_THRESH.

  – Reset the expiration time of the periodic search timer to the value in Table 2.6.6.2.8.3.2-1 corresponding to SEARCH_PERIODs, and re-enable the timer if the following conditions are true:

    + the periodic search timer is disabled, and
    + total_ec is less than \((-120 + 2 \times SF\_TOTAL\_EC\_THRESH)\), or
    + \((-20 \times \log_{10} (E_c/I_o)_{total})\) is greater than SF\_TOTAL\_EC\_IO\_THRESH.

- The mobile station shall maintain the periodic search timer independent of the total Ec and the total E_c/I_o of the pilots in the Serving Frequency Active Set, if any of the following conditions is true:

  – ALIGN_TIMING_USED is set to ‘1’, or
  – SF\_TOTAL\_EC\_THRESH is equal to ‘11111’ and SF\_TOTAL\_EC\_IO\_THRESH is equal to ‘11111’.

If the periodic search timer is enabled, the mobile station shall perform the following actions before the timer expires:
• If \texttt{ALIGN\_TIMING\_USED} is set to ‘0’, the mobile station shall measure the strength of all analog frequencies in the Candidate Frequency Analog Search Set at least once in one or more visits away from the Serving Frequency, as described in 2.6.6.2.10.3.

• If \texttt{ALIGN\_TIMING\_USED} is set to ‘1’, the mobile station shall measure the strength of analog frequencies in the Candidate Frequency Analog Search Set in one or more scheduled visits (see below) away from the Serving Frequency, as described in 2.6.6.2.10.3.

The mobile station shall schedule visits away from the Serving Frequency only at 
\((0.00125 \times \text{SEARCH\_OFFSET}) + k \times (\text{SEARCH\_TIME\_RESOLUTION} \times \text{inter\_visit\_time})\) seconds after the action time of the \textit{Candidate Frequency Search Request Message} or the \textit{Candidate Frequency Search Control Message} that started the search, where

\[ k = \text{an integer between 0 and max\_num\_visits, inclusive, where max\_num\_visits is the value of NUM\_VISITS field of the last Candidate Frequency Search Response Message sent by the mobile station.}\]

and

\[ \text{inter\_visit\_time} = \text{the value of the INTER\_VISIT\_TIME field of the last Candidate Frequency Search Response Message sent by the mobile station.}\]

– The mobile station shall abort a scheduled visit away from the Serving Frequency if at the scheduled time, one or both of the following conditions hold:

  + \text{SF\_TOTAL\_EC\_THRESH} is not equal to ‘11111’ and \(\text{total\_ec} \) is not less than \((-120 + 2 \times \text{SF\_TOTAL\_EC\_THRESH})\), or

  + \text{SF\_TOTAL\_EC\_IO\_THRESH} is not equal to ‘11111’ and \((-20 \times \log_{10} (\text{Ec/Io})_{\text{total}})\) is not greater than \text{SF\_TOTAL\_EC\_IO\_THRESH}.

– If the mobile station aborts a scheduled visit during a search period, it may abort all remaining scheduled visits in that search period.

• The mobile station shall set the fields of the \textit{Candidate Frequency Search Report Message} as follows: The mobile station shall report the received power on the Serving Frequency in the TOTAL\_RX\_PWR\_SF field. For each frequency in the Candidate Frequency Analog Search Set, the mobile station shall report its frequency and strength in the fields ANALOG\_FREQ and SIGNAL\_STRENGTH, respectively.

• The mobile station shall ensure that the strength measurements for all analog frequencies in the Candidate Frequency Analog Search Set were obtained within \(\text{freshness\_interval}\) before the \textit{Candidate Frequency Search Report Message} is sent, where \(\text{freshness\_interval}\) is determined as follows:
– If the value of the TOTAL_OFF_TIME_FWD field or of the TOTAL_OFF_TIME_REV field of the last Candidate Frequency Search Response Message sent by the mobile station to the base station is greater than or equal to \( (T_{70m} - T_{71m}) / \text{SEARCH_TIME_RESOLUTIONs} \), then

\[
freshness\_interval = \text{max} (\text{fwd\_time, rev\_time}) + T_{71m} \text{ seconds},
\]

where

\[
fwd\_time = \text{SEARCH\_TIME\_RESOLUTIONs} \times (\text{value of the TOTAL\_OFF\_TIME\_FWD field of the last Candidate Frequency Search Response Message sent by the mobile station}),
\]

and

\[
rev\_time = \text{SEARCH\_TIME\_RESOLUTIONs} \times (\text{value of the TOTAL\_OFF\_TIME\_REV field of the last Candidate Frequency Search Response Message sent by the mobile station}).
\]

– Otherwise,

\[
freshness\_interval = T_{70m} \text{ seconds}.
\]

2.6.6.2.10.3 Analog Frequency Measurements

The mobile station measures the strength of all analog frequencies in the Candidate Frequency Analog Search Set in one or more visits away from the Serving Frequency. The mobile station shall perform the following actions during each visit away from the Serving Frequency to measure analog frequency signal strengths:

- If the mobile station is processing the Forward Fundamental Channel, the mobile station shall stop processing the Forward Fundamental Channel. If the mobile station is transmitting on the Reverse Fundamental Channel, the mobile station shall stop transmitting on Reverse Fundamental Channel.
- If the mobile station is processing the Forward Dedicated Control Channel, the mobile station shall stop processing Forward Dedicated Control Channel. If the mobile station is transmitting on the Reverse Dedicated Control Channel, the mobile station shall stop transmitting on Reverse Dedicated Control Channel.
- The mobile station shall stop processing the Forward Supplemental Code Channels and Forward Supplemental Channels (if any). The mobile station shall stop transmitting on the Reverse Supplemental Code Channels and Reverse Supplemental Channels (if any).
- The mobile station shall disable the fade timer (see 2.6.4.1.8) and the handoff drop timers corresponding to its current Active Set and Candidate Set (see 2.6.6.2.3), and shall suspend incrementing TOT_FRAMESs, BAD_FRAMESs, DCCH_TOT_FRAMESs, DCCH_BAD_FRAMESs, SCH_TOT_FRAMESs, SCH_BAD_FRAMESs if applicable (see 2.6.4.1.1).
• The mobile station shall lock the accumulation of valid level changes in the closed loop mean output power and shall ignore received power control bits related to the period that the transmitter is disabled (see [2]).

• The mobile station shall tune to one of the analog frequencies in the Candidate Frequency Analog Search Set, and shall measure the mean input power on the analog frequency.

• The mobile station may tune to other frequencies in the Candidate Frequency Analog Search Set and make power measurements during this visit away from the Serving Frequency.

• The mobile station shall not change its time reference (see [2]) until it resumes using the Serving Frequency Active Set, as described below.

• The mobile station shall tune to the Serving Frequency and resume using the Serving Frequency Active Set as follows:
  – If the mobile station was processing the Forward Fundamental Channel prior to tuning to the Candidate Frequency, the mobile station shall resume processing the Forward Fundamental Channel. If the mobile station was transmitting on the Reverse Fundamental Channel prior to tuning to the Candidate Frequency, the mobile station shall resume transmitting on the Reverse Fundamental Channel.
  – If the mobile station was processing the Forward Dedicated Control Channel prior to tuning to the Candidate Frequency, the mobile station shall resume processing the Forward Dedicated Control Channel. If the mobile station was transmitting on the Reverse Dedicated Control Channel prior to tuning to the Candidate Frequency, the mobile station shall resume transmitting on the Reverse Dedicated Control Channel.
  – If the Forward Supplemental Code Channels or Forward Supplemental Channels assignment has not expired, the mobile station shall resume processing the Forward Supplemental Code Channels or Forward Supplemental Channels respectively (if any).
  – If the Reverse Supplemental Code Channel or Reverse Supplemental Channels assignment has not expired, the mobile station may resume transmitting on the Reverse Supplemental Code Channels or Reverse Supplemental Channels respectively (if any).
  – When the mobile station resumes transmission on the Reverse Traffic Channel, it shall use the following rules to re-enable its transmitter:
    + If the interval between the time that the mobile station disables its transmitter and the time that it resumes using the Serving Frequency Active Set is equal to or greater than \((N_2m \times 20)\) ms, then the mobile station shall wait to receive a period of \((N_3m \times 20)\) ms with sufficient signal quality (e.g. good frames) on the physical channel corresponding to FPC_PRI_CHAN before it re-enables its transmitter.
+ Otherwise, the mobile station shall re-enable its transmitter no later than
N_{3m} \times 20 \text{ ms} after the mobile station tunes to the Serving Frequency. The
mobile station should re-enable its transmitter earlier. After the mobile
station re-enables its transmitter, the mean output power shall be as
specified in [2] for a step change in input power. If the mobile station re-
enables its transmitter earlier than N_{3m} \times 20 \text{ ms} after it tunes to the Serving
Frequency, the initial mean output power shall be as specified in [2], where
the initial mean input power estimate is either:

- within 6 dB of the actual mean input power, or
- equal to the mean input power before the mobile station tuned to the
  Target Frequency.

- The mobile station shall enable the fade timer and the handoff drop timers
corresponding to the pilots in its Active Set and Candidate Set. The mobile station
shall resume incrementing TOT_FRAMES_{s}, BAD_FRAMES_{s}, DCCH_TOT_FRAMES_{s},
DCCH_BAD_FRAMES_{s}, SCH_TOT_FRAMES_{s}, and SCH_BAD_FRAMES_{s} if applicable
as specified in 2.6.4.1.1.

2.6.6.2.10.4 Aborting Analog Frequencies Periodic Search

When the mobile station aborts a periodic search, it shall do the following:

- The mobile station shall cancel any remaining visits away from the Serving
  Frequency in the current search period and shall not send a Candidate Frequency
  Search Report Message for the current search period.

- The mobile station shall disable the periodic search timer.

2.6.6.2.11 Processing of Reverse Supplemental Code Channels and Reverse Supplemental
Channels

If USE_T_ADD_ABORT_{s} is set to ‘1’, and the strength of a Neighbor Set or Remaining Set
pilot is found to be above T_ADD_{s}, then the mobile station shall terminate any active
transmission on Reverse Supplemental Code Channels or Reverse Supplemental Channels
at the end of the current 20 ms frame. The mobile station shall do the following:

- Any previously active Reverse Supplemental Code Channel or Reverse Supplemental
  Channel assignment shall be considered implicitly terminated.

- If active transmission on Reverse Supplemental Code Channels is terminated, the
  mobile station shall set NUM_REV_CODES_{s} to ‘000’ and shall set IGNORE_SCA_{s}
to ‘1’.

- If active transmission on Reverse Supplemental Channels is terminated, the mobile
  station shall set IGNORE_ESC_{s} to ‘1’.

- The mobile station shall set SCRM_SEQ_NUM_{s} to (SCRM_SEQ_NUM_{s} + 1) mod 16.

- The mobile station shall transmit a Supplemental Channel Request Message with
  USE_SCRM_SEQ_NUM set to ‘1’, SCRM_SEQ_NUM set to SCRM_SEQ_NUM_{s}, and
  SIZE_OF_REQ_BLOB set to ‘0000’.
2.6.6.2.12 Periodic Serving Frequency Pilot Report Procedure

While the mobile station is tuned to the Serving Frequency (specified by CDMACHs and CDMABANDs), the mobile station shall measure the total received power spectral density, in mW/1.23 MHz, on the Serving Frequency at least once every 20 ms frame. The mobile station shall maintain the average value of the total received power spectral density, $spec\_density$, over the last $N_{12m}$ frames. The mobile station shall maintain the PPSMM timer as follows:

- When the mobile station starts a Periodic Serving Frequency Pilot Report Procedure, it shall set the PPSMM timer to $PPSMM\_PERIODs \times 0.08$ seconds and shall enable the timer.
- When the PPSMM timer expires, the mobile station shall send a Periodic Pilot Strength Measurement Message (2.6.6.2.5.2) to the base station, reset the PPSMM timer to $PPSMM\_PERIODs \times 0.08$ seconds and shall re-enable the timer.
- When the mobile station receives an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message directing the mobile station to perform a hard handoff (see 2.6.6.2.5.1), it shall abort the Periodic Serving Frequency Pilot Report Procedure and disable the PPSMM timer if it is enabled.
- If $MIN\_PILOT\_PWR\_THRESHs$ is not equal to ‘11111’ and $MIN\_PILOT\_EC\_IO\_THRESHs$ is equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the PPSMM timer if the received total energy per PN chip, $E_c$, of the pilots in the Active Set is not less than $(-120 + 2 \times MIN\_PILOT\_PWR\_THRESHs)$, where the value of $E_c$ is computed as $10 \times \log_{10} \left( PS \times spec\_density \right)$ and $PS$ is the total $E_c/I_o$ of the pilots in the Active Set measured as specified in 2.6.6.2.2.
  - Reset the expiration time of the PPSMM timer to $PPSMM\_PERIODs \times 0.08$ seconds and re-enable the timer if the following conditions are true:
    - the PPSMM timer is disabled, and
    - the received total energy per PN chip, $E_c$, of the pilots in the Active Set is less than $(-120 + 2 \times MIN\_PILOT\_PWR\_THRESHs)$.
- If $MIN\_PILOT\_PWR\_THRESHs$ is equal to ‘11111’ and $MIN\_PILOT\_EC\_IO\_THRESHs$ is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the PPSMM timer if the total pilot strength of the pilots in the Active Set, $PS$, satisfies the condition that $(-20 \times \log_{10}(PS))$ is not greater than $MIN\_PILOT\_EC\_IO\_THRESHs$.
  - Reset the expiration time of the PPSMM timer to $PPSMM\_PERIODs \times 0.08$ seconds and re-enable the timer if the following conditions are true:
    - the PPSMM timer is disabled, and
the total pilot strength of the pilots in the Active Set, PS, satisfies the condition that \((-20 \times \log_{10}(PS))\) is greater than \(\text{MIN\_PILOT\_EC\_IO\_THRESH}_s\).

- If \(\text{MIN\_PILOT\_PWR\_THRESH}_s\) is not equal to ‘11111’ and \(\text{MIN\_PILOT\_EC\_IO\_THRESH}_s\) is not equal to ‘11111’, the mobile station shall perform the following actions once per frame:
  - Disable the PPSMM timer if the following conditions are true:
    - the received total energy per PN chip, \(E_c\), of the pilots in the Active Set is not less than \((-120 + 2 \times \text{MIN\_PILOT\_PWR\_THRESH}_s)\), and
    - the total pilot strength of the pilots in the Active Set, \(PS\), satisfies the condition that \((-20 \times \log_{10}(PS))\) is not greater than \(\text{MIN\_PILOT\_EC\_IO\_THRESH}_s\).
  - Reset the expiration time of the PPSMM timer to \(\text{PPSMM\_PERIOD}_s \times 0.08\) seconds and re-enable the timer if the following conditions are true:
    - the PPSMM timer is disabled, and
    - the received total energy per PN chip, \(E_c\), of the pilots in the Active Set is less than \((-120 + 2 \times \text{MIN\_PILOT\_PWR\_THRESH}_s)\), or the total pilot strength of the pilots in the Active Set, \(PS\), satisfies the condition that \((-20 \times \log_{10}(PS))\) is greater than \(\text{MIN\_PILOT\_EC\_IO\_THRESH}_s\).

- If \(\text{MIN\_PILOT\_PWR\_THRESH}_s\) is equal to ‘11111’ and \(\text{MIN\_PILOT\_EC\_IO\_THRESH}_s\) is equal to ‘11111’, the mobile station shall maintain the PPSMM timer independent of the received power and the total \(E_c/I_o\) of the pilots.

2.6.6.3 Examples

The following examples illustrate typical message exchanges between the mobile station and the base station during handoff. Refer to Annex B for examples of call processing during handoff.

Figure 2.6.6.3-1 shows an example of the messages exchanged between the mobile station and the base station during a typical handoff process if \(\text{P\_REV\_IN\_USE}_s\) is less than or equal to three or \(\text{SOFT\_SLOPE}_s\) is equal to ‘000000’.

Figure 2.6.6.3-2 shows an example of the messages exchanged between the mobile station and the base station during a typical handoff process if \(\text{P\_REV\_IN\_USE}_s\) is greater than three and \(\text{SOFT\_SLOPE}_s\) is not equal to ‘000000’.

Figure 2.6.6.3-3 illustrates the messaging triggered by a pilot of the Candidate Set as its strength gradually rises above the strength of each pilot of the Active Set if \(\text{P\_REV\_IN\_USE}_s\) is less than or equal to three, or \(\text{SOFT\_SLOPE}_s\) is equal to ‘000000’. Note that the mobile station reports that a Candidate Set pilot is stronger than an Active Set pilot only if the difference between their respective strengths is at least \(T\_COMP \times 0.5\) dB.

Figure 2.6.6.3-4 illustrates the messaging triggered by a pilot of the Candidate Set as its strength gradually rises above the strength of each pilot of the Active Set if \(\text{P\_REV\_IN\_USE}_s\) is greater than three and \(\text{SOFT\_SLOPE}_s\) is not equal to ‘000000’. Note that the mobile station reports that a Candidate Set pilot is stronger than an Active Set pilot only if the
difference between their respective strengths is at least $T_{COMP} \times 0.5$ dB and Pilot $P_0$
strength exceeds $[(SOFT_{SLOPE}/8) \times 10 \times \log_{10}(PS_1 + PS_2) + ADD_{INTERCEPT}/2]$. 
(1) Pilot strength exceeds $T_{ADD}$. Mobile station sends a *Pilot Strength Measurement Message* and transfers pilot to the Candidate Set.

(2) Base station sends an *Extended Handoff Direction Message*, a *General Handoff Direction Message* or a *Universal Handoff Direction Message*.

(3) Mobile station transfers pilot to the Active Set and sends a *Handoff Completion Message*.

(4) Pilot strength drops below $T_{DROP}$. Mobile station starts the handoff drop timer.

(5) Handoff drop timer expires. Mobile station sends a *Pilot Strength Measurement Message*.

(6) Base station sends an *Extended Handoff Direction Message*, a *General Handoff Direction Message* or a *Universal Handoff Direction Message*.

(7) Mobile station moves pilot from the Active Set to the Neighbor Set and sends a *Handoff Completion Message*.

**Figure 2.6.6.3-1.** Handoff Threshold Example if $P_{REV\_IN\_USE}\_s$ is Less Than or Equal to Three, or $SOFT\_SLOPE\_s$ is Equal to ‘000000’
(1) Pilot P₂ strength exceeds T_ADD. Mobile station transfers the pilot to the Candidate Set.

(2) Pilot P₂ strength exceeds [(SOFT_SLOPE/8) × 10 × log₁₀(PS₁) + ADD_INTERCEPT/2].
Mobile station sends a Pilot Strength Measurement Message.

(3) Mobile station receives an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message, transfers the pilot P₂ to the Active Set, and sends a Handoff Completion Message.

(4) Pilot P₁ strength drops below [(SOFT_SLOPE/8) × 10 × log₁₀(PS₂) + DROP_INTERCEPT/2]. Mobile station starts the handoff drop timer.

(5) Handoff drop timer expires. Mobile station sends a Pilot Strength Measurement Message.

(6) Mobile station receives an Extended Handoff Direction Message, a General Handoff Direction Message or a Universal Handoff Direction Message, transfers the pilot P₁ to the Candidate Set and sends a Handoff Completion Message.

(7) Pilot P₁ strength drops below T_DROP. Mobile station starts the handoff drop timer.

(8) Handoff drop timer expires. Mobile station moves the pilot P₁ from the Candidate Set to the Neighbor Set.

Figure 2.6.6.3-2. Handoff Threshold Example if P_REV_IN_USEs is Greater Than Three, and SOFT_SLOPEs is Not Equal to ’000000’
Candidate Set: Pilot P0
Active Set: Pilots P1, P2

t₀ – Pilot Strength Measurement Message sent, P₀ > T_ADD

t₁ – Pilot Strength Measurement Message sent, P₀ > P₁ + T_COMP × 0.5 dB

t₂ – Pilot Strength Measurement Message sent, P₀ > P₂ + T_COMP × 0.5 dB

Figure 2.6.6.3-3. Pilot Strength Measurements Triggered by a Candidate Pilot if P_REV_IN_USEₜ = 3 or SOFT_SLOPEₜ = ‘000000’
Candidate Set: Pilot P0
Active Set: Pilots P1, P2

$t_0$ – *Pilot Strength Measurement Message* not sent because

$[10 \times \log_{10}(PS_0)] < [(SOFT_SLOPE/8) \times 10 \times \log_{10}(PS_1 + PS_2) + ADD_INTERCEPT/2]$

$t_1$ – *Pilot Strength Measurement Message* not sent because

$P_0 > [P_1 + T_COMP \times 0.5 \text{ dB}]$ but

$[10 \times \log_{10}(PS_0)] < [(SOFT_SLOPE/8) \times 10 \times \log_{10}(PS_1 + PS_2) + ADD_INTERCEPT/2]$

$t_1'$ – *Pilot Strength Measurement Message* sent because

$[10 \times \log_{10}(PS_0)] > [(SOFT_SLOPE/8) \times 10 \times \log_{10}(PS_1 + PS_2) + ADD_INTERCEPT/2]$

$t_2$ – *Pilot Strength Measurement Message* sent because

$P_0 > [P_2 + T_COMP \times 0.5 \text{ dB}]$ and

$[10 \times \log_{10}(PS_0)] > [(SOFT_SLOPE/8) \times 10 \times \log_{10}(PS_1 + PS_2) + ADD_INTERCEPT/2]$

**Figure 2.6.6.3-4. Pilot Strength Measurements Triggered by a Candidate Pilot if**

$P_{REV\_IN\_USE} > 3$ and $SOFT\_SLOPE$ is Not Equal to '000000'
2.6.7 Hash Functions and Randomization

2.6.7.1 Hash Function

Certain procedures require a uniform distribution of mobile stations among N resources. The following function returns an integer, using as arguments the mobile station’s IMSI, the number of resources N, and a modifier DECORR. The modifier serves to decorrelate the values obtained for the various applications from the same mobile station.

HASH_KEY shall be equal to the 32 least significant bits of IMSI_O_S1 + 224 × IMSI_O_S2).

Define:

- Word L to be bits 0-15 of HASH_KEY
- Word H to be bits 16-31 of HASH_KEY

where bit 0 is the least significant bit of HASH_KEY.

For determining CDMA Channel Number, Paging Channel Number, Quick Paging Channel Number, and Paging Slot Number, the hash value is computed as follows:

\[ R = \left\lfloor N \times ((40503 \times (L \oplus H \oplus DECORR)) \mod 2^{16}) / 2^{16} \right\rfloor. \]

For determining a mobile station’s assigned paging indicator bit positions, the hash value is computed as follows:

\[ R_1 = \left\lfloor N \times ((40503 \times (L \oplus H \oplus DECORR_1)) \mod 2^{16})/2^{16} \right\rfloor. \]

and

\[ R_2 = \left\lfloor (1 - \left\lfloor (2 \times R_1)/(N+8) \right\rfloor) \times (N+8)/2 + \left\lfloor (2 \times R_1)/(N+8) \right\rfloor \times ((N+8)/2 - 8) \right\rfloor \times ((40503 \times (L \oplus H \oplus DECORR_2)) \mod 2^{16})/2^{16} + N + 8 + \left\lfloor (2 \times R_1)/(N+8) \right\rfloor \times ((N+8)/2) \] for Quick Paging Channel indicator rate of 9600 bps.

The mobile station shall choose the range N and the modifiers DECORR, DECORR_1, and DECORR_2 according to the application as shown in Table 2.6.7.1-1. In the table, HASH_KEY [0...11] denotes the 12 least significant bits of HASH_KEY.

17 This formula is adapted from Knuth, Donald N., *The Art of Computer Programming*, 2 volumes. (Reading, MA, Addison-Wesley, 1998).
### Table 2.6.7.1-1. Hash Function Modifier

<table>
<thead>
<tr>
<th>Application</th>
<th>N</th>
<th>DECORR</th>
<th>Return Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA Channel Number</td>
<td>Number of channels in last CDMA Channel List Message or the number of qualified channels in last Extended CDMA Channel List Message</td>
<td>0</td>
<td>R + 1</td>
</tr>
<tr>
<td>Paging Channel Number</td>
<td>PAGE_CHANs from System Parameters Message (up to 7)</td>
<td>2 × HASH_KEY [0…11]</td>
<td>R + 1</td>
</tr>
<tr>
<td>Quick Paging Channel Number</td>
<td>NUM_QPCHs from Extended System Parameters Message (up to 3)</td>
<td>2 × HASH_KEY [0…11]</td>
<td>R + 1</td>
</tr>
<tr>
<td>Paging Slot Number</td>
<td>2048</td>
<td>6 × HASH_KEY[0...11]</td>
<td>R</td>
</tr>
<tr>
<td>Paging Indicator Positions</td>
<td>376 (for 9600 bps), 188 (for 4800 bps)</td>
<td>DECORR&lt;sub&gt;1&lt;/sub&gt; = ⌊t/64⌋ mod 2&lt;sup&gt;16&lt;/sup&gt;&lt;br&gt;DECORR&lt;sub&gt;2&lt;/sub&gt; = ⌊t/64 + 1⌋ mod 2&lt;sup&gt;16&lt;/sup&gt;,&lt;br&gt;where t is the System Time in frames, relative to the beginning of the assigned Quick Paging Channel slot.</td>
<td>R&lt;sub&gt;1&lt;/sub&gt; and R&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

### 2.6.7.2 Pseudorandom Number Generator

Where pseudorandom numbers are needed, a linear congruential generator shall be used. The mobile station shall implement the linear congruential generator defined by:

\[ z_n = a \times z_{n-1} \mod m \]

where \( a = 7^5 = 16807 \) and \( m = 2^{31} - 1 = 2147483647 \). \( z_n \) is the output of the generator.\(^{18}\)

---

\(^{18}\) This generator has full period, ranging over all integers from 1 to \( m-1 \); the values 0 and \( m \) are never produced. Several suitable implementations can be found in Park, Stephen K. and Miller, Keith W., “Random Number Generators: Good Ones are Hard to Find,” *Communications of the ACM*, vol. 31, no. 10, October 1988, pp. 1192-1201.
During the *Mobile Station Initialization State*, the mobile station shall seed its generator with
\[ z_0 = (\text{ESN} \oplus \text{RANDOM\_TIME}) \mod m \]

where RANDOM\_TIME shall be the least-significant 32-bits of SYS\_TIMEs stored from the
*Sync Channel Message*. If the initial value so produced is found to be zero, it shall be
replaced with one. The mobile station shall compute a new \( z_n \) for each subsequent use.

The mobile station shall use the value \( u_n = \frac{z_n}{m} \) for those applications that require a
binary fraction \( u_n, 0 < u_n < 1 \).

The mobile station shall use the value \( k_n = \lfloor N \times \frac{z_n}{m} \rfloor \) for those applications that require
a small integer \( k_n, 0 \leq k_n \leq N - 1 \).

2.6.8 CODE\_CHAN\_LISTs Maintenance

The CODE\_CHAN\_LISTs is a descriptive structure used to manage the Forward
Fundamental Code Channel and Forward Supplemental Code Channels, if any, associated
with the mobile station’s Active Set. Associated with each member of the mobile station’s
Active Set, there is an ordered array of code channels. The first entry of the ordered array
specifies the Forward Fundamental Code Channel associated with the pilot and the
subsequent entries, if any, specify the Forward Supplemental Code Channels associated
with the pilot. The CODE\_CHAN\_LISTs is the collection of ordered arrays of code channels
for each member of the mobile station’s Active Set. The \( i^{\text{th}} \) entry in every array (of code
channels associated with a member of the Active Set) corresponds to the \( i^{\text{th}} \) code channel.

The mobile station shall maintain the CODE\_CHAN\_LISTs as follows:

- When the mobile station is first assigned a Forward Fundamental Code Channel, it
  shall initialize the CODE\_CHAN\_LISTs to contain the Forward Fundamental Code
  Channel for each member of the Active Set.

- When the mobile station processes the *Extended Handoff Direction Message*, the
  mobile station shall update the CODE\_CHAN\_LISTs as follows:
  - For each pilot listed in the *Extended Handoff Direction Message* which does not
    have a corresponding code channel in the CODE\_CHAN\_LISTs, the mobile
    station shall add the code channel, CODE\_CHAN, of that pilot to the
    CODE\_CHAN\_LISTs, as the Forward Fundamental Code Channel for the pilot,
  - The mobile station shall delete all information in the CODE\_CHAN\_LISTs
    associated with a pilot that is not included in the *Extended Handoff Direction
    Message*.

- When the mobile station processes the *General Handoff Direction Message*, the
  mobile station shall update the CODE\_CHAN\_LISTs to contain the Forward
  Fundamental Code Channel associated with each pilot included in the *General
  Handoff Direction Message*. The first code channel occurrence associated with each
  pilot included in the *General Handoff Direction Message* corresponds to the Forward
  Fundamental Code Channel. The mobile station shall do the following:
  - If FOR\_SUP\_CONFIGr is included and FOR\_SUP\_CONFIGr is equal to ‘10’ or ‘11’,
    the mobile station shall perform the following actions:
+ For each pilot listed in the General Handoff Direction Message, the mobile station shall set the Forward Supplemental Code Channels (associated with the pilot) in the CODE_CHAN_LISTs to the Forward Supplemental Code Channels specified in the General Handoff Direction Message.

+ The mobile station shall delete all information in the CODE_CHAN_LISTs associated with a pilot that is not included in the General Handoff Direction Message.

− If FOR_SUP_CONFIGr is equal to ‘00’ or ‘01’ or if FOR_SUP_CONFIGr is not included in the General Handoff Direction Message, the mobile station shall not update Supplemental Code Channels associated with the pilots included in the General Handoff Direction Message. The mobile station shall perform the following actions:

  + For each pilot listed in the General Handoff Direction Message which does not have a corresponding code channel in the CODE_CHAN_LISTs, the mobile station shall add the code channel, CODE_CHAN, of that pilot to the CODE_CHAN_LISTs, as the Forward Fundamental Code Channel for the pilot.

  + The mobile station shall delete all information in the CODE_CHAN_LISTs associated with a pilot that is not included in the General Handoff Direction Message.

− When the mobile station processes the Supplemental Channel Assignment Message it shall follow the following rules:

  − If FOR_SUP_CONFIGr is equal to ‘10’ or ‘11’, the mobile station shall update the Forward Supplemental Code Channels for each pilot in the Active Set.

  − If the pilot is not listed in the Supplemental Channel Assignment Message, the mobile station shall delete all occurrences of Forward Supplemental Code Channels associated with the pilot from the Code Channel List.

  − If a pilot is listed in the Supplemental Channel Assignment Message, then the mobile station shall set the Forward Supplemental Code Channels (associated with the pilot) in the CODE_CHAN_LISTs to the Forward Supplemental Code Channels specified in the Supplemental Channel Assignment Message.

  − If FOR_SUP_CONFIGr is equal to ‘00’ or ‘01’, the mobile station shall not update Supplemental Code Channels associated with the pilots included in the Supplemental Channel Assignment Message.

2.6.9 CDMA Tiered Services

This section presents an overview and mobile station requirements for the support of CDMA Tiered services while the mobile station is in the Mobile Station Idle State and in the Mobile Station Control on the Traffic Channel State.
2.6.9.1 Overview

2.6.9.1.1 Definition

The mobile station may support Tiered Services based upon User Zones. Tiered Services provide the user custom services and special features based upon the mobile station location. Tiered Services also provides private network support. Important to the operation of CDMA Tiered Services is the concept of User Zones. It is via User Zones by which the base station offers custom services based upon the mobile station location.

User Zones are associated with a set of features and services, plus a geographic area in which the User Zone features/services are made available to the customers that have subscribed to that User Zone. The boundary of the User Zone Geographic area may be established based on the coverage area of a public or private base station or it may be established independent of RF topology.

User Zones may be supported by the public system on the same frequency as the serving base station, or they may be supported on a private system operating on a different frequency.

2.6.9.1.2 Types of User Zones

User Zones may be of two basic types:

- **Broadcast User Zones**: Broadcast User Zones are identified to the mobile station using the Paging Channel. In this case, the base station broadcasts on the Paging Channel messages identifying the User Zones that fall within the coverage area of the particular cell/sector. Mobile stations, as part of their monitoring of the Paging Channel, will identify the presence of a particular User Zone.

- **Mobile Specific User Zones**: Mobile Specific User Zones are not broadcast by the base station. The mobile station may use other overhead message parameters and compare them with internally stored User Zone parameters to identify the presence of a particular User Zone. These parameters may include: SID, NID, BASE_ID, BASE_LAT, and BASE_LONG.

  Broadcast User Zones allow for permanent as well as temporary subscription. Temporary subscription provides User Zone features and capabilities to users who are not subscribed to the User Zone. In this case, a mobile station, upon entering a new coverage area, may detect the presence of a User Zone that it presently does not subscribe to, but one that supports temporary subscription. The mobile station then queries the network to obtain the User Zone parameters. Once these parameters are received, the mobile station offers to the user via the mobile station user interface, the option of subscribing to the particular User Zone.

  Some User Zones may require active registration (Active User Zones) upon the mobile station's entry to immediately trigger a change in a feature(s). For others, the implicit registration at call setup is sufficient (Passive User Zones). Active User Zones are used where inbound features change as a result of being in the User Zone. During the Mobile Station Idle State, a mobile station needs to register to update the User Zone ID whenever the User Zone that the mobile station is entering and/or leaving is of the Active type.
A mobile station that supports User Zone services may store a list of User Zones, where each User Zone is identified by a User Zone ID (UZID). Associated with each stored User Zone, the mobile station may also store a number of determinant parameters used for identifying User Zones.

2.6.9.2 Requirements
If the mobile station supports User Zone services, it shall maintain and update UZID\textsubscript{s} according the following rule:
If the mobile station selects a User Zone supported by the base station, the mobile station shall set UZID\textsubscript{s} to the User Zone Identifier associated with the User Zone; otherwise, the mobile station shall set UZID\textsubscript{s} to ‘0000000000000000’. The precise process for determining how to select a User Zone that is supported by the base station is left to the mobile station manufacturer.
If the mobile station does not support User Zone services, the mobile station shall set UZID\textsubscript{s} to ‘0000000000000000’.
The mobile station may search pilots of private neighbor base stations on other frequencies and band classes as identified in the Private Neighbor List Message. Search performance criteria are defined in[14].

2.6.9.2.1 User Zone Operation in the Mobile Station Idle State:
When a mobile station performs an idle handoff, it selects User Zones based on internally stored parameters and information broadcast on the Paging Channel as described in 2.6.9.1.
After the mobile station performs idle handoff, if the mobile station determines that a change from one Broadcast User Zone to another Broadcast User Zone is required, the mobile station shall not update UZID\textsubscript{s}, UZ\_EXIT\_IN\_USE\textsubscript{s} and shall not perform User Zone registration until the pilot strength of the currently serving base station exceeds that of the base station corresponding to the old User Zone by the value of UZ\_EXIT\_IN\_USE\textsubscript{s}.
If the mobile station determines that it needs to change User Zone, and if the difference between the pilot strengths exceeds UZ\_EXIT\_IN\_USE\textsubscript{s}, then the mobile station shall do the following:
- Perform User Zone registration.
- Update UZID\textsubscript{s}.
- Set UZ\_EXIT\_IN\_USE\textsubscript{s} to UZ\_EXIT\_RCVD\textsubscript{s}.
The mobile station may also implement other means to avoid the premature exiting of a User Zone due to rapid changes in signal strength. The exact implementation of such techniques is left to mobile station implementation.
If the mobile station is in the Mobile Station Idle State and it receives a User Zone Reject Message the mobile station shall perform the following:
- Set REJECT\_ACTION\_INDI\textsubscript{s} to REJECT\_ACTION\_INDI\textsubscript{r}.
If UZID_ASSIGN_INCL = '0', the mobile station shall set UZIDₜ to '0000000000000000', otherwise; the mobile station shall set UZIDₜ to ASSIGN_UZIDₜ.

If the mobile station is in the Mobile Station Idle State and it selects an active User Zone, then the mobile station shall perform User Zone registration (see 2.6.5.1.10) by entering the System Access State with a registration indication.

The mobile station should provide the user with a User Zone indication corresponding to the User Zone in service each time UZIDₜ is updated.

2.6.9.2.2 User Zone Operation in the Mobile Station Control on the Traffic Channel State

If the mobile station is in the Conversation Substate of the Mobile Station Control on the Traffic Channel State and if it determines that the User Zone has changed, it shall update UZIDₜ and send a User Zone Update Request Message to the base station.

If the mobile station is in the Waiting for Order Substate, Waiting for Mobile Station Answer Substate, Conversation Substate, or Release Substate of the Mobile Station Control on the Traffic Channel State and it receives a User Zone Update Message, then the mobile station shall update UZIDₜ and set it equal to UZIDₜ.

If the mobile station is in the Waiting for Order Substate, Waiting for Mobile Station Answer Substate, Conversation Substate, or Release Substate of the Mobile Station Control on the Traffic Channel State and it receives a User Zone Reject Message, then the mobile station shall do the following:

- Set REJECT_ACTION_INDIₜ to REJECT_ACTION_INDIₜ.
- If UZID_ASSIGN_INCLₜ = 0, the mobile station shall set UZIDₜ to '0', otherwise; the mobile station shall set UZIDₜ to ASSIGN_UZIDₜ.

The mobile station should provide the user with a User Zone indication corresponding to the User Zone in service each time UZIDₜ is updated.
No text.
2.7 PDU Formats for Mobile Stations

This section describes the formats of the PDUs corresponding to the messages sent by the mobile station.

Some bits in the PDUs are marked as RESERVED. These bits allow extension of the PDUs for future features and capabilities. The mobile station sets all reserved bits to '0'.

2.7.1 r-csch

This section describes the messages and their PDU formats sent by the mobile station on the r-csch.

2.7.1.1 Reserved

2.7.1.2 Reserved

2.7.1.3 PDU Formats on r-csch

The messages sent on the r-csch are summarized in Table 2.7.1.3-1.

<table>
<thead>
<tr>
<th>Table 2.7.1.3-1. Messages on r-csch</th>
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<tbody>
<tr>
<td><strong>Message Name</strong></td>
</tr>
<tr>
<td>Registration Message</td>
</tr>
<tr>
<td>Order Message</td>
</tr>
<tr>
<td>Data Burst Message</td>
</tr>
<tr>
<td>Origination Message</td>
</tr>
<tr>
<td>Page Response Message</td>
</tr>
<tr>
<td>Authentication Challenge Response Message</td>
</tr>
<tr>
<td>Status Response Message</td>
</tr>
<tr>
<td>TMSI Assignment Completion Message</td>
</tr>
<tr>
<td>PACA Cancel Message</td>
</tr>
<tr>
<td>Extended Status Response Message</td>
</tr>
</tbody>
</table>

2.7.1.3.1 Reserved

2.7.1.3.2 PDU Contents

The following sections specify the contents of the PDU for each message that may be sent on the r-csch.
2.7.1.3.2.1 Registration Message

MSG_TAG: RGM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
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<tbody>
<tr>
<td>REG_TYPE</td>
<td>4</td>
</tr>
<tr>
<td>SLOT_CYCLE_INDEX</td>
<td>3</td>
</tr>
<tr>
<td>MOB_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SCM</td>
<td>8</td>
</tr>
<tr>
<td>MOB_TERM</td>
<td>1</td>
</tr>
<tr>
<td>RETURN_CAUSE</td>
<td>4</td>
</tr>
<tr>
<td>QPCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ENHANCED_RC</td>
<td>0 or 1</td>
</tr>
<tr>
<td>UZID_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>UZID</td>
<td>0 or 16</td>
</tr>
</tbody>
</table>

**REG_TYPE** - Registration type.

This field indicates which type of event generated the registration attempt.

The mobile station shall set this field to the REG_TYPE value shown in Table 2.7.1.3.2.1-1 corresponding to the event that caused this registration to occur (see 2.6.5.1).

**Table 2.7.1.3.2.1-1. Registration Type (REG_TYPE) Codes**

<table>
<thead>
<tr>
<th>REG_TYPE (binary)</th>
<th>Type of Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Timer-based (see 2.6.5.1.3)</td>
</tr>
<tr>
<td>0001</td>
<td>Power-up (see 2.6.5.1.1)</td>
</tr>
<tr>
<td>0010</td>
<td>Zone-based (see 2.6.5.1.5)</td>
</tr>
<tr>
<td>0011</td>
<td>Power-down (see 2.6.5.1.2)</td>
</tr>
<tr>
<td>0100</td>
<td>Parameter-change (see 2.6.5.1.6)</td>
</tr>
<tr>
<td>0101</td>
<td>Ordered (see 2.6.5.1.7)</td>
</tr>
<tr>
<td>0110</td>
<td>Distance-based (see 2.6.5.1.4)</td>
</tr>
<tr>
<td>0111</td>
<td>User Zone-based (see 2.6.5.1.10)</td>
</tr>
</tbody>
</table>

All other REG_TYPE values are reserved.
If the mobile station is configured for slotted mode operation, the mobile station shall set this field to the preferred slot cycle index, SLOT_CYCLE_INDEXp (see 2.6.2.1.1). Otherwise, the mobile station shall set this field to ‘000’.

If the mobile station is configured to accept mobile terminated calls while operating with the current roaming status (see 2.6.5.3), the mobile station shall set this bit to ‘1’. Otherwise, the mobile station shall set this bit to ‘0’.

The mobile station shall set this field to the RETURN_CAUSE value shown in Table 2.7.1.3.2.1-2 corresponding to the service redirection failure condition (see 2.6.1.1).

Table 2.7.1.3.2.1-2. RETURN_CAUSE Codes

<table>
<thead>
<tr>
<th>RETURN_CAUSE (binary)</th>
<th>Redirect Failure Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Normal access.</td>
</tr>
<tr>
<td>0001</td>
<td>Service redirection failed as a result of system not found.</td>
</tr>
<tr>
<td>0010</td>
<td>Service redirection failed as a result of protocol mismatch.</td>
</tr>
<tr>
<td>0011</td>
<td>Service redirection failed as a result of registration rejection.</td>
</tr>
<tr>
<td>0100</td>
<td>Service redirection failed as a result of wrong SID.</td>
</tr>
<tr>
<td>0101</td>
<td>Service redirection failed as a result of wrong NID.</td>
</tr>
<tr>
<td></td>
<td>All other RETURN_CAUSE values are reserved.</td>
</tr>
</tbody>
</table>

If P_REV_IN_USEs is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.
If the mobile station supports the Quick Paging Channel, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

ENHANCED_RC  – Enhanced radio configuration supported indicator.

If P_REV_IN_USE_s is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports any radio configuration in the Radio Configuration Class 2 (see 1.1.1), the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

UZID_INCL  – User Zone Identifier included indicator.

If P_REV_IN_USE_s is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the message is to contain the User Zone Identifier, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

UZID  – User Zone Identifier.

If the UZID_INCL is included in the message and is set to ‘1’, the mobile station shall include this field and set it to UZID_s; otherwise, the mobile station shall omit this field.
2.7.1.3.2.2 Order Message

MSG_TAG: ORDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDER</td>
<td>6</td>
</tr>
<tr>
<td>ADD_RECORD_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Order-specific fields (if used)</td>
<td>$8 \times \text{ADD_RECORD_LEN}$</td>
</tr>
</tbody>
</table>

ORDER – Order code.

The mobile station shall set this field to the ORDER code (see 2.7.3) for this type of Order Message.

ADD_RECORD_LEN – Additional record length.

The mobile station shall set this field to the number of octets in the order-specific fields included in this message.

order-specific fields – Order-specific fields.

The mobile station shall include order-specific fields as specified in 2.7.3.
### 2.7.1.3.2.3 Data Burst Message

**MSG_TAG:** DBM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSG_NUMBER</td>
<td>8</td>
</tr>
<tr>
<td>BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>NUM_MSGS</td>
<td>8</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

**NUM_FIELDS** occurrences of the following field:

| CHARI | 8 |

**MSG_NUMBER** – Message number within the data burst stream.

The mobile station shall set this field to the number of this message within the data burst stream.

**BURST_TYPE** – Data burst type.

The mobile station shall set the value of this field for the type of this data burst as defined in [38]. If the mobile station sets this field equal to ‘111110’, it shall set the first two CHARI fields of this message equal to EXTENDED_BURST_TYPE INTERNATIONAL as described in the definition of CHARI below. If the mobile station sets this field equal to ‘111111’, it shall set the first two CHARI fields of this message equal to the EXTENDED_BURST_TYPE as described in the definition of CHARI below.

**NUM_MSGS** – Number of messages in the data burst stream.

The mobile station shall set this field to the number of messages within this data burst stream.

**NUM_FIELDS** – Number of characters in this message.

The mobile station shall set this field to the number of CHARI fields included in this message.

**CHARI** – Character.

The mobile station shall include **NUM_FIELDS** occurrences of this field. The mobile station shall set these fields to the corresponding octet of the data burst stream.
If the BURST_TYPE field of this message is equal to ‘111110’, the first two CHARi octets shall represent a 16 bit EXTENDED_BURST_TYPE_INTERNATIONAL field, which is encoded as shown below. The first ten bits of this field contain a binary mapping of the Mobile Country Code (MCC). Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the EXTENDED_BURST_TYPE_INTERNATIONAL field shall specify the COUNTRY_BURST_TYPE. The mobile station shall set the value of the COUNTRY_BURST_TYPE according to the type of this data burst as defined in standards governed by the country where this data burst type is to be used.

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Country Code</td>
<td>10</td>
</tr>
<tr>
<td>COUNTRY_BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>8 \times (NUM_FIELDS - 2)</td>
</tr>
</tbody>
</table>

If the BURST_TYPE field of this message is equal to ‘111111’, the first two CHARi octets shall represent a single, 16 bit, EXTENDED_BURST_TYPE field, as shown below. The mobile station shall set the value of the EXTENDED_BURST_TYPE according to the type of this data burst as defined in [38].

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED_BURST_TYPE</td>
<td>16</td>
</tr>
<tr>
<td>(first two CHARi fields)</td>
<td></td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>8 \times (NUM_FIELDS - 2)</td>
</tr>
</tbody>
</table>
2.7.1.3.2.4 Origination Message

**MSG_TAG**: ORM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB_TERM</td>
<td>1</td>
</tr>
<tr>
<td>SLOT_CYCLE_INDEX</td>
<td>3</td>
</tr>
<tr>
<td>MOB_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SCM</td>
<td>8</td>
</tr>
<tr>
<td>REQUEST_MODE</td>
<td>3</td>
</tr>
<tr>
<td>SPECIAL_SERVICE</td>
<td>1</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>0 or 16</td>
</tr>
<tr>
<td>PM</td>
<td>1</td>
</tr>
<tr>
<td>DIGIT_MODE</td>
<td>1</td>
</tr>
<tr>
<td>NUMBER_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>0 or 4</td>
</tr>
<tr>
<td>MORE_FIELDS</td>
<td>1</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

| CHARi                  | 4 or 8        |

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAR_AN_CAP</td>
<td>1</td>
</tr>
<tr>
<td>PACA_REORIG</td>
<td>1</td>
</tr>
<tr>
<td>RETURN_CAUSE</td>
<td>4</td>
</tr>
<tr>
<td>MORE_RECORDS</td>
<td>1</td>
</tr>
<tr>
<td>ENCRYPTION_SUPPORTED</td>
<td>0 or 4</td>
</tr>
<tr>
<td>PACA_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>NUM_ALT_SO</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_ALT_SO occurrences of the following field:

| ALT_SO                 | 16            |

(continues on next page)
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRS</td>
<td>0 or 1</td>
</tr>
<tr>
<td>UZID_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>UZID</td>
<td>0 or 16</td>
</tr>
<tr>
<td>CH_IND</td>
<td>0 or 2</td>
</tr>
<tr>
<td>SR_ID</td>
<td>0 or 3</td>
</tr>
<tr>
<td>OTD_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>QPCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ENHANCED_RC</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_RC_PREF</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_RC_PREF</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FCH Capability Type-specific fields</td>
<td>0 or variable</td>
</tr>
<tr>
<td>DCCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>DCCH Capability Type-specific fields</td>
<td>0 or variable</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_FCH_GATING_REQ</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

**MOB_TERM** – Mobile terminated calls accepted indicator.

If the mobile station is configured to accept mobile terminated calls while operating with the current roaming status (see 2.6.5.3), the mobile station shall set this bit to ‘1’; otherwise, the mobile station shall set this bit to ‘0’.

**SLOT_CYCLE_INDEX** – Slot cycle index.

If the mobile station is configured for slotted mode operation, the mobile station shall set this field to the preferred slot cycle index, SLOT_CYCLE_INDEXP (see 2.6.2.1.1); otherwise, the mobile station shall set this field to ‘000’.

**MOB_P_REV** – Protocol revision of the mobile station.

The mobile station shall set this field to ‘00000110’.

**SCM** – Station class mark.

The mobile station shall set this field to the station class mark of the mobile station. See 2.3.3.

**REQUEST_MODE** – Requested mode code.

The mobile station shall set this field to the value shown in Table 2.7.1.3.2.4-1 corresponding to its current configuration.
Table 2.7.1.3.2.4-1. REQUEST_MODE Codes

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Requested Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Reserved</td>
</tr>
<tr>
<td>001</td>
<td>CDMA only</td>
</tr>
<tr>
<td>010</td>
<td>Wide analog only</td>
</tr>
<tr>
<td>011</td>
<td>Either wide analog or CDMA only</td>
</tr>
<tr>
<td>100</td>
<td>Narrow analog only</td>
</tr>
<tr>
<td>101</td>
<td>Either narrow analog or CDMA only</td>
</tr>
<tr>
<td>110</td>
<td>Either narrow analog or wide analog only</td>
</tr>
<tr>
<td>111</td>
<td>Narrow analog or wide analog or CDMA</td>
</tr>
</tbody>
</table>

SPECIAL_SERVICE – Special service option indicator.

To request a special service option, the mobile station shall set this field to ‘1’. To request the default service option (Service Option 1), the mobile station shall set this field to ‘0’.

SERVICE_OPTION – Requested service option for this origination.

If the SPECIAL_SERVICE field is set to ‘1’, the mobile station shall set this field to the value specified in [38], corresponding to the requested service option. If the SPECIAL_SERVICE field is set to ‘0’, the mobile station shall omit this field.

PM – Privacy mode indicator.

To request voice privacy, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

DIGIT_MODE – Digit mode indicator.

This field indicates whether the dialed digits are 4-bit DTMF codes or 8-bit ASCII codes using a specified numbering plan.

To originate the call using the binary representation of DTMF digits, the mobile station shall set this field to ‘0’. To originate the call using ASCII characters, the mobile station shall set this field to ‘1’.

NUMBER_TYPE – Type of number.

If the DIGIT_MODE field is set to ‘1’, the mobile station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the number as defined in [8]. If the DIGIT_MODE field is set to ‘0’, the mobile station shall omit this field.
Table 2.7.1.3.2.4-2. Number Types

<table>
<thead>
<tr>
<th>Description</th>
<th>NUMBER_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>000</td>
</tr>
<tr>
<td>International number</td>
<td>001</td>
</tr>
<tr>
<td>National number</td>
<td>010</td>
</tr>
<tr>
<td>Network-specific number</td>
<td>011</td>
</tr>
<tr>
<td>Subscriber number</td>
<td>100</td>
</tr>
<tr>
<td>Reserved</td>
<td>101</td>
</tr>
<tr>
<td>Abbreviated number</td>
<td>110</td>
</tr>
<tr>
<td>Reserved for extension</td>
<td>111</td>
</tr>
</tbody>
</table>

2. NUMBER_PLAN – Numbering plan.

If the DIGIT_MODE field is set to ‘1’, the mobile station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the requested numbering plan as defined in [8]. If the DIGIT_MODE field is set to ‘0’, the mobile station shall omit this field.

Table 2.7.1.3.2.4-3. Numbering Plan Identification

<table>
<thead>
<tr>
<th>Description</th>
<th>NUMBER_PLAN (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>0000</td>
</tr>
<tr>
<td>ISDN/Telephony numbering plan (CCITT E.164 and CCITT E.163)</td>
<td>0001</td>
</tr>
<tr>
<td>Data numbering plan (CCITT X.121)</td>
<td>0011</td>
</tr>
<tr>
<td>Telex numbering plan (CCITT F.69)</td>
<td>0100</td>
</tr>
<tr>
<td>Private numbering plan</td>
<td>1001</td>
</tr>
<tr>
<td>Reserved for extension</td>
<td>1111</td>
</tr>
</tbody>
</table>

All other NUMBER_PLAN codes are reserved.

11. MORE_FIELDS – More dialed digits indicator.

This field indicates whether additional dialed digits will be sent in a later Origination Continuation Message.

If all dialed digits will fit into this message, the mobile station shall set this field to ‘0’. If not, the mobile station shall set this field to ‘1’. 
NUM_FIELDS – Number of dialed digits in this message.

The mobile station shall set this field to the number of dialed digits included in this message.

CHARi – A dialed digit or character.

The mobile station shall include NUM_FIELDS occurrences of this field. If the DIGIT_MODE field is set to ‘0’, the mobile station shall set each occurrence of this field to the code value shown in Table 2.7.1.3.2.4-4 corresponding to the dialed digit. If the DIGIT_MODE field is set to ‘1’, the mobile station shall set each occurrence of this field to the ASCII representation corresponding to the dialed digit, as specified in [12], with the most significant bit set to ‘0’.

<table>
<thead>
<tr>
<th>Digit</th>
<th>Code (binary)</th>
<th>Digit</th>
<th>Code (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0001</td>
<td>7</td>
<td>0111</td>
</tr>
<tr>
<td>2</td>
<td>0010</td>
<td>8</td>
<td>1000</td>
</tr>
<tr>
<td>3</td>
<td>0011</td>
<td>9</td>
<td>1001</td>
</tr>
<tr>
<td>4</td>
<td>0100</td>
<td>0</td>
<td>1010</td>
</tr>
<tr>
<td>5</td>
<td>0101</td>
<td>*</td>
<td>1011</td>
</tr>
<tr>
<td>6</td>
<td>0110</td>
<td>#</td>
<td>1100</td>
</tr>
</tbody>
</table>

All other codes are reserved.

NAR_AN_CAP – Narrow analog capability.

If the mobile station is capable of narrow analog operation, the mobile station shall set this bit to ‘1’; otherwise, the mobile station shall set this bit to ‘0’.

PACA_REORIG – PACA re-origination.

If this is a user directed origination, the mobile station shall set this field to ‘0’. If this is a PACA re-origination, the mobile station shall set this field to ‘1’.

RETURN_CAUSE – Reason for the mobile station registration or access.

The mobile station shall set this field to the RETURN_CAUSE value shown in Table 2.7.1.3.2.1-2 corresponding to the service redirection failure condition (see 2.6.1.1).

MORE_RECORDS – More records indicator.

This field indicates whether information records will be sent in a later Origination Continuation Message. If information records will be sent, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.
ENCRIPTION_SUPPORTED – Encryption algorithms supported by the mobile station.

If AUTH_MODE is equal to ‘00’, the mobile station shall omit the ENCRYPTION_SUPPORTED field; otherwise, the mobile station shall set this field as specified in Table 2.7.1.3.2.4-5.

Table 2.7.1.3.2.4-5. Encryption Algorithms Supported

<table>
<thead>
<tr>
<th>Description</th>
<th>ENCRYPTION_SUPPORTED (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic encryption supported</td>
<td>0000</td>
</tr>
<tr>
<td>Basic and Enhanced encryption supported</td>
<td>0001</td>
</tr>
<tr>
<td>Reserved</td>
<td>0010 - 1111</td>
</tr>
</tbody>
</table>

PACA_SUPPORTED – CDMA PACA support indication.

This field identifies the mobile station’s support for PACA in CDMA mode. The mobile station shall set this field to ‘1’.

NUM_ALT_SO – Number of alternative service options.

The mobile station shall set this field to the number of alternative service options it supports other than the one specified in the SERVICE_OPTION field. The mobile station shall set this field to a value less than or equal to MAX_NUM_ALT_SOs.

ALT_SO – Alternative service option.

The mobile station shall include NUM_ALT_SO occurrences of this field. The mobile station shall set this field to the value specified in [38], corresponding to the alternative service option supported by the mobile station.

DRS – Data Ready to Send.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If there is data to send, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

UZID_INCL – User Zone Identifier included indicator.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the message is to contain the User Zone Identifier, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’. 
UZID – User Zone Identifier.

If the UZID_INCL field is included in the message and is set to ‘1’, the mobile station shall include this field and set it to UZIDs; otherwise, the mobile station shall omit this field.

CH_IND – Channel indicator.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it, as shown in Table 2.7.1.3.2.4-6, to request physical resources.

<table>
<thead>
<tr>
<th>CH_IND (binary)</th>
<th>Channel(s) Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Reserved</td>
</tr>
<tr>
<td>01</td>
<td>Fundamental Channel</td>
</tr>
<tr>
<td>10</td>
<td>Dedicated Control Channel</td>
</tr>
<tr>
<td>11</td>
<td>Fundamental Channel and Dedicated Control Channel</td>
</tr>
</tbody>
</table>

SR_ID – Service reference identifier.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:

If the service instance provides a service reference identifier, the mobile station shall set this field to the service reference identifier specified by the service instance. If the service instance does not provide a service reference identifier, the mobile station shall set this field to the smallest unused service reference identifier value between 1 and 6 (inclusive).

OTD_SUPPORTED – Orthogonal Transmit Diversity supported indicator.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports orthogonal transmit diversity, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

QPCH_SUPPORTED – Quick Paging Channel supported indicator.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.
If the mobile station supports the Quick Paging Channel, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**ENHANCED_RC** – Enhanced radio configuration supported indicator.

If P_REV_IN_USES is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports any radio configuration in the Radio Configuration Class 2 [see 1.1.1], the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**FOR_RC_PREF** – Forward Radio Configuration preference.

If P_REV_IN_USES is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set this field as follows.

The mobile station shall set this field to its preferred Radio Configuration for the Forward Traffic Channel.


If P_REV_IN_USES is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

The mobile station shall set this field to its preferred Radio Configuration for the Reverse Traffic Channel.

**FCH_SUPPORTED** – Fundamental Channel supported indicator.

If P_REV_IN_USES is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

The mobile station shall set this field to ‘1’ if the mobile station supports Fundamental Channel; otherwise, the mobile station shall set this field to ‘0’.

**FCH Capability**

**Type-specific fields** – Fundamental Channel capability information.

If the FCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as defined in 2.7.4.27.1; otherwise, the mobile station shall omit this field.

**DCCH_SUPPORTED** – Dedicated Control Channel supported indicator.

If P_REV_IN_USES is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

The mobile station shall set this field to ‘1’ if the mobile station supports Dedicated Control Channel; otherwise, the mobile station shall set this field to ‘0’.

**DCCH Capability**

**Type specific fields** – Dedicated Control Channel capability information.
If the DCCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as defined in 2.7.4.27.2; otherwise, the mobile station shall omit this field.

RESERVED – The reserved bit.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it to ‘0’.

REV_FCH-_GATING_REQ – Reverse Fundamental gating mode request indicator.

If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:

If the mobile station requests to turn on the reverse Fundamental Traffic Channel gating mode in Radio Configurations 3, 4, 5, and 6, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.
2.7.1.3.2.5 Page Response Message

MSG_TAG: PRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB_TERM</td>
<td>1</td>
</tr>
<tr>
<td>SLOT_CYCLE_INDEX</td>
<td>3</td>
</tr>
<tr>
<td>MOB_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SCM</td>
<td>8</td>
</tr>
<tr>
<td>REQUEST_MODE</td>
<td>3</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>PM</td>
<td>1</td>
</tr>
<tr>
<td>NAR_AN_CAP</td>
<td>1</td>
</tr>
<tr>
<td>ENCRYPTION_SUPPORTED</td>
<td>0 or 4</td>
</tr>
<tr>
<td>NUM_ALT_SO</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_ALT_SO occurrences of the following field:

| ALT_SO               | 16            |

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UZID_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>UZID</td>
<td>0 or 16</td>
</tr>
<tr>
<td>CH_IND</td>
<td>0 or 2</td>
</tr>
<tr>
<td>OTD_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>QPCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ENHANCED_RC</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_RC_PREF</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_RC_PREF</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FCH Capability Type-specific fields</td>
<td>0 or variable</td>
</tr>
<tr>
<td>DCCH_SUPPORTED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>DCCH Capability Type-specific fields</td>
<td>0 or variable</td>
</tr>
<tr>
<td>REV_FCH_GATING_REQ</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

MOB_TERM – Mobile terminated calls accepted indicator.
If the mobile station is configured to accept mobile terminated calls while operating with the current roaming status (see 2.6.5.3), the mobile station shall set this bit to ‘1’. Otherwise, the mobile station shall set this bit to ‘0’.

**SLOT_CYCLE_INDEX** – Slot cycle index.

If the mobile station is configured for slotted mode operation, the mobile station shall set this field to the preferred slot cycle index, SLOT_CYCLE_INDEXp (see 2.6.2.1.1). Otherwise, the mobile station shall set this field to ‘000’.

**MOB_P_REV** – Protocol revision of the mobile station.

The mobile station shall set this field to ‘00000110’.

**SCM** – Station class mark.

The mobile station shall set this field to the station class mark of the mobile station. See 2.3.3.

**REQUEST_MODE** – Requested mode code. The mobile station shall set this field to the value shown in Table 2.7.1.3.2.4-1 corresponding to its current configuration.

**SERVICE_OPTION** – Service option.

If the mobile station accepts the service option specified by the page record of the *General Page Message*, it shall set this field as follows:

- If the page record to which the mobile station is responding contained a SERVICE OPTION field, the mobile station shall set this field to the service option number specified in the SERVICE OPTION field of the page record to which the mobile station is responding.

- If the page record to which the mobile station is responding did not contain a SERVICE OPTION field, the mobile station shall set this field to the default option number ‘0000000000000001’.

If the mobile station does not accept the service option specified by the page record of the *General Page Message* to which the mobile station is responding and the mobile station has an alternative service option to request, the mobile station shall set this field to the service option code specified in [38] corresponding to the alternative service option.

If the mobile station does not accept the service option specified by the page record of the *General Page Message* to which the mobile station is responding and the mobile station does not have an alternative service option to request, the mobile station shall set this field to ‘0000000000000000’ to reject the service option specified by the page record of the *General Page Message* to which the mobile station is responding.

**PM** – Privacy mode indicator.
To request voice privacy, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**NAR_AN_CAP** – Narrow analog capability.

If the mobile station is capable of narrow analog operation, the mobile station shall set this bit to ‘1’; otherwise, the mobile station shall set this bit to ‘0’.

**ENCRYPTION_SUPPORTED** – Encryption algorithms supported by the mobile station.

If AUTH_MODE is equal to ‘00’, the mobile station shall omit this field; otherwise, the mobile station shall set this field as specified in table 2.7.1.3.2.4-5.

**NUM_ALT_SO** – Number of alternative service options.

The mobile station shall set this field to the number of alternative service options it supports other than the one specified in the SERVICE_OPTION field. The mobile station shall set this field to a value less than or equal to MAX_NUM_ALT_SOs.

**ALT_SO** – Alternative service option.

The mobile station shall include NUM_ALT_SO occurrences of this field. The mobile station shall set this field to the value specified in [38], corresponding to the alternative service option supported by the mobile station.

**UZID_INCL** – User Zone Identifier included indicator.

If P_REV_IN_USEs is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the message is to contain the User Zone Identifier, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**UZID** – User Zone Identifier.

If the UZID_INCL field is included in the message and is set to ‘1’, the mobile station shall include this field and set it to UZIDs; otherwise, the mobile station shall omit this field.

**CH_IND** – Channel Indicator.

If P_REV_IN_USEs is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it, as shown in Table 2.7.1.3.2.5-1, to request physical resources.
Table 2.7.1.3.2.5-1. Channel indicator

<table>
<thead>
<tr>
<th>CH_IND (binary)</th>
<th>Channel(s) Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Reserved</td>
</tr>
<tr>
<td>01</td>
<td>Fundamental Channel</td>
</tr>
<tr>
<td>10</td>
<td>Dedicated Control Channel</td>
</tr>
<tr>
<td>11</td>
<td>Fundamental Channel and Dedicated Control Channel</td>
</tr>
</tbody>
</table>

OTD_SUPPORTED – Orthogonal transmit diversity supported indicator

If P_REV_IN_USE < 6, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports orthogonal transmit diversity, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

QPCH_SUPPORTED – Quick Paging Channel supported indicator.

If P_REV_IN_USE < 6, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports the Quick Paging Channel, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

ENHANCED_RC – Enhanced radio configuration supported indicator.

If P_REV_IN_USE < 6, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

If the mobile station supports any radio configuration in the Radio Configuration Class 2 (see 1.1.1), the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

FOR_RC_PREF – Forward Radio Configuration preference.

If P_REV_IN_USE < 6, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.

The mobile station shall set this field to its preferred Radio Configuration for the Forward Traffic Channel.


If P_REV_IN_USE < 6, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows.
The mobile station shall set this field to its preferred Radio Configuration for the Reverse Traffic Channel.

FCH_SUPPORTED – Fundamental Channel supported indicator.

If \( P_{REV\_IN\_USE} \) is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:

The mobile station shall set this field to ‘1’ if the mobile station supports Fundamental Channel; otherwise, the mobile station shall set this field to ‘0’.

FCH Capability Type-specific fields – Fundamental Channel capability information.

If the FCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as described in 2.7.4.27.1; otherwise, the mobile station shall omit this field.

DCCH_SUPPORTED – Dedicated Control Channel supported indicator.

If \( P_{REV\_IN\_USE} \) is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:

The mobile station shall set this field to ‘1’ if the mobile station supports Dedicated Control Channel; otherwise, the mobile station shall set this field to ‘0’.

DCCH Capability Type-specific fields – Dedicated Control Channel capability information.

If DCCH_SUPPORTED is set to ‘1’, the mobile station shall include this field and set it as defined in 2.7.4.27.2; otherwise, the mobile station shall omit this field.

REV_FCH-_GATING_REQ – Reverse eighth gating mode request indicator.

If \( P_{REV\_IN\_USE} \) is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:

If the mobile station requests to turn on the reverse Fundamental Traffic Channel gating mode in Radio Configurations 3, 4, 5, and 6, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.
2.7.1.3.2.6 Authentication Challenge Response Message

MSG_TAG: AUCRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHU</td>
<td>18</td>
</tr>
</tbody>
</table>

AUTHU – Authentication challenge response.

The mobile station shall set this field as specified in 2.3.12.1.4.
2.7.1.3.2.7 Status Response Message

MSG_TAG: STRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAL_INFO_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>QUAL_INFO_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ QUAL_INFO_LEN</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ RECORD_LEN</td>
</tr>
</tbody>
</table>

QUAL_INFO_TYPE – Qualification information type.

The mobile station shall set this field to the QUAL_INFO_TYPE field in the corresponding Status Request Message.

QUAL_INFO_LEN – Qualification information length.

The mobile station shall set this field to the QUAL_INFO_LEN field in the corresponding Status Request Message.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields to the qualification information in the corresponding Status Request Message.

The mobile station shall include all the records requested in the corresponding Status Request Message. The mobile station shall include one occurrence of the following fields for each information record to be included:

RECORD_TYPE – Information record type.

The mobile station shall set this field to the record type value shown in Table 3.7.2.3.2.15-2 corresponding to the type of this information record.

RECORD_LEN – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of this information record.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields to the information as specified in 2.7.4 for the specific type of records. The mobile station shall only specify the information corresponding to the included qualification information.
2.7.1.3.2.8 TMSI Assignment Completion Message

MSG_TAG: TACM

There are no Layer 3 fields associated with this message.
2.7.1.3.2.9 PACA Cancel Message

MSG_TAG: PACNM

There are no Layer 3 fields associated with this message.
2.7.1.3.2.10 Extended Status Response Message

MSG_TAG: ESTRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAL_INFO_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>QUAL_INFO_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times QUAL_INFO_LEN$</td>
</tr>
<tr>
<td>NUM_INFO_RECORDS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_INFO_RECORDS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times RECORD_LEN$</td>
</tr>
</tbody>
</table>

QUAL_INFO_TYPE – Qualification information type.

The mobile station shall set this field to the QUAL_INFO_TYPE field in the corresponding Status Request Message.

QUAL_INFO_LEN – Qualification information length.

The mobile station shall set this field to the QUAL_INFO_LEN field in the corresponding Status Request Message.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields to the qualification information in the corresponding Status Request Message.

NUM_INFO_RECORDS – Number of information records included.

The mobile station shall set this field to the number of information records which are included. The mobile station shall include all the records requested in the corresponding Status Request Message.

The mobile station shall include one occurrence of the following fields for each information record which is included:

RECORD_TYPE – Information record type.

The mobile station shall set this field to the record type value shown in Table 3.7.2.3.2.15-2 corresponding to the type of this information record.

RECORD_LEN – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of this information record.
Type-specific fields

The mobile station shall set these fields to the information as specified in 2.7.4 for the specific type of records. The mobile station shall only specify the information corresponding to the included qualification information.
2.7.1.3.2.11 Reserved
2.7.2 r-dsch

During Traffic Channel operation, the mobile station sends signaling messages to the base station using the r-dsch.

2.7.2.1 Reserved

2.7.2.2 Reserved

2.7.2.3 PDU Formats for Messages on r-dsch

The messages sent on the r-dsch are summarized in Table 2.7.2.3-1.
<table>
<thead>
<tr>
<th>Message Name</th>
<th>MSG_TAG</th>
<th>Section Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Message</td>
<td>ORDM</td>
<td>2.7.2.3.2.1</td>
</tr>
<tr>
<td>Authentication Challenge Response Message</td>
<td>AUCRM</td>
<td>2.7.2.3.2.2</td>
</tr>
<tr>
<td>Flash With Information Message</td>
<td>FWIM</td>
<td>2.7.2.3.2.3</td>
</tr>
<tr>
<td>Data Burst Message</td>
<td>DBM</td>
<td>2.7.2.3.2.4</td>
</tr>
<tr>
<td>Pilot Strength Measurement Message</td>
<td>PSMM</td>
<td>2.7.2.3.2.5</td>
</tr>
<tr>
<td>Power Measurement Report Message</td>
<td>PMRM</td>
<td>2.7.2.3.2.6</td>
</tr>
<tr>
<td>Send Burst DTMF Message</td>
<td>BDTMFM</td>
<td>2.7.2.3.2.7</td>
</tr>
<tr>
<td>Status Message</td>
<td>STM</td>
<td>2.7.2.3.2.8</td>
</tr>
<tr>
<td>Origination Continuation Message</td>
<td>ORCM</td>
<td>2.7.2.3.2.9</td>
</tr>
<tr>
<td>Handoff Completion Message</td>
<td>HOCM</td>
<td>2.7.2.3.2.10</td>
</tr>
<tr>
<td>Parameters Response Message</td>
<td>PRSM</td>
<td>2.7.2.3.2.11</td>
</tr>
<tr>
<td>Service Request Message</td>
<td>SRQM</td>
<td>2.7.2.3.2.12</td>
</tr>
<tr>
<td>Service Response Message</td>
<td>SRPM</td>
<td>2.7.2.3.2.13</td>
</tr>
<tr>
<td>Service Connect Completion Message</td>
<td>SCCM</td>
<td>2.7.2.3.2.14</td>
</tr>
<tr>
<td>Service Option Control Message</td>
<td>SOCM</td>
<td>2.7.2.3.2.15</td>
</tr>
<tr>
<td>Status Response Message</td>
<td>STRPM</td>
<td>2.7.2.3.2.16</td>
</tr>
<tr>
<td>TMSI Assignment Completion Message</td>
<td>TACM</td>
<td>2.7.2.3.2.17</td>
</tr>
<tr>
<td>Supplemental Channel Request Message</td>
<td>SCRM</td>
<td>2.7.2.3.2.18</td>
</tr>
<tr>
<td>Candidate Frequency Search Response Message</td>
<td>CFSRSM</td>
<td>2.7.2.3.2.19</td>
</tr>
<tr>
<td>Candidate Frequency Search Report Message</td>
<td>CFSRPM</td>
<td>2.7.2.3.2.20</td>
</tr>
<tr>
<td>Periodic Pilot Strength Measurement Message</td>
<td>PPSMM</td>
<td>2.7.2.3.2.21</td>
</tr>
<tr>
<td>Outer Loop Report Message</td>
<td>OLRM</td>
<td>2.7.2.3.2.22</td>
</tr>
<tr>
<td>Resource Request Message</td>
<td>RRM</td>
<td>2.7.2.3.2.23</td>
</tr>
<tr>
<td>Resource Request Mini Message</td>
<td>RRMM</td>
<td>2.7.2.3.2.24</td>
</tr>
<tr>
<td>Extended Release Response Message</td>
<td>ERRM</td>
<td>2.7.2.3.2.25</td>
</tr>
<tr>
<td>Extended Release Response Mini Message</td>
<td>ERRMM</td>
<td>2.7.2.3.2.26</td>
</tr>
<tr>
<td>Pilot Strength Measurement Mini Message</td>
<td>PSMMM</td>
<td>2.7.2.3.2.27</td>
</tr>
<tr>
<td>Supplemental Channel Request Mini Message</td>
<td>SCRM</td>
<td>2.7.2.3.2.28</td>
</tr>
<tr>
<td>Resource Release Request Message</td>
<td>RRRM</td>
<td>2.7.2.3.2.29</td>
</tr>
<tr>
<td>Resource Release Request Mini Message</td>
<td>RRRMM</td>
<td>2.7.2.3.2.30</td>
</tr>
<tr>
<td>User Zone Update Request Message</td>
<td>UZURM</td>
<td>2.7.2.3.2.31</td>
</tr>
</tbody>
</table>
2.7.2.3.1 Reserved

2.7.2.3.2 Message Body Contents
2.7.2.3.2.1 Order Message

MSG_TAG: ORDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDER</td>
<td>6</td>
</tr>
<tr>
<td>ADD_RECORD_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Order-specific fields (if used)</td>
<td>$8 \times ADD_RECORD_LEN$</td>
</tr>
</tbody>
</table>

ORDER – Order code.

The mobile station shall set this field to the ORDER code. See 2.7.3.

ADD_RECORD_LEN – Additional record length.

The mobile station shall set this field to the number of octets in the order-specific fields included in this message.

Order-specific fields – Order-specific fields.

The mobile station shall include order-specific fields as specified in 2.7.3.
2.7.2.3.2.2 Authentication Challenge Response Message

MSG_TAG: AUCRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHU</td>
<td>18</td>
</tr>
</tbody>
</table>

AUTHU – Authentication challenge response.

The mobile station shall set this field as specified in 2.3.12.1.4.
2.7.2.3.2.3 Flash With Information Message

MSG_TAG: FWIM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero or more occurrences of the following record:</td>
<td></td>
</tr>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

The mobile station shall include one occurrence of the following record for each information record to be included:

- **RECORD_TYPE** – Information record type.
  - The mobile station shall set this field to the record type code shown in Table 2.7.4-1 corresponding to the type of this information record.

- **RECORD_LEN** – Information record length.
  - The mobile station shall set this field to the number of octets in the type-specific fields of this record.

- **Type-specific fields** – Type-specific fields.
  - The mobile station shall set these fields as specified in 2.7.4 for this type of information record.
2.7.2.3.2.4 Data Burst Message

MSG_TAG: DBM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSG_NUMBER</td>
<td>8</td>
</tr>
<tr>
<td>BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>NUM_MSGS</td>
<td>8</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

| CHARi         | 8             |

MSG_NUMBER – Message number within the data burst stream.

The mobile station shall set this field to the number of this message within the data burst stream.

BURST_TYPE – Data burst type.

The mobile station shall set the value of this field for the type of this data burst as defined in [38]. If the mobile station sets this field equal to ‘111110’, it shall set the first two CHARi fields of this message equal to EXTENDED_BURST_TYPEINTERNATIONAL as described in the definition of CHARi below. If the mobile station sets this field equal to ‘111111’, it shall set the first two CHARi fields of this message equal to the EXTENDED BURST TYPE as described in the definition of CHARi below.

NUM_MSGS – Number of messages in the data burst stream.

The mobile station shall set this field to the number of messages within this data burst stream.

NUM_FIELDS – Number of characters in this message.

The mobile station shall set this field to the number of CHARi fields included in this message.

CHARi – Character.

The mobile station shall include NUM_FIELDS occurrences of this field. The mobile station shall set these fields to the corresponding octet of the data burst stream.
If the BURST_TYPE field of this message is equal to ‘111110’, the first two CHARi octets shall represent a 16 bit EXTENDED_BURST_TYPE_INTERNATIONAL field, which is encoded as shown below. The first ten bits of this field contain a binary mapping of the Mobile Country Code (MCC) associated with the national standards organization administering the use of the remaining octets of the message. Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the EXTENDED_BURST_TYPE_INTERNATIONAL field shall specify the COUNTRY_BURST_TYPE. The mobile station shall set the value of the COUNTRY_BURST_TYPE according to the type of this data burst as defined in standards governed by the country where this data burst type is to be used.

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Country Code</td>
<td>10</td>
</tr>
<tr>
<td>COUNTRY_BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>8 \times (NUM_FIELDS - 2)</td>
</tr>
</tbody>
</table>

If the BURST_TYPE field of this message is equal to ‘111111’, the first two CHARi octets shall represent a single, 16 bit EXTENDED BURST TYPE field, as shown below. The mobile station shall set the value of the EXTENDED BURST_TYPE according to the type of this data burst as defined in [38].

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED_BURST_TYPE</td>
<td>16</td>
</tr>
<tr>
<td>(first two CHARi fields)</td>
<td></td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>8 \times (NUM_FIELDS - 2)</td>
</tr>
</tbody>
</table>
2.7.2.3.2.5 Pilot Strength Measurement Message

MSG_TAG: PSMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REF_PN</td>
<td>9</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>KEEP</td>
<td>1</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN_PHASE</td>
<td>15</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>KEEP</td>
<td>1</td>
</tr>
</tbody>
</table>

REF_PN – Time reference PN sequence offset.

The mobile station shall set this field to the PN sequence offset of the pilot used by the mobile station to derive its time reference, relative to the zero offset pilot PN sequence in units of 64 PN chips.

PILOT_STRENGTH – Pilot strength.

The mobile station shall set this field to \([-2 \times 10 \log_{10} \text{PS}]\),

where PS is the strength of the pilot used by the mobile station to derive its time reference (see [2]), measured as specified in 2.6.6.2.2. If this value \([-2 \times 10 \log_{10} \text{PS}]\) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than ‘111111’, the mobile station shall set this field to ‘111111’.

KEEP – Keep pilot indicator.

If the handoff drop timer (see 2.6.6.2.3) corresponding to the pilot used by the mobile station to derive its time reference (see [2]) has expired, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

If P_REV_IN_USE_s is less than or equal to three, the mobile station shall include one occurrence of the three-field record given below for each pilot in the Active Set and for each Candidate Set pilot reported (the number of Candidate Set pilots reported shall not exceed 5), other than the pilot identified by the REF_PN field. If P_REV_IN_USE_s is greater than three and SOFT_SLOPE_s is equal to ‘000000’, the mobile station shall include one occurrence of the three-field record given below for each pilot in the Active Set and for each pilot in the Candidate Set, other than the pilot identified by the REF_PN field. If...
P_REV_IN_USE_s is greater than three and SOFT_SLOPE_s is not equal to ‘000000’, the mobile station shall include one occurrence of the three-field record given below for each pilot in the Active Set, for each pilot in the Candidate Set whose strength exceeds T_ADD, and shall also include one occurrence of the three-field record given below for each pilot in the Candidate Set whose strength satisfies the following inequality:

\[
10 \times \log_{10} PS > \frac{8 \times \log_{10} PS_i}{\sum_{i \in A} \text{ADD_INTERCEPT}_s} + \frac{\text{ADD_INTERCEPT}_s}{2}
\]

where the summation is performed over all pilots currently in the Active Set. The mobile station shall not include these fields for the pilot identified by the REF_PN field.

The mobile station shall order any occurrences of the three-field record given below which correspond to pilots in the Active Set such that they occur before any occurrences of the three-field record given below which correspond to pilots in the Candidate Set.

**PILOT_PN_PHASE** – Pilot measured phase.

The mobile station shall set this field to the phase of the pilot PN sequence relative to the zero offset pilot PN sequence of this pilot, in units of one PN chip, as specified in 2.6.6.2.4.

**PILOT_STRENGTH** – Pilot strength.

The mobile station shall set this field to

\[
\lfloor -2 \times 10 \log_{10} PS \rfloor,
\]

where PS is the strength of this pilot, measured as specified in 2.6.6.2.2. If this value \(\lfloor -2 \times 10 \log_{10} PS \rfloor\) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than ‘111111’, the mobile station shall set this field to ‘111111’.

**KEEP** – Keep pilot indicator.

If the handoff drop timer (see 2.6.6.2.3) corresponding to this pilot has expired, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.
2.7.2.3.2.6 Power Measurement Report Message

MSG_TAG: PMRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERRORS_DETECTED</td>
<td>5</td>
</tr>
<tr>
<td>PWR_MEAS_FRAMES</td>
<td>10</td>
</tr>
<tr>
<td>LAST_HDM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_PILOTS occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCCH_PWR_MEAS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>DCCH_PWR_MEAS_FRAMES</td>
<td>0 or 10</td>
</tr>
<tr>
<td>DCCH_ERRORS_DETECTED</td>
<td>0 or 5</td>
</tr>
<tr>
<td>SCH_PWR_MEAS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>SCH_ID</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SCH_PWR_MEAS_FRAMES</td>
<td>0 or 16</td>
</tr>
<tr>
<td>SCH_ERRORS_DETECTED</td>
<td>0 or 10</td>
</tr>
</tbody>
</table>

**ERRORS_DETECTED** – Number of detected bad frames.

When the Forward Fundamental Channel is assigned, the mobile station shall set this field to the number of bad frames detected (BAD_FRAMES, see 2.6.4.1.1] on the Forward Fundamental Channel.

If P_REV_IN_USEs is greater than or equal to six and only the Forward Dedicated Control Channel is assigned, the mobile station shall set this field to the number of bad frames detected on the Forward Dedicated Control Channel (DCCH_BAD_FRAMESs, see 2.6.4.1.1].

If the number of bad frames received on this channel within the measurement period is less than or equal to 31, the mobile station shall set this field to that number. If that number exceeds 31, the mobile station shall set this field to ‘11111’.
PWR_MEAS_FRAMES - Number of power measurement frames.

When the Forward Fundamental Channel is assigned, the mobile station shall set this field to the number of frames received on the Forward Fundamental Channel within the measurement period (TOT_FRAMES_s, see 2.6.4.1.1).

If P_REV_IN_USE is greater than or equal to six and only the Dedicated Control Channel is assigned, the mobile station shall set this field to the number of frames received on the Dedicated Control Channel (DCCH_TOT_FRAMES_s, see 2.6.4.1.1).

LAST_HDM_SEQ - Extended Handoff Direction Message or a General Handoff Direction Message, or Universal Handoff Direction Message sequence number.

If an Extended Handoff Direction Message, a General Handoff Direction Message, or Universal Handoff Direction Message has been received during this call, the mobile station shall set this field to the value of the HDM_SEQ field from the Extended Handoff Direction Message, the General Handoff Direction Message or the Universal Handoff Direction Message that determined the current Active Set. If no Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message has been received during this call, the mobile station shall set this field to ‘11’.

NUM_PILOTS - Number of pilots reported.

The mobile station shall set this field to the number of pilots in the current Active Set.

PILOT_STRENGTH - Pilot strength.

The mobile station shall include one occurrence of this field for each pilot in the Active Set. If the Active Set contains more than one pilot, the mobile station shall include the pilot strengths in the same order as in the Extended Channel Assignment Message, Extended Handoff Direction Message, General Handoff Direction Message or the Universal Handoff Direction Message that determined the current Active Set.

The mobile station shall set each occurrence of this field to \[\left\lfloor -2 \times 10 \log_{10} \text{PS} \right\rfloor\], where PS is the strength of the pilot, measured as specified in 2.6.6.2.2. If this value \(\left\lfloor -2 \times 10 \log_{10} \text{PS} \right\rfloor\) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than ‘111111’, the mobile station shall set this field to ‘111111’.

DCCH_PWR_MEAS_INCL - Forward Dedicated Control Channel power measurement included.
If both Forward Fundamental Channel and Forward Dedicated Control Channel are assigned, the mobile station shall set this field equal to ‘1’; otherwise, the mobile shall set this field to ‘0’.

**DCCH_PWR_MEAS_FRAMES** - Number of received Dedicated Control Channel frames. If DCCH_PWR_MEAS_INCL is set to ‘0’, the mobile station shall set this field to the number of frames received on the Dedicated Control Channel within the measurement period (DCCH_TOT_FRAMESs, see 2.6.4.1.1).

**DCCH_ERRORS_DETECTED** - Number of detected bad Dedicated Control Channel frames. If DCCH_BAD_FRAMESs exceeds 31, the mobile station shall set this field to ‘11111’; otherwise, the mobile station shall set this field to DCCH_BAD_FRAMESs (see 2.6.4.1.1).

**SCH_PWR_MEAS_INCL** - Supplemental Channel power measurement included indicator. If FOR_SCH_FER_REPS is set to ‘1’ and this message is to report the frame counts at the end of the burst on an assigned Supplemental Channel, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to SCH_ID - Forward Supplemental Channel identifier. If the SCH_PWR_MEAS_INCL is set to ‘0’, the mobile station shall set this field to the Identifier of the Forward Supplemental Channel of which the frame counts are being reported in this message.

**SCH_PWR_MEAS_FRAMES** - Number of received Supplemental Channel frames. If SCH_PWR_MEAS_INCL is set to ‘0’, the mobile station shall omit this field; otherwise, the mobile station shall set this field to the total number of frames (SCH_TOT_FRAMESs) received during the burst duration on the Supplemental Channel specified by SCH_ID. If this measurement is greater than or equal to 2^16 - 1, the mobile station shall set this field to ‘1111111111111111’.

**SCH_ERRORS_DETECTED** - Number of detected bad Supplemental Channel frames.
If SCH_PWR_MEAS_INCL is set to '0', the mobile station shall omit this field; otherwise, the mobile station shall set this field to the number of bad frame detected on the Forward Supplemental Channel of the SCH_ID for the duration of the forward burst on this channel.

If the number of bad frames (SCH_BAD_FRAMES) detected on the SCH_ID Supplemental Channel during the burst is greater than 1023, the mobile station shall set this field to '1111111111'.
2.7.2.3.2.7 Send Burst DTMF Message

MSG_TAG: BDTMFM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_DIGITS</td>
<td>8</td>
</tr>
<tr>
<td>DTMF_ON_LENGTH</td>
<td>3</td>
</tr>
<tr>
<td>DTMF_OFF_LENGTH</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_DIGITS occurrences of the following field:

| DIGITi | 4          |

NUM_DIGITS – Number of DTMF digits.

The mobile station shall set this field to the number of DTMF digits included in this message.

DTMF_ON_LENGTH – DTMF pulse width code.

The mobile station shall set this field to the DTMF_ON_LENGTH value shown in Table 2.7.2.3.2.7-1 corresponding to the requested width of DTMF pulses to be generated by the base station.

Table 2.7.2.3.2.7-1. Recommended DTMF Pulse Width

<table>
<thead>
<tr>
<th>DTMF_ON_LENGTH Field (binary)</th>
<th>Recommended Pulse Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>95 ms</td>
</tr>
<tr>
<td>001</td>
<td>150 ms</td>
</tr>
<tr>
<td>010</td>
<td>200 ms</td>
</tr>
<tr>
<td>011</td>
<td>250 ms</td>
</tr>
<tr>
<td>100</td>
<td>300 ms</td>
</tr>
<tr>
<td>101</td>
<td>350 ms</td>
</tr>
</tbody>
</table>

All other DTMF_ON_LENGTH codes are reserved.

DTMF_OFF_LENGTH – DTMF inter-digit interval code.

The mobile station shall set this field to the DTMF_OFF_LENGTH value shown in Table 2.7.2.3.2.7-2 corresponding to the requested minimum interval between DTMF pulses to be generated by the base station.
Table 2.7.2.3.2.7-2. Recommended Minimum Inter-digit Interval

<table>
<thead>
<tr>
<th>DTMF_OFF_LENGTH Field (binary)</th>
<th>Recommended Minimum Inter-digit Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>60 ms</td>
</tr>
<tr>
<td>001</td>
<td>100 ms</td>
</tr>
<tr>
<td>010</td>
<td>150 ms</td>
</tr>
<tr>
<td>011</td>
<td>200 ms</td>
</tr>
</tbody>
</table>

All other DTMF_OFF_LENGTH codes are reserved.

DIGITi – DTMF digit.

The mobile station shall include one occurrence of this field for each DTMF digit to be generated by the base station. The mobile station shall set each occurrence of this field to the code value shown in Table 2.7.1.3.2.4-4 corresponding to the dialed digit.
2.7.2.3.2.8 Status Message

MSG_TAG: STM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>8 × RECORD_LEN</td>
</tr>
</tbody>
</table>

**RECORD_TYPE** – Information record type.

The mobile station shall set this field to the record type value shown in Table 2.7.4-1 corresponding to the type of this information record.

**RECORD_LEN** – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of this information record.

**Type-specific fields** – Type-specific fields.

The mobile station shall set these fields as specified in 2.7.4 for this type of record.
2.7.2.3.2.9 Origination Continuation Message

MSG_TAG: ORCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIGIT_MODE</td>
<td>1</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARi</td>
<td>4 or 8</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>8 × RECORD_LEN</td>
</tr>
</tbody>
</table>

DIGIT_MODE – Digit mode indicator.

The mobile station shall set this field to the DIGIT_MODE value from the Access Channel Origination Message for which this message is a continuation.

NUM_FIELDS – Number of dialed digits in this message.

The mobile station shall set this field to the number of dialed digits included in this message.

CHARI – A dialed digit or character.

The mobile station shall include NUM_FIELDS occurrences of this field. The mobile station shall include occurrences of this field for all dialed digits after those sent in the Access Channel Origination Message of which this message is a continuation.

If the DIGIT_MODE field is set to ‘0’, the mobile station shall set each occurrence of this field to the code value shown in Table 2.7.1.3.2.4-4 corresponding to the dialed digit. If the DIGIT_MODE field is set to ‘1’, the mobile station shall set each occurrence of this field to the ASCII representation corresponding to the dialed digit, as specified in [12], with the most significant bit set to ‘0’.

If the MORE_RECORDS field in the last Access Channel Origination Message, of which this message is a continuation, is set to ‘1’, the mobile station shall include one or more occurrences of the following three-field record; otherwise, the mobile station shall not include the following record.

RECORD_TYPE – Information record type.

The mobile station shall set this field to the record type value shown in Table 2.7.4-1.
RECORD_LEN – Information record length.
The mobile station shall set this field to the number of octets in the type-specific fields included in this record.

Type-specific fields – Type-specific fields.
The mobile station shall include type-specific fields as specified in 2.7.4.
2.7.2.3.2.10 Handoff Completion Message

MSG_TAG: HOCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAST_HDM_SEQ</td>
<td>2</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

**LAST_HDM_SEQ** – *Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message* sequence number.

The mobile station shall set this field to the value of the HDM_SEQ field from the *Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message* that determined the current Active Set.

**PILOT_PN** – Pilot PN sequence offset.

The mobile station shall include one occurrence of this field for each pilot in the current Active Set. The mobile station shall set this field to the pilot PN sequence offset, relative to the zero offset pilot PN sequence in units of 64 PN chips, for this pilot. If the Active Set contains more than one pilot, the mobile station shall include the pilot offsets in the same order as in the *Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message* that determined the current Active Set.
2.7.2.3.2.11 Parameters Response Message

MSG_TAG: PRSM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETER_ID</td>
<td>16</td>
</tr>
<tr>
<td>PARAMETER_LEN</td>
<td>10</td>
</tr>
<tr>
<td>PARAMETER</td>
<td>0 or PARAMETER_LEN + 1</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

The mobile station shall include one occurrence of the following three-field record for each occurrence of the PARAMETER_ID field in the Forward Traffic Channel Retrieve Parameters Message to which this message is a response. See Annex E.

PARAMETER_ID – Parameter identification.

The mobile station shall set this field to the value of the PARAMETER_ID field for this parameter from the Retrieve Parameters Message to which this message is a response.

PARAMETER_LEN – Parameter length.

The mobile station shall set this field to the length shown in Table E-1 corresponding to this PARAMETER_ID.

If the mobile station is unable to return the value of this parameter, or if the parameter identification is unknown, the mobile station shall set this field to ‘1111111111’.

PARAMETER – Parameter value.

The mobile station shall set this field equal to the value of the parameter shown in Table E-1 corresponding to the PARAMETER_ID field of the record.

If the mobile station is unable to return the value of this parameter, or if the parameter identification is unknown, the mobile station shall omit this field.
2.7.2.3.2.12 Service Request Message

MSG_TAG: SRQM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERV_REQ_SEQ</td>
<td>3</td>
</tr>
<tr>
<td>REQ_PURPOSE</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or one occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ RECORD_LEN</td>
</tr>
</tbody>
</table>

SERV_REQ_SEQ – Service request sequence number.

The mobile station shall set this field to the service request sequence number pertaining to this request message as specified in 2.6.4.1.2.1.1.

REQ_PURPOSE – Request purpose.

The mobile station shall set this field to the appropriate REQ_PURPOSE code from Table 2.7.2.3.2.12-1 to indicate the purpose of the message.

**Table 2.7.2.3.2.12-1. REQ_PURPOSE Codes**

<table>
<thead>
<tr>
<th>REQ_PURPOSE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Indicates that the purpose of the message is to accept a proposed service configuration.</td>
</tr>
<tr>
<td>0001</td>
<td>Indicates that the purpose of the message is to reject a proposed service configuration.</td>
</tr>
<tr>
<td>0010</td>
<td>Indicates that the purpose of the message is to propose a service configuration.</td>
</tr>
<tr>
<td></td>
<td>All other REQ_PURPOSE codes are reserved.</td>
</tr>
</tbody>
</table>

If the REQ_PURPOSE code is set to ‘0010’, the mobile station shall include one occurrence of the following three-field record to specify the proposed service configuration; otherwise, the mobile station shall not include the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>Information record type.</td>
</tr>
</tbody>
</table>
The mobile station shall set this field to the record type value shown in Table 2.7.4-1 corresponding to the Service Configuration information record.

**RECORD_LEN** – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

**Type-specific fields** – Type-specific fields.

The mobile station shall set these fields as specified in 2.7.4.18 for the Service Configuration information record.
2.7.2.3.2.13 Service Response Message

**MSG_TAG:** SRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERV_REQ_SEQ</td>
<td>3</td>
</tr>
<tr>
<td>RESP_PURPOSE</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or one occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ RECORD_LEN</td>
</tr>
</tbody>
</table>

- **SERV_REQ_SEQ** – Service request sequence number.
  The mobile station shall set this field to the value of the SERV_REQ_SEQ field of the *Service Request Message* to which it is responding.

- **RESP_PURPOSE** – Response purpose.
  The mobile station shall set this field to the appropriate RESP_PURPOSE code from Table 2.7.2.3.2.13-1 to indicate the purpose of the message.

### Table 2.7.2.3.2.13-1. RESP_PURPOSE Codes

<table>
<thead>
<tr>
<th>RESP_PURPOSE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Indicates that the purpose of the message is to accept a proposed service configuration.</td>
</tr>
<tr>
<td>0001</td>
<td>Indicates that the purpose of the message is to reject a proposed service configuration.</td>
</tr>
<tr>
<td>0010</td>
<td>Indicates that the purpose of the message is to propose a service configuration.</td>
</tr>
</tbody>
</table>

All other RESP_PURPOSE codes are reserved.

If the RESP_PURPOSE field is set to ‘0010’, the mobile station shall include one occurrence of the following record to specify the proposed service configuration; otherwise, the mobile station shall not include the following record:
RECORD_TYPE – Information record type.

The mobile station shall set this field to the record type value shown in Table 2.7.4-1 corresponding to the Service Configuration information record.

RECORD_LEN – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields as specified in 2.7.4.18 for the Service Configuration information record.
2.7.2.3.2.14 Service Connect Completion Message

MSG_TAG: SCCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
<tr>
<td>SERV_CON_SEQ</td>
<td>3</td>
</tr>
</tbody>
</table>

- RESERVED: Reserved bit.
  The mobile station shall set this field to ‘0’.

- SERV_CON_SEQ: Service connect sequence number.
  The mobile station shall set this field to the value of the SERV_CON_SEQ field of the Service Connect Message to which it is responding.
2.7.2.3.2.15 Service Option Control Message

MSG_TAG: SOCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON_REF</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>7</td>
</tr>
<tr>
<td>CTL_REC_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times CTL_REC_LEN$</td>
</tr>
</tbody>
</table>

CON_REF – Service option connection reference.

The mobile station shall set this field to the reference for the target service option (see 2.6.4.1.2).

SERVICE_OPTION – Service option.

The mobile station shall set this field to the service option in use with the service option connection.

RESERVED – Reserved bits.

The mobile station shall set this field to ‘0000000’.

CTL_REC_LEN – Control record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of this service option control record.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields as specified by the requirements for the service option.
2.7.2.3.2.16 Status Response Message

MSG_TAG: STRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAL_INFO_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>QUAL_INFO_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{QUAL_INFO_LEN}$</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

**QUAL_INFO_TYPE** – Qualification information type.

The mobile station shall set this field to the QUAL_INFO_TYPE field in the corresponding Status Request Message.

**QUAL_INFO_LEN** – Qualification information length.

The mobile station shall set this field to the QUAL_INFO_LEN field in the corresponding Status Request Message.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields to the qualification information in the corresponding Status Request Message.

The mobile station shall include all the records requested in the corresponding Status Request Message. The mobile station shall include one occurrence of the following fields for each information record that is included:

**RECORD_TYPE** – Information record type.

The mobile station shall set this field to the record type value shown in Table 3.7.2.3.2.15-2 corresponding to the type of this information record.

**RECORD_LEN** – Information record length.

The mobile station shall set this field to the number of octets included in the type-specific fields of this information record.

Type-specific fields – Type-specific fields.

The mobile station shall set these fields as specified in 2.7.4 for this type of record, according to the mobile station’s capabilities under the qualification information included in this message.
2.7.2.3.2.17 TMSI Assignment Completion Message

MSG_TAG: TACM

There are no Layer 3 fields associated with this message.
### 2.7.2.3.2.18 Supplemental Channel Request Message

**MSG_TAG:** SCRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE_OF_REQ_BLOB</td>
<td>4</td>
</tr>
<tr>
<td>REQ_BLOB</td>
<td>$8 \times$ SIZE_OF_REQ_BLOB</td>
</tr>
<tr>
<td>USE_SCRM_SEQ_NUM</td>
<td>1</td>
</tr>
<tr>
<td>SCRM_SEQ_NUM</td>
<td>0 or 4</td>
</tr>
<tr>
<td>REF_PN</td>
<td>0 or 9</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>0 or 6</td>
</tr>
<tr>
<td>NUM_ACT_PN</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

If NUM_ACT_PN is included, the mobile station shall include NUM_ACT_PN occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT_PN_PHASE</td>
<td>15</td>
</tr>
<tr>
<td>ACT_PILOT_STRENGTH</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_NGHBR_PN</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

If NUM_NGHBR_PN is included, the mobile station shall include NUM_NGHBR_PN occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBR_PN_PHASE</td>
<td>15</td>
</tr>
<tr>
<td>NGHBR_PILOT_STRENGTH</td>
<td>6</td>
</tr>
</tbody>
</table>

### Field Descriptions

- **SIZE_OF_REQ_BLOB** - Size of the request information block of octets (REQ_BLOB).
  - The mobile station shall set this field to the number of octets in the Reverse Supplemental Code Channel or the Reverse Supplemental Channel request block of octets (REQ_BLOB).

- **REQ_BLOB** - Reverse Supplemental Code Channel or the Reverse Supplemental Channel request block of octets.
  - The mobile station shall include information in this field containing the parameters that specify the characteristics of the Reverse Supplemental Code Channels or the Reverse Supplemental Channel request. The mobile station shall set this field in accordance with the connected Service Option.

- **USE_SCRM_SEQ_NUM** - Use Supplemental Channel Request Message sequence number indicator.
The mobile station shall set this field to '1' if the Supplemental Channel Request Message sequence number is included in this message; otherwise, the mobile station shall set this field to '0'.

**SCRM_SEQ_NUM** – Supplemental Channel Request Message sequence number.

If USE_SCRM_SEQ_NUM is set to '1', the mobile station shall set this field to the Supplemental Channel Request Message sequence number that the base station is to include in a Supplemental Channel Assignment Message or Extended Supplemental Channel Assignment Message which is in response to this message; otherwise, the mobile station shall omit this field.

**REF_PN** – Time reference PN sequence offset.

If SIZE_OF_REQ_BLOB is set to '0000' and USE_SCRM_SEQ_NUM is set to '0', the mobile station shall omit this field; otherwise, the mobile station shall set this field to the PN sequence offset of the pilot used by the mobile station to derive its time reference, relative to the zero offset pilot PN sequence in units of 64 PN chips.

**PILOT_STRENGTH** – Reference pilot strength.

If SIZE_OF_REQ_BLOB is set to '0000' and USE_SCRM_SEQ_NUM is set to '0', the mobile station shall omit this field; otherwise, the mobile station shall set this field to

$$[-2 \times 10 \times \log_{10} PS],$$

where PS is the strength of the pilot used by the mobile station to derive its time reference (see [2]), measured as specified in 2.6.6.2.2. If this value $$[-2 \times 10 \log_{10} PS]$$ is less than 0, the mobile station shall set this field to '000000'. If this value is greater than '111111', the mobile station shall set this field to '111111'.

**NUM_ACT_PN** – Number of reported pilots in the Active Set.

If SIZE_OF_REQ_BLOB is set to '0000' and USE_SCRM_SEQ_NUM is set to '0', the mobile station shall omit this field; otherwise, the mobile station shall set this field to the number of reported pilots in the Active Set other than the pilot identified by the REF_PN field.

If SIZE_OF_REQ_BLOB is set to '0000' and USE_SCRM_SEQ_NUM is set to '0', the mobile station shall not include any occurrence of the following record; otherwise, the mobile station shall include one occurrence of the following two-field record for each pilot in the Active Set other than the pilot identified by the REF_PN field:

**ACT_PN_PHASE** – Active pilot measured phase.

The mobile station shall set this field to the phase of this pilot PN sequence relative to the zero offset pilot PN sequence, in units of one PN chip, as specified in 2.6.6.2.4.

**ACT_PILOT_STRENGTH** – Active pilot strength.
The mobile station shall set this field to 
\[-2 \times 10 \times \log_{10} PS\],
where PS is the strength of this pilot, measured as specified in 2.6.6.2.2. If this value \([-2 \times 10 \log_{10} PS]\) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than 63, the mobile station shall set this field to ‘111111’.

NUM_NGHBR_PN – Number of reported neighbor pilots in the Candidate Set and the Neighbor Set.

If SIZE_OF_REQ_BLOB is set to ‘0000’ and USE_SCRM_SEQ_NUM is set to ‘0’, the mobile station shall omit this field; otherwise, the mobile station shall set this field as follows:

The mobile station shall set this field to the number of reported pilots which are not in the Active Set and have measurable strength that exceeds \((T_{ADDs} - T_{MULCHANs})\). \((NUM_ACT_PN + NUM_NGHBR_PN)\) shall not exceed 8. If there are more than \((8 - NUM_ACT_PN)\) pilots not in the Active Set with strength exceeding \((T_{ADDs} - T_{MULCHANs})\), the mobile station shall set NUM_NGHBR_PN to \((8 - NUM_ACT_PN)\) and report the NUM_NGHBR_PN strongest pilots not in the Active Set.

NGHBR_PN_PHASE – Neighbor pilot measured phase.

The mobile station shall set this field to the phase of this pilot PN sequence relative to the zero offset pilot PN sequence, in units of one PN chip, as specified in 2.6.6.2.4.

NGHBR_PILOT_STRENGTH – Neighbor pilot strength.

The mobile station shall set this field to 
\[-2 \times 10 \times \log_{10} PS\],
where PS is the strength of this pilot, measured as specified in 2.6.6.2.2. If this value \([-2 \times 10 \log_{10} PS]\) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than 63, the mobile station shall set this field to ‘111111’.
2.7.2.3.2.19 Candidate Frequency Search Response Message

MSG_TAG: CFSRSM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAST_CFSRM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL_OFF_TIME_FWD</td>
<td>6</td>
</tr>
<tr>
<td>MAX_OFF_TIME_FWD</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL_OFF_TIME_REV</td>
<td>6</td>
</tr>
<tr>
<td>MAX_OFF_TIME_REV</td>
<td>6</td>
</tr>
<tr>
<td>PCG_OFF_TIMES</td>
<td>1</td>
</tr>
<tr>
<td>ALIGN_TIMING_USED</td>
<td>1</td>
</tr>
<tr>
<td>MAX_NUM_VISITS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>INTER_VISIT_TIME</td>
<td>0 or 6</td>
</tr>
</tbody>
</table>

**LAST_CFSRM_SEQ** – Candidate Frequency Search Request Message sequence number.

The mobile station shall set this field to the value of the CFSRM_SEQ field from the Candidate Frequency Search Request Message to which this message is a response.

**TOTAL_OFF_TIME_FWD** – Total time that the mobile station is off the Forward Traffic Channel.

The mobile station shall set this field to the mobile station’s estimate of the total number of frames (if PCG_OFF_TIME is set to ‘0’) or power control groups (if PCG_OFF_TIME is set to ‘1’) for which the mobile station will need to suspend its current Forward Traffic Channel processing in order to tune to the Candidate Frequency, to perform the requested search, and to re-tune to the Serving Frequency. If the mobile station requires multiple visits to the Candidate Frequency to complete the requested search, the mobile station shall set this field to the total number of frames (if PCG_OFF_TIME is set to ‘0’) or power control groups (if PCG_OFF_TIME is set to ‘1’) for all visits to the Candidate Frequency in a search period.

**MAX_OFF_TIME_FWD** – Maximum time the mobile station is away from the Forward Traffic Channel.
The mobile station shall set this field to the mobile station’s estimate of the maximum number of frames (if PCG_OFF_TIME is set to ‘0’) or power control groups (if PCG_OFF_TIME is set to ‘1’) for which the mobile station will need to suspend its current Forward Traffic Channel processing during a visit to the Candidate Frequency, to perform a part of the requested search, and to re-tune to the Serving Frequency.

TOTAL_OFF_TIME_REV – Total time that the mobile station is away from the Reverse Traffic Channel.

The mobile station shall set this field to the mobile station’s estimate of the total number of frames (if PCG_OFF_TIME is set to ‘0’) or power control groups (if PCG_OFF_TIME is set to ‘1’) for which the mobile station will need to suspend its current Reverse Traffic Channel processing in order to tune to the Candidate Frequency, to perform the requested search, and to re-tune to the Serving Frequency. If the mobile station requires multiple visits to the Candidate Frequency to complete the requested search, the mobile station shall set this field to the total number of frames or power control groups for all visits to the Candidate Frequency in a search period.

MAX_OFF_TIME_REV – Maximum time the mobile station is away from the Reverse Traffic Channel.

The mobile station shall set this field to the mobile station’s estimate of the maximum number of frames or power control groups for which the mobile station will need to suspend its current Reverse Traffic Channel processing during a visit to the Candidate Frequency, to perform a part of the requested search, and to re-tune to the Serving Frequency.

PCG_OFF_TIMES – Indicator if off times are expressed in units of power control groups.

If P_REV_IN_USES is less than six, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field as follows:

The mobile station shall set this field to ‘1’ if it expresses TOTAL_OFF_TIME_FWD, MAX_OFF_TIME_FWD, TOTAL_OFF_TIME_REV, and MAX_OFF_TIME_REV in units of power control groups; otherwise, the mobile station shall set this field to ‘0’ so that TOTAL_OFF_TIME_FWD, MAX_OFF_TIME_FWD, TOTAL_OFF_TIME_REV, and MAX_OFF_TIME_REV are expressed in units of frames.

ALIGN_TIMING_USED – Alignment timing used indicator.

The mobile station shall set this field to ‘1’ if it will align the times of its visits away from the Serving Frequency, as requested by the base station; otherwise, the mobile station shall set this field to ‘0’.

MAX_NUM_VISITS – Maximum number of visits per search period.
If the ALIGN_TIMING_USED field is set to ‘0’, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it to the maximum number of visits per search period minus one.

**INTER_VISIT_TIME** – Inter-visit time.

If the mobile station includes the MAX_NUM_VISITS field and sets it to a value other than 0, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

The mobile station shall set INTER_VISIT_TIME to

\[
\min \left( 63, \left\lceil \frac{\text{inter_visit_time}}{\text{search_time_resolution}} \right\rceil \right)
\]

where

- \( \text{search_time_resolution} \) is equal to 0.02 if the mobile station sets PCG_OFF_TIMES to ‘0’; otherwise, \( \text{search_time_resolution} \) is equal to 0.00125,

- \( \text{inter_visit_time} \) is the mobile station’s estimate of the time, in seconds, between the beginning of consecutive visits away from the Serving Frequency.
2.7.2.3.2.20 Candidate Frequency Search Report Message

MSG_TAG: CFSRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAST_SRCH_MSG</td>
<td>1</td>
</tr>
<tr>
<td>LAST_SRCH_MSG_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>SEARCH_MODE</td>
<td>4</td>
</tr>
<tr>
<td>MODE_SPECIFIC_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Mode-specific fields</td>
<td>(8 \times \text{MODE_SPECIFIC_LEN})</td>
</tr>
</tbody>
</table>

LAST_SRCH_MSG – Indicator for the type of message that started the search being reported.

If this message is being sent to report the results of a single search or a periodic search started by a Candidate Frequency Search Control Message or by a Candidate Frequency Search Request Message, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

LAST_SRCH_MSG_SEQ – Sequence number received in the message that started the search being reported.

If this message is being sent in response to a Candidate Frequency Search Control Message, the mobile station shall set this field to the value of the CFSCM_SEQ field from the Candidate Frequency Search Control Message.

If this message is being sent in response to a Candidate Frequency Search Request Message, the mobile station shall set this field to the value of the CFSRM_SEQ field from the Candidate Frequency Search Request Message.

If this message is being sent in response to a General Handoff Direction Message or a Universal Handoff Direction Message, the mobile station shall set this field to the value of the HDM_SEQ field from the General Handoff Direction Message or the Universal Handoff Direction Message.

SEARCH_MODE – Search mode.

The mobile station shall set this field to the SEARCH_MODE value shown in Table 3.7.3.3.2.27-2 corresponding to the type of search specified by the Candidate Frequency Search Request Message that specified the search parameters.

MODE_SPECIFIC_LEN – Length of mode-specific fields included in this message.

Mode-specific fields – Search mode-specific fields.
The mobile station shall include mode-specific fields based on the SEARCH_MODE of this message.

If SEARCH_MODE is equal to '0000', the mobile station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>11</td>
</tr>
<tr>
<td>SF_TOTAL_RX_PWR</td>
<td>5</td>
</tr>
<tr>
<td>CF_TOTAL_RX_PWR</td>
<td>5</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>6</td>
</tr>
</tbody>
</table>

NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN_PHASE</td>
<td>15</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>RESERVED_1</td>
<td>3</td>
</tr>
</tbody>
</table>

**BAND_CLASS** - Band class.

If this message is being sent to report an unsuccessful hard handoff attempt, the mobile station shall set this field to the CDMA band class corresponding to the CDMA Frequency Assignment for the Target Frequency, as specified in [38]. If this message is being sent to report measurements on a Candidate Frequency, the mobile station shall set this field to the CDMA band class corresponding to the CDMA Frequency Assignment for the Candidate Frequency, as specified in [38].

**CDMA_FREQ** - Frequency assignment.

If this message is being sent to report an unsuccessful hard handoff attempt, the mobile station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA Frequency Assignment for the Target Frequency, as specified in [2]. If this message is being sent to report measurements on a Candidate Frequency, the mobile station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA Frequency Assignment for the Candidate Frequency, as specified in [2].

**SF_TOTAL_RX_PWR** - Total received power on the Serving Frequency.

The mobile station shall set this field to

$$\min (31, \lceil (10 \times \log_{10}(\text{total\_received\_power}) + 110) / 2 \rceil)$$

where total_received_power is the mean input power received by the mobile station on the Serving Frequency, in mW/1.23 MHz.
CF_TOTAL_RX_PWR – Indicates the total received power on the Target Frequency or the Candidate Frequency.

If this message is being sent to report an unsuccessful hard handoff attempt, the mobile station shall include the total received power on the Target Frequency; if this message is being sent to report measurements on a Candidate Frequency, the mobile station shall include the total received power on the Candidate Frequency.

The mobile station shall set this field to

\[
\min (31, \lceil (10 \times \log_{10}(total\_received\_power) + 110) / 2 \rceil)
\]

where \(total\_received\_power\) is the mean input power received by the mobile station on the Target Frequency or the Candidate Frequency, in mW/1.23 MHz.

NUM_PILOTS – Number of pilots.

The mobile station shall set this field to the number of pilots included in this message. The mobile station shall set this field to a value from 0 to N8m, inclusive.

The mobile station shall include NUM_PILOTS occurrences of the following three-field record:

PILOT_PN_PHASE – Pilot measured phase.

The mobile station shall set this field to the phase of the pilot PN sequence relative to the zero offset pilot PN sequence of this pilot, in units of one PN chip, as specified in 2.6.6.2.4.

PILOT_STRENGTH – Pilot strength.

The mobile station shall set this field to

\[
\lfloor -2 \times 10 \times \log_{10} PS \rfloor.
\]

where PS is the strength of this pilot, measured as specified in 2.6.6.2.2. If this value \(\lfloor -2 \times 10 \log_{10} PS \rfloor\) is less than 0, the mobile station shall set this field to '000000'. If this value is greater than 63, the mobile station shall set this field to '111111'.

RESERVED_1 – Reserved bits.

The mobile station shall set this field to '000'.

If SEARCH_MODE is equal to '0001', the mobile station shall include the following fields:
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>SF_TOTAL_RX_PWR</td>
<td>5</td>
</tr>
<tr>
<td>NUM_ANALOG_FREQS</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED_2</td>
<td>5</td>
</tr>
</tbody>
</table>

NUM_ANALOG_FREQS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALOG_FREQ</td>
<td>11</td>
</tr>
<tr>
<td>SIGNAL_STRENGTH</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED_3</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

- **BAND_CLASS** - Band class.
  
  The mobile station shall set this field to the CDMA band class corresponding to the analog frequencies that are being reported in this message, as specified in [38].

- **SF_TOTAL_RX_PWR** - Indicates the total received power on the Serving Frequency.
  
  The mobile station shall set this field to
  
  \[
  \min (31, \left\lceil \frac{10 \times \log_{10}(\text{total_received_power}) + 110}{2} \right\rceil)
  \]
  
  where \( \text{total_received_power} \) is the mean input power received by the mobile station on the Serving Frequency, in mW/1.23 MHz.

- **NUM_ANALOG_FREQS** - Number of analog frequencies.
  
  The base station shall set this field to the number of analog frequencies included in this message.

- **RESERVED_2** - Reserved bits.
  
  The mobile station shall set this field to ‘00000’.

The message will include NUM_ANALOG_FREQS occurrences of the following three two-field record, one for each neighbor on the candidate frequency.

- **ANALOG_FREQ** - Analog frequency channel number.
  
  The base station shall set this field analog frequency channel number to search.

- **SIGNAL_STRENGTH** - Signal strength.
  
  The mobile station shall set this field to
  
  \[\lceil - 0.5 \times \text{SS} \rceil.\]
where SS is the strength of this signal, measured in dBm as specified in 2.6.6.2.10.3. If this value \( \lfloor -0.5 \times SS \rfloor \) is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than 63, the mobile station shall set this field to ‘111111’.

- **RESERVED_3**: The mobile station shall add reserved bits as needed in order to make the length of the entire message record equal to an integer number of octets. The mobile station shall set each of these bits to ‘0’.
2.7.2.3.2.21 Periodic Pilot Strength Measurement Message

MSG_TAG: PPSMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REF_PN</td>
<td>9</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>KEEP</td>
<td>1</td>
</tr>
<tr>
<td>SF_RX_PWR</td>
<td>5</td>
</tr>
<tr>
<td>NUM_PILOT</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_PILOT occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN_PHASE</td>
<td>15</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>KEEP</td>
<td>1</td>
</tr>
</tbody>
</table>

REF_PN - Time reference PN sequence offset.

The mobile station shall set this field to the PN sequence offset of the pilot used by the mobile station to derive its time reference, relative to the zero offset pilot PN sequence in units of 64 PN chips.

PILOT_STRENGTH - Pilot strength.

The mobile station shall set this field to

\[-2 \times 10 \times \log_{10}(PS)\]

where PS is the strength of the pilot used by the mobile station to derive its time reference (see [2]), measured as specified in 2.6.6.2.2. If this value is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than ‘111111’, the mobile station shall set this field to ‘111111’.

KEEP - Keep pilot indicator.

If the handoff drop timer (see 2.6.6.2.3) corresponding to the pilot used by the mobile station to derive its time reference (see [2]) has expired, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

SF_RX_PWR - The received power spectral density of the Serving Frequency.

The mobile station shall set this field to

\[\min (31, \lceil (10 \times \log_{10}(\text{spec\_density}) + 120) / 2 \rceil)\]

where \(\text{spec\_density}\) is the mobile station received power spectral density of the Serving Frequency, in mW/1.23MHz.
If this value is less than 0, the mobile station shall set this field to '00000'.

**NUM_PILOT** - Number of Pilots.

The mobile station shall set this field to the number of other reported pilots of the Active Set and the Candidate Set.

The mobile station shall include NUM_PILOT occurrences of the following three-field record, one for each pilot in the Active Set and one for each pilot in the Candidate Set, other than the pilot identified by the REF_PN field.

**PILOT_PN_PHASE** - Pilot measured phase.

The mobile station shall set this field to the phase of the pilot PN sequence relative to the zero offset pilot PN sequence of this pilot, in units of one PN chip, as specified in 2.6.6.2.4.

**PILOT_STRENGTH** - Pilot strength.

The mobile station shall set this field to

\[-2 \times 10 \times \log_{10} PS\]

where PS is the strength of this pilot, measured as specified in 2.6.6.2.2. If this value is less than 0, the mobile station shall set this field to '000000'. If this value is greater than '111111', the mobile station shall set this field to '111111'.

**KEEP** - Keep pilot indicator.

If the handoff drop timer (see 2.6.6.2.3) corresponding to this pilot has expired, the mobile station shall set this field to '0'; otherwise, the mobile station shall set this field to '1'.

---

2-461
2.7.2.3.2.22 Outer Loop Report Message

MSG_TAG: OLRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCH_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_FCH_CURR_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>DCCH_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_DCCH_CURR_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>NUM_SUP</td>
<td>2</td>
</tr>
</tbody>
</table>

Include NUM_SUP occurrences of the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FPC_SCH_CURR_SETPT</td>
<td>8</td>
</tr>
</tbody>
</table>

FCH_INCL – Fundamental Channel included indicator.

The mobile station shall set this field to ‘1’ if CURR_FCH_SETPT is included; otherwise the mobile station shall set this field to ‘0’.

FPC_FCH_CURR_SETPT – The outer loop Eb/Nt setpoint of the Fundamental Channel.

If FCH_INCL is set to ‘1’, the mobile station shall set this field to the value of the Eb/Nt setpoint, in units of 0.125 dB, currently in use in the Fundamental Channel power control outer loop estimation; otherwise, the mobile station shall omit this field.

DCCH_INCL – Dedicated Control Channel included indicator.

The mobile station shall set this field to ‘1’ if the CURR_DCCH_SETPT field is included; otherwise the mobile station shall set this field to ‘0’.

FPC_DCCH_CURR_SETPT – The outer loop Eb/Nt setpoint of the Forward Dedicated Channel.

If DCCH_INCL is set to ‘1’, the mobile station shall set this field to the value of the Eb/Nt setpoint, in units of 0.125 dB, currently in use in the Dedicated Channel power control outer loop estimation; otherwise, the mobile station shall omit this field.
NUM_SUP – The number of Supplemental Channels.

The mobile station shall set this field to the total number of the Supplemental Channels reported by this message.

The mobile station shall in NUM_SUP occurrences of the following two fields:

SCH_ID – The Supplemental Channel index.

The mobile station shall set this field to the Supplemental Channel index to indicate the Forward Supplemental Channel that to be reported

FPC_SCH_CURR_SETPT – The supplemental outer loop Eb/Nt setpoint.

The mobile station shall set this field to the value of the power control outer loop Eb/Nt setpoint, in units of 0.125 dB, currently in use in the Channel specified by SCH_ID.
2.7.2.3.2.23 Resource Request Message

MSG_TAG: RRM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.24 Resource Request Mini Message

MSG_TAG: RRMM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.25 Extended Release Response Message

MSG_TAG: ERRM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.26 Extended Release Response Mini Message

MSG_TAG: ERRMM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.27 Pilot Strength Measurement Mini Message

MSG_TAG: PSMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSMM_POS</td>
<td>3</td>
</tr>
<tr>
<td>PILOT_STRENGTH</td>
<td>6</td>
</tr>
<tr>
<td>RANK</td>
<td>3</td>
</tr>
</tbody>
</table>

PSMM_POS – *Pilot Strength Measurement Message* position.

The mobile station shall set this field to an index corresponding to the position, within the last sent *Pilot Strength Measurement Message* (see 2.7.2.3.2.5), of the Active-Set pilot whose strength is being reported. The mobile station shall use a value of 0 to report the pilot represented by the REF_PN field in the last sent *Pilot Strength Measurement Message*. The mobile station shall use a value of n, where n is an integer greater than 0, to report the pilot represented by the n<sup>th</sup> occurrence of the PILOT_PN_PHASE field in the last sent *Pilot Strength Measurement Message*.

PILOT_STRENGTH – Pilot strength.

The mobile station shall set this field to

\[ [-2 \times 10 \times \log_{10} PS] \]

where PS is the strength of this Active-Set pilot, measured as specified in [2]. If this value is less than 0, the mobile station shall set this field to ‘000000’. If this value is greater than ‘111111’, the mobile station shall set this field to ‘111111’.

RANK – Rank order.

The mobile station shall set this field to the rank order of the pilot whose strength is being reported, relative to all other pilots in the current Active Set. The mobile station shall use a value of 0 to report the strongest pilot in the current Active Set.
2.7.2.3.2.28 Supplemental Channel Request Mini Message

MSG_TAG: SCRMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQ_BLOB</td>
<td>16</td>
</tr>
</tbody>
</table>

REQ_BLOB – Reverse Supplemental Channel request block of octets.

The mobile station shall include information in this field containing the parameters that specify the characteristics of the Reverse Supplemental Channels request. The mobile station shall set this field in accordance with the connected Service Options.
2.7.2.3.2.29 Resource Release Request Message

MSG_TAG: RRRM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.30 Resource Release Request Mini Message

MSG_TAG: RRRMM

There are no Layer 3 fields associated with this message.
2.7.2.3.2.31 User Zone Update Request Message

MSG_TAG: UZURM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UZID</td>
<td>16</td>
</tr>
</tbody>
</table>

UZID - User Zone identifiers.

The mobile station shall set this field to the UZIDs.

2.7.3 Orders

Order Messages are sent by the mobile station on the r-csch and on the r-dsch. The general PDU format used on the r-csch is defined in 2.7.1.3.2.2, and the general PDU format used on the r-dsch is defined in 2.7.2.3.2.1. There are many specific types of Order Messages, as shown in Table 2.7.3-1.

The mobile station may send on the r-csch any type of order shown in Table 2.7.3-1 with a ‘Y’ in the first column, but shall not send on the r-csch any type of order with an ‘N’ in the first column. The mobile station may send on the r-dsch any type of order shown in Table 2.7.3-1 with a ‘Y’ in the second column, but shall not send on the r-dsch any type of order with an ‘N’ in the second column. The mobile station shall be capable of sending all types of orders shown in Table 2.7.3-1 with a ‘Y’ in the sixth column.

An order consists of a 6-bit order code and zero or more order-specific fields. The mobile station shall set the ORDER field in the Order Message to the order code shown in Table 2.7.3-1 corresponding to the type of order being sent.

If the order qualification code in the fourth column of Table 2.7.3-1 is ‘00000000’ and there are no other additional fields as shown by an ‘N’ in the fifth column, the mobile station shall include no order qualification code or other order-specific fields in the Order Message. The order qualification code of such a message is implicitly ‘00000000’.

If the order qualification code is not ‘00000000’ and there are no other additional fields as shown in Table 2.7.3-1 by an ‘N’ in the fifth column, the mobile station shall include the order qualification code as the only order-specific field in the Order Message.

If there are other additional fields as shown in Table 2.7.3-1 by a ‘Y’ in the fifth column, the mobile station shall include order-specific fields as specified in the corresponding subsection of this section.
Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 1 of 4)

<table>
<thead>
<tr>
<th>r-csch Order</th>
<th>r-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>More Fields other than ORDQ</th>
<th>Support Req’d</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>000010</td>
<td>00000000</td>
<td>Y</td>
<td>Y</td>
<td>Base Station Challenge Order (see 2.7.3.1)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>000011</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>SSD Update Confirmation Order</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>000011</td>
<td>00000001</td>
<td>N</td>
<td>Y</td>
<td>SSD Update Rejection Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>000101</td>
<td>0000nnnn</td>
<td>N</td>
<td>Y</td>
<td>Parameter Update Confirmation Order (where ’nnnn’ is the Request Number)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>001011</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Request Wide Analog Service Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>001011</td>
<td>00000001</td>
<td>N</td>
<td>N</td>
<td>Request Narrow Analog Service Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>001011</td>
<td>00000010</td>
<td>N</td>
<td>N</td>
<td>Request Analog Service Order</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010000</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>Mobile Station Acknowledgment Order (see [4])</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010011</td>
<td>00000000</td>
<td>Y</td>
<td>N</td>
<td>Service Option Request Order (Band Class 0 only) (see 2.7.3.2)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010100</td>
<td>00000000</td>
<td>Y</td>
<td>Y</td>
<td>Service Option Response Order (Band Class 0 only) (see 2.7.3.3)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010101</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>Release Order (normal release)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010101</td>
<td>00000001</td>
<td>N</td>
<td>Y</td>
<td>Release Order (with power-down indication)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010101</td>
<td>00000010</td>
<td>N</td>
<td>Y</td>
<td>Release Order (with service inactive indication)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Long Code Transition Request Order (request public)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>00000001</td>
<td>N</td>
<td>N</td>
<td>Long Code Transition Request Order (request private)</td>
</tr>
</tbody>
</table>
Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 2 of 4)

<table>
<thead>
<tr>
<th>r-csch Order</th>
<th>r-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>More Fields other than ORDQ</th>
<th>Support Req’d</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>00000010</td>
<td>N</td>
<td>Y</td>
<td>Long Code Transition Response Order (use public)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>00000011</td>
<td>N</td>
<td>N</td>
<td>Long Code Transition Response Order (use private)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011000</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>Connect Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011001</td>
<td>0000nmmm</td>
<td>N</td>
<td>Y</td>
<td>Continuous DTMF Tone Order (where 'nmmn' is the tone per Table 2.7.1.3.2.4-4).</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011001</td>
<td>11111111</td>
<td>N</td>
<td>Y</td>
<td>Continuous DTMF Tone Order (Stop continuous DTMF tone)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011101</td>
<td>nnnnnnnn</td>
<td>N</td>
<td>Y</td>
<td>Service Option Control Order (Band Class 0 only) (the specific control is designated by 'nnnnnnnn' as determined by each service option)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011110</td>
<td>nnnnnnnn</td>
<td>N</td>
<td>N</td>
<td>Local Control Response Order (specific response as designated by 'nnnnnnnnn' as determined by each system)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000001</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (unspecified reason; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000010</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message not accepted in this state; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000011</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message structure not acceptable; see 2.7.3.4)</td>
</tr>
</tbody>
</table>
Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch
(Part 3 of 4)

<table>
<thead>
<tr>
<th>r-csch Order</th>
<th>r-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>More Fields other than ORDQ</th>
<th>Support Req’d</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000100</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message field not in valid range; see 2.7.3.4)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011111</td>
<td>00000101</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message type or order code not understood; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000110</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message requires a capability that is not supported by the mobile station; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00000111</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (message cannot be handled by the current mobile station configuration; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00001000</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (response message would exceed allowable length; see 2.7.3.4)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011111</td>
<td>00001001</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (information record is not supported for the specified band class and operating mode; see 2.7.3.4)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011111</td>
<td>00001010</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (search set not specified; see 2.6.6.2.5.1)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011111</td>
<td>00001011</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (invalid search request; see 2.6.6.2.5.1)</td>
</tr>
</tbody>
</table>
Table 2.7.3-1. Order and Order Qualification Codes Used on the r-dsch and the r-csch

(Part 4 of 4)

<table>
<thead>
<tr>
<th>r-csch Order</th>
<th>r-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>More Fields other than ORDQ</th>
<th>Support Req'd</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Y</td>
<td>0111111</td>
<td>00001100</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (invalid Frequency Assignment; see 2.6.6.2.5.1)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>0111111</td>
<td>00001101</td>
<td>Y</td>
<td>Y</td>
<td>Mobile Station Reject Order (search period too short; see 2.6.6.2.5.1)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>0111111</td>
<td>00001110</td>
<td>N</td>
<td>Y</td>
<td>Mobile Station Reject Order (RC does not match with the value in the field DEFAULT_CONFIG; see 2.6.3.3 and 2.6.3.5)</td>
</tr>
</tbody>
</table>

All other codes are reserved.
2.7.3.1 Base Station Challenge Order

<table>
<thead>
<tr>
<th>Order-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>RANDBS</td>
<td>32</td>
</tr>
</tbody>
</table>

ORDQ – Order qualification code.
The mobile station shall set this field to '00000000'.

RANDBS – Random challenge data.
The mobile station shall set this field as specified in 2.3.12.1.5.
2.7.3.2 Service Option Request Order

<table>
<thead>
<tr>
<th>Order-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
</tbody>
</table>

ORDQ – Order qualification code.

The mobile station shall set this field to ‘00000000’.

SERVICE_OPTION – Service option.

The mobile station shall set this field to the service option code specified in [38], corresponding to the requested or alternative service option.
### 2.7.3.3 Service Option Response Order

<table>
<thead>
<tr>
<th>Order-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
</tbody>
</table>

**ORDQ** – Order qualification code.

The mobile station shall set this field to '00000000'.

**SERVICE_OPTION** – Service option.

The mobile station shall set this field to the service option code specified in [38], corresponding to the accepted service option, or to '0000000000000000' to reject the proposed service option. See 2.6.4.1.2.2.1.
### 2.7.3.4 Mobile Station Reject Order

<table>
<thead>
<tr>
<th>Order-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>REJECTED_TYPE</td>
<td>8</td>
</tr>
</tbody>
</table>

If the order is sent on the Access Channel and

REJECTED_TYPE is ‘00000111’

or if the order is sent on the Reverse Traffic Channel and

REJECTED_TYPE is ‘00000001’

the order-specific fields also include the following two fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECTED_ORDER</td>
<td>8</td>
</tr>
<tr>
<td>REJECTED_ORDQ</td>
<td>8</td>
</tr>
</tbody>
</table>

If the order is sent on the Reverse Traffic Channel and

REJECTED_TYPE is ‘00001100’

the order-specific fields also include the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECTED_PARAM_ID</td>
<td>16</td>
</tr>
</tbody>
</table>

If the order is sent on the Access Channel and

REJECTED_TYPE is ‘00001100’

or if the order is sent on the Reverse Traffic Channel and

REJECTED_TYPE is ‘00000011’ or

REJECTED_TYPE is ‘00001110’

the order-specific fields also include the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECTED_RECORD</td>
<td>8</td>
</tr>
<tr>
<td>REJECTED_PDU_TYPE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 or 6</td>
</tr>
</tbody>
</table>

**ORDQ** – Order qualification code.

The mobile station shall set this field to the ORDQ value shown in Table 2.7.3-1 corresponding to the reason for rejecting the message.

**REJECTED_TYPE** – Message type of rejected message.

The mobile station shall set this field to the value of the MSG_TYPE field of the message being rejected.

If the MSG_TYPE field is not 8 bits, the mobile station shall set the least significant bits of this field to the value of the MSG_TYPE field and set all the remaining bits to ‘0’.
REJECTED_ORDER – Order type of rejected message.
If the rejected message was an Order Message, the mobile station shall set this field to the value of the ORDER field in the rejected message.
Otherwise, the mobile station shall omit this field.

REJECTED_ORDQ – Order qualification code of rejected message.
If the rejected message was an Order Message including an ORDQ field, the mobile station shall set this field to the value of the ORDQ field in the rejected message. If the rejected message was an Order Message not including an ORDQ field, the mobile station shall set this field to ‘00000000’.
Otherwise, the mobile station shall omit this field.

REJECTED_PARAM_ID – Parameter identification of the rejected parameter.
If the rejected message was a Set Parameters Message, the mobile station shall set this field to the PARAMETER_ID of the first parameter for which the requested operation could not be completed.
Otherwise, the mobile station shall omit this field.

REJECTED_RECORD – Record type of the rejected information record.
If the rejected message was a Feature Notification Message, an Alert With Information Message or a Flash With Information Message, the mobile station shall set this field to the RECORD_TYPE field of the first information record that could not be accepted.
Otherwise, the mobile station shall omit this field.

REJECTED_PDU_TYPE – PDU type of the rejected message.
If P_REV_IN_USE is less than six, the mobile station shall omit this field; otherwise, the mobile station shall set this field to the REJECTED_PDU_TYPE code shown in Table 2.7.3.5-1 corresponding to the PDU type of the message being rejected.

<table>
<thead>
<tr>
<th>REJECTED_PDU_TYPE (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>20 ms regular message</td>
</tr>
<tr>
<td>01</td>
<td>5 ms mini message</td>
</tr>
<tr>
<td>01</td>
<td>Reserved</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

RESERVED – Reserved bits.
If $\text{P REV IN USE}_3$ is less than six, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set this field to '000000'.

---

[1]
2.7.4 Information Records

On the r-csch, information records may be included in the Status Response Message and the Extended Status Response Message. On the r-dsch, information records may be included in the Origination Continuation Message, the Flash With Information Message, the Service Request Message, the Service Response Message, the Status Message, and the Status Response Message. Table 2.7.4-1 lists the information record type values that may be used with each message type. The following sections describe the contents of each of the record types in detail.

Table 2.7.4-1. Information Record Types (Part 1 of 2)

<table>
<thead>
<tr>
<th>Information Record</th>
<th>Record Type (binary)</th>
<th>Message Type</th>
<th>r-csch</th>
<th>r-dsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved</td>
<td>000000001</td>
<td>None</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reserved for Obsolete Identification</td>
<td>000000010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keypad Facility</td>
<td>000000011</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Called Party Number</td>
<td>000000100</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Calling Party Number</td>
<td>000000101</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Origination Continuation</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Reserved for Obsolete Identification</td>
<td>000000110</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Call Mode</td>
<td>000001111</td>
<td>Status [1]</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Terminal Information</td>
<td>000010000</td>
<td>Status [1]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Roaming Information</td>
<td>000010011</td>
<td>Status [1]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Security Status</td>
<td>000010100</td>
<td>Status [1]</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Connected Number</td>
<td>000010111</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>IMSI</td>
<td>000011000</td>
<td>Status [1]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>ESN</td>
<td>000011011</td>
<td>Status [1]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Band Class Information</td>
<td>000011110</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Power Class Information</td>
<td>000011111</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Operating Mode Information</td>
<td>000100000</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Service Option Information</td>
<td>000100011</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Multiplex Option Information</td>
<td>000100101</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Service Configuration Information</td>
<td>000100111</td>
<td>Status [2]</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service Request</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service Response</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>
Table 2.7.4-1. Information Record Types (Part 2 of 2)

<table>
<thead>
<tr>
<th>Information Record</th>
<th>Record Type</th>
<th>SDU_TAG</th>
<th>r-csch</th>
<th>r-dsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Called Party Subaddress</td>
<td>00010100</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Origination Continuation</td>
<td></td>
</tr>
<tr>
<td>Calling Party Subaddress</td>
<td>00010101</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Origination Continuation</td>
<td></td>
</tr>
<tr>
<td>Connected Subaddress</td>
<td>00010110</td>
<td>Flash</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>IMSI_M</td>
<td>00011000</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IMSI_T</td>
<td>00011001</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Capability Information</td>
<td>00011010</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Extended Multiplex Option Information</td>
<td>00011100</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Geo-location Information</td>
<td>00011110</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Band Subclass Information</td>
<td>00011111</td>
<td>Status [2]</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Extended Record Type — International</td>
<td>11111110</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All other record type values are reserved.

[1] This information record may be included in a Status Message, a Status Response Message, or an Extended Status Response Message.

[2] This information record may be included in a Status Response Message or an Extended Status Response Message.
2.7.4.1 Reserved
2.7.4.2 Keypad Facility

This information record can be included in a Flash With Information Message and allows the user to send characters entered via a keyboard or other such terminal.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARi</td>
<td>8</td>
</tr>
</tbody>
</table>

CHARi — Character.

The mobile station shall include one occurrence of this field for each character entered. The mobile station shall set each occurrence of this field to the ASCII representation corresponding to the character entered, as specified in [12], with the most significant bit set to '0'.
2.7.4.3 Called Party Number

This information record identifies the called party's number.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi              | 8            |

RESERVED – Reserved bit.

The mobile station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the called number, as defined in [8].

The mobile station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the called number, as defined in [8].

The mobile stations shall include one occurrence of this field for each character in the called number. The mobile station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to ‘0’.

The mobile station shall set this field to ‘0’.
2.7.4.4 Calling Party Number

This information record can be included in a *Flash With Information Message* and identifies the calling party’s number.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
<tr>
<td>PI</td>
<td>2</td>
</tr>
<tr>
<td>SI</td>
<td>2</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi               | 8             |

| RESERVED            | 5             |

**NUMBER_TYPE** – Type of number.

The mobile station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the calling number, as defined in [8].

**NUMBER_PLAN** – Numbering plan.

The mobile station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the calling number, as defined in [8].

**PI** – Presentation indicator.

This field indicates whether or not the calling number should be displayed.

The mobile station shall set this field to the PI value shown in Table 2.7.4.4-1 corresponding to the presentation indicator, as defined in [8].

**Table 2.7.4.4-1. Presentation Indicators**

<table>
<thead>
<tr>
<th>Description</th>
<th>PI (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation allowed</td>
<td>00</td>
</tr>
<tr>
<td>Presentation restricted</td>
<td>01</td>
</tr>
<tr>
<td>Number not available</td>
<td>10</td>
</tr>
<tr>
<td>Reserved</td>
<td>11</td>
</tr>
</tbody>
</table>

**SI** – Screening indicator.
This field indicates how the calling number was screened.

The mobile station shall set this field to the SI value shown in Table 2.7.4.4-2 corresponding to the screening indicator value, as defined in [8].

<table>
<thead>
<tr>
<th>Description</th>
<th>SI (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>User-provided, not screened</td>
<td>00</td>
</tr>
<tr>
<td>User-provided, verified and passed</td>
<td>01</td>
</tr>
<tr>
<td>User-provided, verified and failed</td>
<td>10</td>
</tr>
<tr>
<td>Network-provided</td>
<td>11</td>
</tr>
</tbody>
</table>

CHARi – Character.

The mobile stations shall include one occurrence of this field for each character in the calling number. The mobile station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to ‘0’.

RESERVED – Reserved bits.

The mobile station shall set this field to ‘00000’.
2.7.4.5 Reserved
2.7.4.6 Call Mode

This information record can be included in a Status Message or a Status Response Message to return the mobile station’s preferred call mode and call-related information.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIG_MODE</td>
<td>1</td>
</tr>
<tr>
<td>PRI_SERVICE</td>
<td>16</td>
</tr>
<tr>
<td>SEC_SERVICE</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>7</td>
</tr>
</tbody>
</table>

**ORIG_MODE** – Origination mode indicator.

If the current call is a mobile-originated call, the mobile station shall set this field to ‘0’. If the current call is a mobile-terminated call, the mobile station shall set this field to ‘1’.

**PRI_SERVICE** – Primary service option.

The mobile station shall set this field to the value specified in [38], corresponding to the current primary service option. If no primary service option is active, the mobile station shall set this field to ‘0000000000000000’.

**SEC_SERVICE** – Secondary service option.

The mobile station shall set this field to the value specified in [38], corresponding to the current secondary service option. If no secondary service option is active, the mobile station shall set this field to ‘0000000000000000’.

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘0000000’.
2.7.4.7 Terminal Information

This information record can be included in a Status Message, a Status Response Message, or an Extended Status Response Message to return configuration information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>MOB_MFG_CODE</td>
<td>8</td>
</tr>
<tr>
<td>MOB_MODEL</td>
<td>8</td>
</tr>
<tr>
<td>MOB_FIRM_REV</td>
<td>16</td>
</tr>
<tr>
<td>SCM</td>
<td>8</td>
</tr>
<tr>
<td>LOCAL_CTRL</td>
<td>1</td>
</tr>
<tr>
<td>SLOT_CYCLE_INDEX</td>
<td>3</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

| SERVICE_OPTION | 16 |

| RESERVED       | 4  |

MOB_P_REV – Protocol revision of the mobile station.

If the status request does not specify a band class, the mobile station shall set this field to ‘00000110’; otherwise, the mobile station shall set this field to the MOB_P_REV associated with the requested band class and operating mode.

MOB_MFG_CODE – Manufacturer code.

This field identifies the manufacturer of the mobile station.

The mobile station shall set this field to the manufacturer code assigned to its manufacturer.

MOB_MODEL – Model number.

This number is assigned by the manufacturer for a particular model.

The mobile station shall set this field to the model number assigned by the manufacturer for this mobile station.

MOB_FIRM_REV – Firmware revision number.

This number is assigned by the manufacturer for a particular firmware version.

The mobile station shall set this field to the revision number assigned by the manufacturer for the firmware version running in this mobile station.
SCM – Station class mark.

The mobile station shall set this field to its station class mark.

See 2.3.3.

LOCAL_CTRL – Local control indicator.

If local control is enabled, the mobile station shall set this field to ‘1’. If local control is disabled, the mobile station shall set this field to ‘0’. See 2.6.1.2.2.

SLOT_CYCLE_INDEX – Slot cycle index.

If the requested operating mode is CDMA and the mobile station is configured for slotted mode operation, the mobile station shall set this field to the preferred slot cycle index, SLOT_CYCLE_INDEXp (see 2.6.2.1.1); otherwise, the mobile station shall set this field to ‘000’.

SERVICE_OPTION – Supported service option.

If the requested operating mode is CDMA, the mobile station shall include one occurrence of this field for each service option supported by the mobile station (see [38]); otherwise, the mobile station shall include one occurrence of this field with the value set to ‘0000000000000000’.

RESERVED – Reserved bits.

The mobile station shall set this field to ‘0000’.
2.7.4.8 Roaming Information

This information record can be included in a Status Message, a Status Response Message, or an Extended Status Response Message to return roaming information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCOLC</td>
<td>4</td>
</tr>
<tr>
<td>MOB_TERM_HOME</td>
<td>1</td>
</tr>
<tr>
<td>MOB_TERM_FOR_SID</td>
<td>1</td>
</tr>
<tr>
<td>MOB_TERM_FOR_NID</td>
<td>1</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0-7 (as needed)</td>
</tr>
</tbody>
</table>

ACCOLC – Overload class.

The mobile station shall set this field to the access overload class assigned to the mobile station.

MOB_TERM_HOME – Home (non-roaming) registration enable indicator.

If the mobile station is configured to receive mobile station terminated calls when not roaming, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’. See 2.6.5.3.

MOB_TERM_FOR_SID – Foreign SID roaming registration enable indicator.

If the mobile station is configured to receive mobile station terminated calls when it is a foreign SID roamer, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’. See 2.6.5.3.

MOB_TERM_FOR_NID – Foreign NID roaming registration enable indicator.

If the mobile station is configured to receive mobile station terminated calls when it is a foreign NID roamer, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’. See 2.6.5.3.
The mobile station shall include one occurrence of the following two-field record for each home (non-roaming) (SID, NID) pair (see 2.6.5.2):

- **SID**: System identification.
  - The mobile station shall set this field to the SID value for this (SID, NID) pair.

- **NID**: Network identification.
  - The mobile station shall set this field to the NID value for this (SID, NID) pair.

- **RESERVED**: Reserved bits.
  - The mobile station shall add reserved bits as needed in order to make the length of the entire information record equal to an integer number of octets. The mobile station shall set these bits to ‘0’.
2.7.4.9 Security Status

This information record can be included in a Status Message or a Status Response Message to return the authentication, encryption, and voice privacy modes of the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTH_MODE</td>
<td>2</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>2</td>
</tr>
<tr>
<td>PRIVATE_LCM</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

**AUTH_MODE** – Authentication mode.

If the mobile station provided standard authentication information at the initiation of this call, the mobile station shall set this field to ‘01’; otherwise, the mobile station shall set this field to ‘00’. All other values are reserved.

**ENCRYPT_MODE** – Message encryption mode.

The mobile station shall set this field to the value shown in Table 3.7.2.3.2.8-2 corresponding to the message encryption mode currently in use for this call.

**PRIVATE_LCM** – Private long code mask indicator.

If the mobile station is using the private long code mask for this call, the mobile station shall set this field to ‘1’. If the mobile station is using the public long code mask for this call, the mobile station shall set this field to ‘0’.

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘000’.
2.7.4.10 Connected Number

This information record can be included in a *Flash With Information Message* to identify the responding party to a call.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
<tr>
<td>PI</td>
<td>2</td>
</tr>
<tr>
<td>SI</td>
<td>2</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi               | 8             |

| RESERVED            | 5             |

**NUMBER_TYPE** – Type of number.

The mobile station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the connected number as defined [8].

**NUMBER_PLAN** – Numbering plan.

The mobile station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the connected number, as defined in [8].

**PI** – Presentation indicator.

This field indicates whether or not the connected number should be displayed. The mobile station shall set this field to the PI value shown in Table 2.7.4.4-1 corresponding to the presentation indicator, as defined in [8].

**SI** – Screening indicator.

This field indicates how the connected number was screened. The mobile station shall set this field to the SI value shown in Table 2.7.4.4-2 corresponding to the screening indicator value, as defined in [8].

**CHARi** – Character.

The mobile station shall include one occurrence of this field for each character in the connected number. The mobile station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to ‘0’.

** RESERVED** – Reserved bits.

The mobile station shall set this field to ‘00000’.
2.7.4.11 IMSI

This information record can be included in a Status Message, a Status Response Message, or an Extended Status Response Message to return the mobile station’s operational IMSI.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSI_CLASS</td>
<td>1</td>
</tr>
<tr>
<td>IMSI_ADDR_NUM</td>
<td>3</td>
</tr>
<tr>
<td>MCC_O</td>
<td>10</td>
</tr>
<tr>
<td>IMSI_O_11_12</td>
<td>7</td>
</tr>
<tr>
<td>IMSI_O_S</td>
<td>34</td>
</tr>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
</tbody>
</table>

- **IMSI_CLASS** – If IMSI_O is a class 0 IMSI, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

- **IMSI_ADDR_NUM** – Number of IMSI_O address digits. If IMSI_O is a class 1 IMSI, the mobile station shall set this field to four less than the number of digits in the NMSI; otherwise, the mobile station shall set this field to ‘000’.

- **MCC_O** – Mobile Country Code of the operational IMSI. The mobile station shall set this field to MCC_Os. (see 2.3.1).

- **IMSI_O_11_12** – The 11th and 12th digits of the operational IMSI. The mobile station shall set this field to IMSI_O_11_12s. (see 2.3.1).

- **IMSI_O_S** – Last ten digits of the operational IMSI. The mobile station shall set this field to IMSI_O_S. (see 2.3.1.)

- **RESERVED** – Reserved bit. The mobile station shall set this field to ‘0’.
2.7.4.12 ESN

This information record can be included in a Status Message, a Status Response Message, or an Extended Status Response Message to return the mobile station ESN.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESN</td>
<td>32</td>
</tr>
</tbody>
</table>

ESN – Mobile station electronic serial number.

The mobile station shall set this field to its electronic serial number (see 2.3.2).
2.7.4.13 Band Class Information

This information record can be included in a Status Response Message, or an Extended Status Response Message to return band class information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS_INFO</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

**BAND_CLASS_INFO** – Band class information.

This field indicates which band classes are supported by the mobile station.

This field currently consists of the following subfields which are included in the information record in the order shown:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS_0</td>
<td>1</td>
<td>800 MHz cellular band</td>
</tr>
<tr>
<td>BAND_CLASS_1</td>
<td>1</td>
<td>1.8 to 2.0 GHz PCS band</td>
</tr>
<tr>
<td>BAND_CLASS_2</td>
<td>1</td>
<td>872 to 960 MHz TACS band</td>
</tr>
<tr>
<td>BAND_CLASS_3</td>
<td>1</td>
<td>832 to 925 MHz JTACS band</td>
</tr>
<tr>
<td>BAND_CLASS_4</td>
<td>1</td>
<td>1.75 to 1.87 GHz Korean PCS band</td>
</tr>
<tr>
<td>BAND_CLASS_5</td>
<td>1</td>
<td>450 MHz NMT band</td>
</tr>
<tr>
<td>BAND_CLASS_6</td>
<td>1</td>
<td>2 GHz IMT-2000 band</td>
</tr>
<tr>
<td>BAND_CLASS_7</td>
<td>1</td>
<td>700 MHz band</td>
</tr>
<tr>
<td>BAND_CLASS_8</td>
<td>1</td>
<td>1800 MHz band</td>
</tr>
<tr>
<td>BAND_CLASS_9</td>
<td>1</td>
<td>900 MHz band</td>
</tr>
<tr>
<td>BAND_CLASS_10</td>
<td>1</td>
<td><strong>Secondary 800 MHz band</strong></td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
<td><strong>Reserved 800 MHz band</strong></td>
</tr>
</tbody>
</table>

The mobile station shall set each subfield to ‘1’ if the corresponding band class is supported by the mobile station; otherwise, the mobile station shall set the subfield to ‘0’.

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘00000’.
When more band classes are defined, the reserved bits will be used for the new corresponding subfields. Sufficient octets will be added to this field to accommodate the new subfields. All the undefined bits in an additional octet will be reserved bits.

The mobile station shall set all the reserved bits to ‘0’. If all bits are set to ‘0’ in an octet and all succeeding octets, the mobile station shall omit the octet and the succeeding octets.
2.7.4.14 Power Class Information

This information record can be included in a Status Response Message, or an Extended Status Response Message to return power class information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX_EIRP</td>
<td>8</td>
</tr>
</tbody>
</table>

MAX_EIRP – Maximum effective isotropic radiated power (EIRP).

The mobile station shall set this field to the minimum EIRP at maximum output (in dBW) for the mobile station plus 60 (see [14]). When the mobile station output power is expressed in ERP, it may be converted to EIRP by adding 2 dB to the ERP value.¹

¹ For example, if a mobile station has a minimum ERP at maximum output of -4 dBW, then the mobile station sets this field to 58.
2.7.4.15 Operating Mode Information

This information record can be included in a Status Response Message or an Extended Status Response Message to return operating mode information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP_MODE_INFO</td>
<td>8 × RECORD_LEN</td>
</tr>
</tbody>
</table>

OP_MODE_INFO – Operating mode information.

This field indicates which operating modes are supported by the mobile station in the band class for which information is requested.

This field currently consists of the following subfields which are included in the information record in the order shown in Table 2.7.4.15-1 for P_REV_IN_USES less than or equal to three and in Table 2.7.4.15-2 for P_REV_IN_USES greater than three.

Table 2.7.4.15-1. OP_MODE for P_REV_IN_USES Less Than or Equal to Three

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP_MODE0</td>
<td>1</td>
<td>CDMA mode in Band Class 1 and Band Class 4</td>
</tr>
<tr>
<td>OP_MODE1</td>
<td>1</td>
<td>CDMA mode in Band Class 0 and Band Class 3</td>
</tr>
<tr>
<td>OP_MODE2</td>
<td>1</td>
<td>analog mode [6]</td>
</tr>
<tr>
<td>OP_MODE3</td>
<td>1</td>
<td>wide analog mode [28]</td>
</tr>
<tr>
<td>OP_MODE4</td>
<td>1</td>
<td>narrow analog mode [28]</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
<td>–</td>
</tr>
</tbody>
</table>
### Table 2.7.4.15-2. OP_MODE for P_REV_IN_USEs Greater Than Three

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP_MODE0</td>
<td>1</td>
<td>CDMA mode</td>
<td></td>
</tr>
<tr>
<td>OP_MODE1</td>
<td>1</td>
<td>CDMA mode(^2)</td>
<td></td>
</tr>
<tr>
<td>OP_MODE2</td>
<td>1</td>
<td>Analog mode</td>
<td>[6]</td>
</tr>
<tr>
<td>OP_MODE3</td>
<td>1</td>
<td>Wide analog mode</td>
<td>[28]</td>
</tr>
<tr>
<td>OP_MODE4</td>
<td>1</td>
<td>Narrow analog mode</td>
<td>[28]</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

The mobile station shall set each subfield to ‘1’, if the corresponding operating mode is supported by the mobile station; otherwise, the mobile station shall set the subfield to ‘0’.

The mobile station shall set this field to ‘000’.

When more operating modes are defined, the reserved bits will be used for the new corresponding subfields. Sufficient octets will also be added to this field to accommodate the corresponding new subfields. All the undefined bits in an additional octet will be reserved bits.

The mobile station shall set all the reserved bits to ‘0’. If all bits are set to ‘0’ in an octet and all succeeding octets, the mobile station shall omit the octet and the succeeding octets.

---

\(^2\) The mobile station shall set OP_MODE1 as same as OP_MODE0.
### 2.7.4.16 Service Option Information

This information record can be included in a *Status Response Message*, or an *Extended Status Response Message* to return service option information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One or more occurrences of the following field:</td>
<td></td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
<tr>
<td>FORWARD_SUPPORT</td>
<td>1</td>
</tr>
<tr>
<td>REVERSE_SUPPORT</td>
<td>1</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
</tbody>
</table>

The mobile station shall include one occurrence of the following record for each service option supported:

- **RESERVED** – Reserved bits.
  - The mobile station shall set this field to ‘000000’.

- **FORWARD_SUPPORT** – Support indicator for Forward Traffic Channel.
  - The mobile station shall set this field to ‘1’ if the service option specified in the SERVICE_OPTION field is supported on the Forward Traffic Channel.

- **REVERSE_SUPPORT** – Support indicator for Reverse Traffic Channel.
  - The mobile station shall set this field to ‘1’ if the service option specified in the SERVICE_OPTION field is supported on the Reverse Traffic Channel.

- **SERVICE_OPTION** – Service option.
  - The mobile station shall set this field to the value specified in [38] for the service option supported.
2.7.4.17 Multiplex Option Information

This information record can be included in a Status Response Message or an Extended Status Response Message to return multiplex option information about the mobile station. The mobile station shall include at least one, and not more than six, instances of the record within the type-specific field according to the following rules:

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 1. If this instance is included, the mobile station shall support Multiplex Option 1 for forward and reverse operation.

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 2. If this instance is included, the mobile station shall support Multiplex Option 2 for forward and reverse operation.

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 3, 5, 7, 9, 11, 13, or 15 and with FOR_RATES set to '00000000'. If this instance is included, the mobile station shall set MULTIPLEX_OPTION to the highest numbered multiplex option from the set {3, 5, 7, 9, 11, 13, 15} which the mobile station supports for reverse operation, and the mobile station shall support all multiplex options less than or equal to MULTIPLEX_OPTION from that set for reverse operation.

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 4, 6, 8, 10, 12, 14, or 16 and with FOR_RATES set to '00000000'. If this instance is included, the mobile station shall set MULTIPLEX_OPTION to the highest numbered multiplex option from the set {4, 6, 8, 10, 12, 14, 16} which the mobile station supports for reverse operation, and the mobile station shall support all multiplex options less than or equal to MULTIPLEX_OPTION from that set for reverse operation.

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 3, 5, 7, 9, 11, 13, or 15 and with REV_RATES set to '00000000'. If this instance is included, the mobile station shall set MULTIPLEX_OPTION to the highest numbered multiplex option from the set {3, 5, 7, 9, 11, 13, 15} which the mobile station supports for forward operation, and the mobile station shall support all multiplex options less than or equal to MULTIPLEX_OPTION from that set for forward operation.

- Within the type-specific field, the mobile station may include one instance of a record in which MULTIPLEX_OPTION is set to 4, 6, 8, 10, 12, 14, or 16 and with REV_RATES set to '00000000'. If this instance is included, the mobile station shall set MULTIPLEX_OPTION to the highest numbered multiplex option from the set {4, 6, 8, 10, 12, 14, 16} which the mobile station supports for forward operation, and the mobile station shall support all multiplex options less than or equal to MULTIPLEX_OPTION from that set for forward operation.

- Within the type-specific field, the mobile station shall include at least one instance of a record in which FOR_RATES is set to a value other than '00000000'.
Within the type-specific field, the mobile station shall include at least one instance of a record in which REV_RATES is set to a value other than ‘00000000’.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTIPLEX_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>FOR_RATES</td>
<td>8</td>
</tr>
<tr>
<td>REV_RATES</td>
<td>8</td>
</tr>
</tbody>
</table>

The mobile station shall include one occurrence of the following record for each specified multiplex option according to the previously stated rules:

- **MULTIPLEX_OPTION** – Supported multiplex option.
  - The mobile station shall set this field to the number of the supported multiplex option (e.g., 1 corresponds to Multiplex Option 1).

- **FOR_RATES** – Forward Traffic Channel transmission rates.
  - If FOR_RATES = ‘00000000’, then the specified multiplex option in this record shall indicate the supported multiplex option for the Reverse Traffic Channel only. In this case, no further interpretation of the FOR_RATES field shall be made. The mobile station shall not set both FOR_RATES and REV_RATES equal to ‘00000000’ in the same information record.
  - If MULTIPLEX_OPTION is equal to 1, 3, 5, 7, 9, 11, 13, or 15, this field consists of the subfields specified in Table 2.7.4.17-1 which are included in the information record in the order shown in the table. The subfields in Table 2.7.4.17-1 refer to the rates supported on the Fundamental Code Channel of the Forward Traffic Channel.
Table 2.7.4.17-1. Forward Fundamental Traffic Channel
Transmission Rates for Forward Multiplex Option 1

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS1_9600_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 9600 bps</td>
</tr>
<tr>
<td>RS1_4800_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 4800 bps</td>
</tr>
<tr>
<td>RS1_2400_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 2400 bps</td>
</tr>
<tr>
<td>RS1_1200_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 1200 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

If MULTIPLEX_OPTION is equal to 2, 4, 6, 8, 10, 12, 14, or 16, this field consists of the subfields specified in Table 2.7.4.17-2 which are included in the information record in the order shown in the table. The subfields in Table 2.7.4.17-2 refer to the rates supported on the Fundamental Channel of the Forward Traffic Channel.

Table 2.7.4.17-2. Forward Fundamental Traffic Channel
Transmission Rates for Forward Multiplex Option 2

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS2_14400_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 14400 bps</td>
</tr>
<tr>
<td>RS2_7200_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 7200 bps</td>
</tr>
<tr>
<td>RS2_3600_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 3600 bps</td>
</tr>
<tr>
<td>RS2_1800_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 1800 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

The mobile station shall set the subfields specified in Tables 2.7.4.17-1 and 2.7.4.17-2, corresponding to the Forward Traffic Channel transmission rates supported by the mobile station for this multiplex option to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.
REV_RATES – Reverse Traffic Channel transmission rates.

If REV_RATES is equal to ‘00000000’, then the specified multiplex option in this record indicate the supported multiplex option for the Forward Traffic Channel only. In this case, no further interpretation of the REV_RATES field shall be made. The mobile station shall not set both FOR_RATES and REV_RATES equal to ‘00000000’ in the same information record.

If MULTIPLEX_OPTION is equal to 1, 3, 5, 7, 9, 11, 13, or 15, this field consists of the subfields specified in Table 2.7.4.17-3 which are included in the information record in the order shown in the table. The subfields in Table 2.7.4.17-3 refer to the rates supported on the Fundamental Channel of the Reverse Traffic Channel.

Table 2.7.4.17-3. Reverse Fundamental Traffic Channel Transmission Rates for Reverse Multiplex Option 1

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS1_9600_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 9600 bps</td>
</tr>
<tr>
<td>RS1_4800_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 4800 bps</td>
</tr>
<tr>
<td>RS1_2400_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 2400 bps</td>
</tr>
<tr>
<td>RS1_1200_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 1200 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

If MULTIPLEX_OPTION is equal to 2, 4, 6, 8, 10, 12, 14, or 16, this field consists of the subfields specified in Table 2.7.4.17-4 which are included in the information record in the order shown in the table. The subfields in Table 2.7.4.17-4 refer to the rates supported on the Fundamental Channel of the Reverse Traffic Channel.
Table 2.7.4.17-4. Reverse Fundamental Traffic Channel
Transmission Rates for Reverse Multiplex Option 2

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS2_14400_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 14400 bps</td>
</tr>
<tr>
<td>RS2_7200_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 7200 bps</td>
</tr>
<tr>
<td>RS2_3600_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 3600 bps</td>
</tr>
<tr>
<td>RS2_1800_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 1800 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

The mobile station shall set the subfields specified in Table 2.7.4.17-3 and Table 2.7.4.17-4 corresponding to the Reverse Traffic Channel transmission rates supported by the mobile station for this multiplex option to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.
2.7.4.18 Service Configuration

This record is included in a *Status Response Message* to return the current service configuration, and in a *Service Request Message* and a *Service Response Message* to propose a service configuration.
<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_MUX_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>REV_MUX_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>FOR_RATES</td>
<td>8</td>
</tr>
<tr>
<td>REV_RATES</td>
<td>8</td>
</tr>
<tr>
<td>NUM_CON_REC</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_CON_REC occurrences of the following variable-length record

| RECORD_LEN                | 8            |
| CON_REF                   | 8            |
| SERVICE_OPTION            | 16           |
| FOR_TRAFFIC               | 4            |
| REV_TRAFFIC               | 4            |
| UI_ENCRYPT_MODE           | 3            |
| SR_ID                     | 3            |
| RLP_INFO_INCL             | 1            |
| RLP_BLOB_LEN              | 0 or 4       |
| RLP_BLOB                  | 0 or (8 × RLP_BLOB_LEN) |
| RESERVED                  | 0-7 (as needed) |

| FCH_CC_INCL               | 1            |
| FCH_FRAME_SIZE            | 0 or 1       |
| FOR-FCH_RC                | 0 or 5       |
| REV-FCH_RC                | 0 or 5       |
| DCCH_CC_INCL              | 1            |
| DCCH_FRAME_SIZE           | 0 or 2       |
| FOR-DCCH_RC               | 0 or 5       |
| REV-DCCH_RC               | 0 or 5       |

(continues on next page)
### Type-Specific Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_CC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_FOR_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

NUM_FOR_SCH occurrences of the following three-field record

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>2</td>
</tr>
<tr>
<td>FOR_SCH_MUX</td>
<td>16</td>
</tr>
<tr>
<td>SCH_CC Type-specific fields</td>
<td>Variable (see 3.7.5.7.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_CC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_REV_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

NUM_REV_SCH occurrences of the following three-field record

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>2</td>
</tr>
<tr>
<td>REV_SCH_MUX</td>
<td>16</td>
</tr>
<tr>
<td>SCH_CC Type-specific fields</td>
<td>Variable (see 3.7.5.7.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0-7 (as needed)</td>
</tr>
</tbody>
</table>

**FOR_MUX_OPTION** – Forward Traffic Channel multiplex option.

For a Status Response Message, the mobile station shall set this field to the number of the Forward Traffic Channel multiplex option for the current service configuration (e.g., 1 corresponds to Multiplex Option 1).

For a Service Request Message and a Service Response Message, the mobile station shall set this field to the number of the Forward Traffic Channel multiplex option for the proposed service configuration.

**REV_MUX_OPTION** – Reverse Traffic Channel multiplex option.

For a Status Response Message, the mobile station shall set this field to the number of the Reverse Traffic Channel multiplex option for the current service configuration (e.g., 1 corresponds to Multiplex Option 1).

For a Service Request Message and a Service Response Message, the mobile station shall set this field to the number of the Reverse Traffic Channel multiplex option for the proposed service configuration.
FOR_RATES – Transmission rates of the Fundamental Channel of the Forward Traffic Channel.

The mobile station shall use the Forward Fundamental Channel transmission rates specified in 2.7.4.17 for the specified Forward Traffic Channel multiplex option.

For a Status Response Message, the mobile station shall set the subfields corresponding to the Forward Traffic Channel transmission rates of the current service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.

For a Service Request Message and a Service Response Message, the mobile station shall set the subfields corresponding to the Forward Traffic Channel transmission rates of the proposed service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.

REV_RATES – Transmission rates of the Fundamental Channel of the Reverse Traffic Channel.

The mobile station shall use the Reverse Fundamental Channel transmission rates specified in 2.7.4.17 for the specified Reverse Traffic Channel multiplex option.

For a Status Response Message, the mobile station shall set the subfields corresponding to the Reverse Traffic Channel transmission rates of the current service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.

For a Service Request Message and a Service Response Message, the mobile station shall set the subfields corresponding to the Reverse Traffic Channel transmission rates of the proposed service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The mobile station shall set RESERVED to ‘0000’.

NUM_CON_REC – Number of service option connection records.

The mobile station shall set this field to the number of service option connection records included in the message.

For a Status Response Message, the mobile station shall include one occurrence of the following variable-length record for each service option connection of the current service configuration.

For a Service Request Message and a Service Response Message, the mobile station shall include one occurrence of the following variable-length record for each service option connection of the proposed service configuration.

RECORD_LEN – Service option connection record length.

The mobile station shall set this field to the number of octets included in this service option connection record including this field.
CON_REF – Service option connection reference.

For a Status Response Message, the mobile station shall set this field to the service option connection reference.

For a Service Request Message and a Service Response Message, if the service option connection is part of the current service configuration, the mobile station shall set this field to the service option connection reference; otherwise, the mobile station shall set this field to ‘00000000’.

SERVICE_OPTION – Service option.

For a Status Response Message, the mobile station shall set this field to the service option in use with the service option connection.

For a Service Request Message and a Service Response Message, the mobile station shall set this field to the service option to be used with the service option connection.

FOR_TRAFFIC – Forward Traffic Channel traffic type.

For a Status Response Message, the mobile station shall set this field to the FOR_TRAFFIC code shown in Table 2.7.4.18-1 corresponding to the Forward Traffic Channel traffic type in use with the service option connection.

For a Service Request Message and a Service Response Message, the mobile station shall set this field to the FOR_TRAFFIC code shown in Table 2.7.4.18-1 corresponding to the Forward Traffic Channel traffic type to be used with the service option connection.

<table>
<thead>
<tr>
<th>FOR_TRAFFIC (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>The service option connection does not use Forward Traffic Channel traffic.</td>
</tr>
<tr>
<td>0001</td>
<td>The service option connection uses primary traffic on the Forward Traffic Channel.</td>
</tr>
<tr>
<td>0010</td>
<td>The service option connection uses secondary traffic on the Forward Traffic Channel.</td>
</tr>
<tr>
<td></td>
<td>All other FOR_TRAFFIC codes are reserved</td>
</tr>
</tbody>
</table>

REV_TRAFFIC – Reverse Traffic Channel traffic type.

For a Status Response Message, the mobile station shall set this field to the REV_TRAFFIC code shown in Table 2.7.4.18-2 corresponding to the Reverse Traffic Channel traffic type in use with the service option connection.
For a Service Request Message and a Service Response Message, the mobile station shall set this field to the REV_TRAFFIC code shown in Table 2.7.4.18-2 corresponding to the Reverse Traffic Channel traffic type to be used with the service option connection.

Table 2.7.4.18-2. REV_TRAFFIC Codes

<table>
<thead>
<tr>
<th>REV_TRAFFIC (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>The service option connection does not use Reverse Traffic Channel traffic.</td>
</tr>
<tr>
<td>0001</td>
<td>The service option connection uses primary traffic on the Reverse Traffic Channel.</td>
</tr>
<tr>
<td>0010</td>
<td>The service option connection uses secondary traffic on the Reverse Traffic Channel.</td>
</tr>
<tr>
<td></td>
<td>All other REV_TRAFFIC codes are reserved</td>
</tr>
</tbody>
</table>

UI_ENCRYPT_MODE – Encryption mode indicator for user information privacy.

For a Status Response Message, the mobile station shall set this field to indicate the current user information encryption mode as shown in Table 2.7.4.18-3.

For a Service Request Message and a Service Response Message, the mobile station shall set this field to indicate the proposed user information encryption mode as shown in Table 2.7.4.18-3.

Table 2.7.4.18-3. User information Encryption Modes

<table>
<thead>
<tr>
<th>UI_ENCRYPT_MODE Field (binary)</th>
<th>Encryption Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>User Information Encryption disabled</td>
</tr>
<tr>
<td>001</td>
<td>User Information encryption with ORYX algorithm enabled (see “Common Cryptograph Algorithms”)</td>
</tr>
<tr>
<td>010-111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>
SR_ID – Service reference identifier.

For a Status Response Message, the mobile station shall set this field to the service reference identifier in use.

For a Service Request Message and a Service Response Message, the mobile station shall set this field as follows:

If the service option connection is a part of the current service configuration, the mobile station shall set this field to the service reference identifier in use.

If the service option connection is not a part of the current service configuration, the mobile station shall perform the following:

- If this service option connection request is initiated by the base station, the mobile station shall set this field to the value sent by the base station.

- If this service option connection request is initiated by the mobile station, the mobile station shall perform the following: if the service instance provides a service reference identifier, the mobile station shall set this field to the service reference identifier specified by the service instance; otherwise, the mobile station shall set this field to the smallest unused service reference identifier value between 1 and 6 (inclusive).

RLP_INFO_INCL – RLP information included indicator.

The mobile station shall set this field to ‘1’ if the RLP_BLOB field is included in this record; otherwise, it shall set this field to ‘0’.

RLP_BLOB_LEN – RLP information block of bits length.

If the RLP_INFO_INCL field is set to ‘0’, the mobile station shall omit this field; otherwise, it shall include this field and set it as follows:

The mobile station shall set this field to the size of the RLP_BLOB field in integer number of octets.


If the RLP_INFO_INCL field is set to ‘0’, the mobile station shall omit this field; otherwise, the mobile station shall include this field and set it as follows:
For a Status Response Message, the mobile station shall set this field to the Radio Link Protocol block of bits for this service option connection, and shall add '0' bits to the end of the field as needed in order to make the length of this field equal to an integer number of octets.

For a Service Request Message or Service Response Message, the mobile station shall set this field to the proposed Radio Link Protocol block of bits for this service option connection, and shall add '0' bits to the end of the field as needed in order to make the length of this field equal to an integer number of octets.

RESERVED – Reserved bits.

The mobile station shall add reserved bits as needed in order to make the length of this record equal to an integer number of octets. The mobile station shall set these bits to '0'.

FCH_CC_INCL – Fundamental Channel Configuration included indicator.

The mobile station shall set this field to '1', if Fundamental Channel Configuration information is included in the record; otherwise, the mobile station shall set this field to '0'.

FCH_FRAME_SIZE – Fundamental Channel Frame Size.

If FCH_CC_INCL field is set to '1', the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

For a Status Response Message, the mobile station shall set this field to '1', if the 5ms frame size is used in the Forward and Reverse Fundamental Channel, in addition to 20ms frame, for the current service configuration; otherwise, the mobile station shall set this field to '0'.

For a Service Request Message or a Service Response Message, the mobile station shall set this field to '1' to propose that the 5 ms frame size in addition to the 20 ms frame size is used for the proposed service configuration; otherwise the mobile station shall set this field to '0'.

FOR_FCH_RC – Forward Fundamental Channel Radio Configuration.

If FCH_CC_INCL field is set to '1', the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.
For a *Status Response Message*, the mobile station shall set this field to the Forward Fundamental Channel Radio Configuration for the current service configuration.

For a *Service Request Message* or *Service Response Message*, the mobile station shall set this field to the Forward Fundamental Channel Radio Configuration for the proposed service configuration.

(see [2])

**REV_FCH_RC** – Reverse Fundamental Channel Radio Configuration.

If FCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

For a *Status Response Message*, the mobile station shall set this field to the Reverse Fundamental Channel Radio Configuration for the current service configuration.

For a *Service Request Message* or a *Service Response Message*, the mobile station shall set this field to the Reverse Fundamental Channel Radio Configuration for the proposed service configuration.

(see [2])

**DCCH_CC_INCL** – DCCH Channel Configuration included indicator.

The mobile station shall set this field to ‘1’, if DCCH channel configuration information is included in this record; otherwise, the mobile station shall set this field to ‘0’.

**DCCH_FRAME_SIZE** – Dedicated Control Channel Frame Size.

If DCCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

For a *Status Response Message*, the mobile station shall set this field to the frame size, as defined in Table 3.7.5.7-3, for the current service configuration.

For a *Service Request Message* or a *Service Response Message*, the mobile station shall set this field to the frame size, as defined in Table 3.7.5.7-1, for the proposed service configuration.

**FOR_DCCH_RC** – Forward Dedicated Control Channel Radio Configuration.

If DCCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.
For a Status Response Message, the mobile station shall set this field to the Forward Dedicated Control Channel Radio Configuration for the current service configuration.

For a Service Request Message or a Service Response Message, the mobile station shall set this field to the FORWARD Dedicated Control Channel Radio Configuration (see [2]) for the proposed service configuration.

REV_DCCH_RC – Reverse Dedicated Control Channel Radio Configuration.

If DCCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

For a Status Response Message, the mobile station shall set this field to the Reverse Dedicated Control Channel Radio Configuration (see [2]) for the current service configuration.

For a Service Request Message or a Service Response Message, the mobile station shall set this field to the Reverse Dedicated Control Channel Radio Configuration for the proposed service configuration.

FOR_SCH_CC_INCL – Forward SCH Channel Configuration included indicator.

The mobile station shall set this field to ‘1’, if the Forward Supplemental Channel Configuration information is included; otherwise, the mobile station shall set this field to ‘0’.

NUM_FOR_SCH – Number of Forward Supplemental Channels.

If FOR_SCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as describe below; otherwise, the mobile station shall omit this field.

For a Status Response Message, the mobile station shall set this field to the number of Forward Supplemental Channels for the current service configuration and include one occurrence of the following three-field SCH record for each Supplemental Channel Configuration.

For a Service Request Message or a Service Response Message, the mobile station shall set this field to the number of Forward Supplemental Channels for the proposed service configuration and include one occurrence of the following three-field SCH record for each Supplemental Channel Configuration.

FOR_SCH_ID – Forward Supplemental Channel identification.

The mobile station shall set this field to the identification of the Supplemental Channel included in this Forward Supplemental Channel Configuration record.

The mobile station shall set this field to the Supplemental Channel identifier, shown in Table 2.7.3.18-4.
Table 2.7.3.18-4. SCH Identifier

<table>
<thead>
<tr>
<th>FOR_SCH_ID</th>
<th>REV_SCH_ID (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td></td>
<td>Supplemental Channel 0</td>
</tr>
<tr>
<td>01</td>
<td></td>
<td>Supplemental Channel 1</td>
</tr>
<tr>
<td>10-11</td>
<td></td>
<td>Reserved</td>
</tr>
</tbody>
</table>

FOR_SCH_MUX – Forward Supplemental Channel Multiplex Option.

The mobile station shall set this field to the Multiplex Option associated with the maximum data rate for this of the Forward Supplemental Channel (see 2.2.4.4.1.5 of TIA/EIA/IS-2000[3]) for this service configuration.

SCH_CC Type-specific field - Forward Supplemental Channel Configuration Record.

The mobile station shall set this field to the subfields of the Channel Configuration record defined in 3.7.5.7.1, for this Supplemental Channel included in the service configuration.

REV_SCH_CC_INCL – Reverse SCH Channel Configuration included indicator.

The mobile station shall set this field to ‘1’, if the Reverse Supplemental Channel Configuration information is included; otherwise, the mobile station shall set this field to ‘0’.

NUM_REV_SCH – Number of Reverse Supplemental Channels.

If REV_SCH_CC_INCL field is set to ‘1’, the mobile station shall include this field and set it as described below; otherwise, the mobile station shall omit this field.

For a Status Response Message, the mobile station shall set this field to the number of Reverse Supplemental Channels for the current service configuration and include one occurrence of the following three-field record for each reverse Supplemental Channel Configuration.

For a Service Request Message or a Service Response Message, the mobile station shall set this field to the number of Reverse Supplemental Channels for the proposed service configuration and include one occurrence of the following three-field record for each reverse Supplemental Channel Configuration.

REV_SCH_ID – Reverse Supplemental Channel identification.

The mobile station shall set this field to the identifier of the Supplemental Channel included in this Reverse Supplemental Channel Configuration record.

The mobile station shall set this field to the Supplemental Channel identifier, shown in Table 2.7.3.18-4
REV_SCH_MUX – Reverse Supplemental Channel Multiplex Option.

The mobile station shall set this field to the Multiplex Option associated with the maximum data rate for this Reverse Supplemental Channel (see [3]).

SCH_CC Type-specific fields – Reverse Supplemental Channel Configuration record.

The mobile station shall set this field to the subfields of the Channel Configuration record defined in 3.7.5.7.1, for this Reverse Supplemental Channel included in the service configuration.

RESERVED – Reserved bits.

The mobile station shall add reserved bits as needed in order to make the length of the entire information record equal to an integer number of octets. The mobile station shall set these bits to ‘0’.
2.7.4.19 Called Party Subaddress

This information record identifies the called party subaddress.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi | 8 |

EXTENSION_BIT – The extension bit.

The mobile station shall set this field to ‘1’.

SUBADDRESS_TYPE – Type of subaddress.

The mobile station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

Table 2.7.4.19-1. Subaddress Types

<table>
<thead>
<tr>
<th>Description</th>
<th>SUBADDRESS_TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAP ([CCITT Recommendation X.213/ISO 8348 AD2 see [41]]</td>
<td>000</td>
</tr>
<tr>
<td>User specified</td>
<td>010</td>
</tr>
<tr>
<td>Reserved</td>
<td>others</td>
</tr>
</tbody>
</table>

ODD/EVEN_INDICATOR – The indicator of odd/even bits.

The mobile station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in [8]. This field is only used when the type of subaddress is “User specified” and the coding is BCD.
Table 2.7.4.19-2. Odd/Even Indicator

<table>
<thead>
<tr>
<th>Description</th>
<th>ODD/EVEN INDICATOR (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even number of address signals</td>
<td>0</td>
</tr>
<tr>
<td>Odd number of address signals</td>
<td>1</td>
</tr>
</tbody>
</table>

RESERVED – Reserved bits.

The mobile station shall set this field to '000'.

CHARi – Character.

The mobile station shall include one occurrence of this field for each character in the called party subaddress.

When the SUBADDRESS_TYPE field is equal to '000', the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348-AD2[41].

When the SUBADDRESS_TYPE field is set to '010', the user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets. When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
2.7.4.20 Calling Party Subaddress

This information record identifies the calling party subaddress.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAR</td>
<td>8</td>
</tr>
</tbody>
</table>

**EXTENSION_BIT** – The extension bit.

The mobile station shall set this field to ‘1’.

**SUBADDRESS_TYPE** – Type of subaddress.

The mobile station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

**ODD/EVEN_INDICATOR** – The indicator of odd/even bits.

The mobile station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in [8]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘000’.

**CHAR** – Character.

The mobile station shall include one occurrence of this field for each character in the calling party subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348 AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets. When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
2.7.4.21 Connected Subaddress

This information record identifies the subaddress of the responding party.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi                     | 8             |

EXTENSION_BIT – The extension bit.
The mobile station shall set this field to ‘1’.

SUBADDRESS_TYPE – Type of subaddress.
The mobile station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

ODD/EVEN_INDICATOR – The indicator of odd/even bits.
The mobile station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in [8]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

RESERVED – Reserved bits.
The mobile station shall set this field to ‘000’.

CHARi – Character.
The mobile station shall include one occurrence of this field for each character in the connected subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348 AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets.

When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
2.7.4.22 Power Control Information

This information record can be included in a *Status Response Message*, or an *Extended Status Response Message* to return the minimum power control step size supported by the mobile station (see 2.1.2.3.2).

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN_PWR_CNTL_STEP</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

**MIN_PWR_CNTL_STEP** – Minimum power control step size

The mobile station shall set this field to the PWR_CNTL_STEP value associated with the minimum closed loop power control step size shown in Table 3.7.3.2.25-1 that the mobile station supports.

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘00000’.
2.7.4.23 IMSI_M

This information record can be included in a Status Response Message, or an Extended Status Response Message to return the mobile station’s IMSI_Mp.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSI_M_CLASS</td>
<td>1</td>
</tr>
<tr>
<td>IMSI_M_ADDR_NUM</td>
<td>3</td>
</tr>
<tr>
<td>MCC_M</td>
<td>10</td>
</tr>
<tr>
<td>IMSI_M_11_12</td>
<td>7</td>
</tr>
<tr>
<td>IMSI_M_S</td>
<td>34</td>
</tr>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
</tbody>
</table>

IMSI_M_CLASS – IMSI_M Class assignment of the mobile station.

If the mobile station’s IMSI_M is a class 0 IMSI, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

IMSI_M_ADDR_NUM – Number of IMSI_Mp address digits.

If the mobile station’s IMSI_M is a class 1 IMSI, the mobile station shall set this field to four less than the number of digits in the NMSI; otherwise, the mobile station shall set this field to ‘000’.

MCC_M – Mobile Country Code of the MIN based IMSI.

The mobile station shall set this field the MCC_Mp. See 2.3.1.

IMSI_M_11_12 – The 11th and 12th digits of IMSI_M.

The mobile station shall set this field to IMSI_M_11_12p. See 2.3.1.

IMSI_M_S – Last ten digits of the IMSI_M.

The mobile station shall set this field to IMSI_M_Sp. See 2.3.1.

RESERVED – Reserved bit.

The mobile station shall set this field to ‘0’.
2.7.4.24 IMSI_T

This information record can be included in a *Status Response Message*, or an *Extended Status Response Message* to return the mobile station’s IMSI_T.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSI_T_CLASS</td>
<td>1</td>
</tr>
<tr>
<td>IMSI_T_ADDR_NUM</td>
<td>3</td>
</tr>
<tr>
<td>MCC_T</td>
<td>10</td>
</tr>
<tr>
<td>IMSI_T_11_12</td>
<td>7</td>
</tr>
<tr>
<td>IMSI_T_S</td>
<td>34</td>
</tr>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
</tbody>
</table>

**IMSI_T_CLASS** – IMSI_T Class assignment of the mobile station.

If the mobile station’s IMSI_T is a class 0 IMSI, the mobile station shall set this field to ‘0’; otherwise, the mobile station shall set this field to ‘1’.

**IMSI_T_ADDR_NUM** – Number of IMSI_T p address digits.

If the mobile station’s IMSI_T is a class 1 IMSI, the mobile station shall set this field to four less than the number of digits in the NMSI; otherwise, the mobile station shall set this field to ‘000’.

**MCC_T** – Mobile Country Code of the IMSI_T.

The mobile station shall set this field to the MCC_T p.

See 2.3.1.

**IMSI_T_11_12** – The 11th and 12th digits of the IMSI_T p.

The mobile station shall set this field to IMSI_T_11_12 p.

See 2.3.1.

**IMSI_T_S** – Last ten digits of the IMSI_T p.

The mobile station shall set this field to IMSI_T_S p. See 2.3.1.

**RESERVED** – Reserved bit.

The mobile station shall set this field to ‘0’.
2.7.4.25 Capability Information

This information record identifies whether the following optional or MOB_P_REV dependent features are supported by the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS_ENTRY_HO</td>
<td>1</td>
</tr>
<tr>
<td>ACCESS_PROBE_HO</td>
<td>1</td>
</tr>
<tr>
<td>ANALOG_SEARCH</td>
<td>1</td>
</tr>
<tr>
<td>HOPPING_BEACON</td>
<td>1</td>
</tr>
<tr>
<td>MAHHO</td>
<td>1</td>
</tr>
<tr>
<td>PUF</td>
<td>1</td>
</tr>
<tr>
<td>ANALOG_553A</td>
<td>1</td>
</tr>
<tr>
<td>QPCH</td>
<td>1</td>
</tr>
<tr>
<td>SLOTTED_TIMER</td>
<td>1</td>
</tr>
<tr>
<td>CHS_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>GATING_RATE_SET</td>
<td>0 or 2</td>
</tr>
<tr>
<td>EXT_CAP_INCLUDED</td>
<td>1</td>
</tr>
</tbody>
</table>

If EXT_CAP_INCLUDED is set to ‘1’, include the following two-field record:

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABO</td>
<td>1</td>
</tr>
<tr>
<td>SDB</td>
<td>1</td>
</tr>
<tr>
<td>RLP_CAP_BLOB_LEN</td>
<td>3</td>
</tr>
<tr>
<td>RLP_CAP_BLOB</td>
<td>8 ×8</td>
</tr>
<tr>
<td>RLP_CAP_BLOB_LEN</td>
<td></td>
</tr>
<tr>
<td>RESERVED</td>
<td>0-7 (as needed)</td>
</tr>
</tbody>
</table>

ACCESS_ENTRY_HO – Access Entry Handoff Support.

This field identifies the mobile station’s support for access entry handoff (see 2.6.2.3). The mobile station shall set this field to ’1’ if access entry handoff is supported; otherwise, the mobile station shall set this field to ’0’.

ACCESS_PROBE_HO – Access Probe Handoff Support.

This field identifies the mobile station’s support for access probe handoff (see 2.6.3.1.3.3). The mobile station shall set this field to ’1’ if access probe handoff is supported; otherwise, the mobile station shall set this field to ’0’.
ANALOG_SEARCH – Analog Search Support.

This field identifies the mobile station’s support for analog searching (see 2.6.6.2.10). The mobile station shall set this field to ‘1’ if analog searching is supported; otherwise, the mobile station shall set this field to ‘0’.

HOPPING_BEACON – Hopping Beacon Support.

This field identifies the mobile station’s support for hopping pilot beacons. The mobile station shall set this field to ‘1’ if hopping pilot beacons are supported; otherwise, this field shall be set to ‘0’.

MAHHO – Mobile Assisted Hard Handoff Support.

This field identifies the mobile station’s support for mobile assisted hard handoff. The mobile station shall set this field to ‘1’.

PUF – Location Power Up Function Support.

This field identifies the mobile station’s support for location power up function (see 2.6.4.1.7).

If MOB_P_REVp is equal to ‘00000101’, the mobile station shall set this field to ‘1’; otherwise the mobile station shall set this field as follows:

If the mobile station supports location power up function, the mobile station shall set this field to ‘1’, otherwise, the mobile station shall set this field to ‘0’.

ANALOG_553A – Analog Support.

This field identifies the mobile station’s compatibility with [15]. The mobile station shall set this field to ‘1’.

QPCH – Quick Paging Channel Support.

This field identifies the mobile station’s support for the Quick Paging Channel. The mobile station shall set this field to ‘1’ if the Quick Paging Channel is supported; otherwise, the mobile station shall set this field to ‘0’.

SLOTTED_TIMER – Slotted Timer Support.

This field identifies the mobile station’s support for the Slotted Timer. The mobile station shall set this field to ‘1’ if the Slotted Timer is supported; otherwise, the mobile station shall set this field to ‘0’.

CHS_SUPPORTED – Control Hold Mode supported indicator.

The mobile station shall set this field to ‘1’ to indicate that the mobile station supports the Control Hold Mode; otherwise, the mobile station shall set this field to ‘0’.

GATING_RATE_SET – Set of supported Reverse Pilot gating rates.
If CHS_SUPPORTED is set to ‘1’, the mobile station shall set this field to value shown in Table 2.7.4.25-1 corresponding to the set of supported reverse pilot gating rates; otherwise the mobile station shall omit this field.

<table>
<thead>
<tr>
<th>GATING_RATE SET field (binary)</th>
<th>Gating Rates Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Gating rates 1</td>
</tr>
<tr>
<td>01</td>
<td>Gating rates 1 and ½</td>
</tr>
<tr>
<td>10</td>
<td>Gating rates 1, ½ and ¼</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

EXT_CAP_INCLUDED – Extended Capabilities Included indicator.

The mobile station shall set this field to ‘1’ to indicate that extended capability indicators are included in this record; otherwise, the mobile station shall set this field to ‘0’.

MABO – Mobile Assisted Burst Operation capability indicator.

If EXT_CAP_INCLUDED is set to ‘1’, the mobile station shall set this field to ‘1’ to indicate that it supports the Mobile Assisted Burst Operation capability; otherwise, the mobile station shall set this field to ‘0’.

SDB – Short Data Burst supported indicator.

If EXT_CAP_INCLUDED is set to ‘1’, the mobile station shall set this field to ‘1’ to indicate that it supports Short Data Burst capability; otherwise, the mobile station shall set this field to ‘0’.

RLP_CAP_BLOB_LEN - RLP capability information length.

The mobile station shall set this field to ‘000’ if the mobile station does not support Radio Link Protocol; otherwise, it shall set this field to the size of the RLP_CAP_BLOB field in integer number of octets.


If the RLP_CAP_BLOB_LEN field is set to ‘000’, the mobile station shall omit this field; otherwise, the mobile station shall set this field to the Radio Link Protocol capability information block of bits, as shown in Table 2.7.4.25-2.
Table 2.7.4.25-2. RLP Capability Information Block

<table>
<thead>
<tr>
<th>Subfields</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX_MS_NAK_ROUNDS_FWD</td>
<td>3</td>
</tr>
<tr>
<td>MAX_MS_NAK_ROUNDS_REV</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>2</td>
</tr>
</tbody>
</table>

**MAX_MS_NAK_ROUNDS_FWD** - Maximum number of RLP NAK rounds supported by the mobile station on the forward traffic channel.

The mobile station shall set this field to the maximum number of NAK round(s) it supports on the forward traffic channel (BS RLP transmitting function) [see [39]].

**MAX_MS_NAK_ROUNDS_REV** - Maximum number of RLP NAK rounds supported by the mobile station on the reverse traffic channel.

The mobile station shall include this field and set it to the maximum number of NAK round(s) it supports on the reverse traffic channel (MS RLP transmitting function) [see [39]].

**RESERVED** – Reserved bits.

The mobile station shall set this field to ‘00’.

**RESERVED** – Reserved bits.

The mobile station shall add reserved bits as needed in order to make the length of the entire information record equal to an integer number of octets. The mobile station shall set these bits to ‘0’.
2.7.4.26 Extended Record Type - International

The use of this record type is country-specific. The first ten bits of the type-specific fields shall include the Mobile Country Code (MCC) associated with the national standards organization administering the use of the record type. Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the first two octets of the type-specific fields shall be used to specify the country-specific record type.
2.7.4.27 Channel Configuration Capability Information

This information record can be included in a Status Response Message or an Extended Status Response Message to return channel configuration capability information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>FCH_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>FCH Type-specific fields</td>
<td>0 or Variable</td>
</tr>
<tr>
<td>DCCH_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>DCCH Type-specific fields</td>
<td>0 or Variable</td>
</tr>
<tr>
<td>FOR_SCH_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH Type-specific fields</td>
<td>0 or Variable</td>
</tr>
<tr>
<td>REV_SCH_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH Type-specific fields</td>
<td>0 or Variable</td>
</tr>
<tr>
<td>RESERVED_1</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 – 7 (as needed)</td>
</tr>
</tbody>
</table>

OTD_SUPPORTED – OTD supported indicator.

The mobile station shall set this field to ‘1’ if the mobile station supports orthogonal transmission diversity; otherwise, the mobile station shall set this field to ‘0’.

FCH_SUPPORTED – Fundamental Channel supported indicator.

The mobile station shall set this field to ‘1’, if the mobile station supports the Fundamental Channel; otherwise, the mobile station shall set this field to ‘0’.

FCH Type-specific fields – Fundamental Channel configuration capability information.

If the FCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as described in 2.7.4.27.1; otherwise the mobile station shall omit this field.

DCCH_SUPPORTED – Dedicated Control Channel supported indicator.

The mobile station shall set this field to ‘1’ if the mobile station supports the Dedicated Control Channel; otherwise, the mobile station shall set this field to ‘0’.

DCCH Type-specific fields – Fundamental Channel configuration capability information.
If the DCCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as described in 2.7.4.27.2; otherwise the mobile station shall omit this field.

FOR_SCH_SUPPORTED – Forward Supplemental Channel supported indicator. The mobile station shall set this field to ‘1’ if the mobile station supports the Forward Supplemental Channel; otherwise, the mobile station shall set this field to ‘0’.

FOR_SCH Type-specific fields – Forward Supplemental Channel Configuration Capability Information.

If the FOR_SCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as described in 2.7.4.27.3; otherwise the mobile station shall omit this field.

REV_SCH_SUPPORTED – Reverse Supplemental Channel supported indicator. The mobile station shall set this field to ‘1’ if the mobile station supports the Reverse Supplemental Channel; otherwise, the mobile station shall set this field to ‘0’.

REV_SCH Type-specific fields – Reverse Supplemental Channel Configuration capability information.

If the REV_SCH_SUPPORTED field is set to ‘1’, the mobile station shall include this field and set it as described in 2.7.4.27.4; otherwise the mobile station shall omit this field.

RESERVED_1 – Reserved bits.

If both the FOR_SCH_SUPPORTED and REV_SCH_SUPPORTED fields are set to ‘0’, the mobile station shall omit this field. Otherwise, the mobile station shall set this field to ‘00’.

RESERVED – Reserved bits.

The mobile station shall add reserved bits as needed in order to make the length of the entire information record equal to an integer number of octets. The mobile station shall set these bits to ‘0’.

2.7.4.27.1 FCH Type-specific Fields

The Fundamental Channel configuration capability information included in the FCH Type-specific fields contains the following subfields:
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCH_FRAME_SIZE</td>
<td>Fundamental Channel Frame Size capability indicator.</td>
</tr>
<tr>
<td>FOR_FCH_LEN</td>
<td>Forward Fundamental Channel Configuration information length.</td>
</tr>
<tr>
<td>FOR_FCH_RC_MAP</td>
<td>Forward Fundamental Radio Configuration information.</td>
</tr>
<tr>
<td>REV_FCH_LEN</td>
<td>Reverse Fundamental Channel Configuration information length.</td>
</tr>
<tr>
<td>REV_FCH_RC_MAP</td>
<td>Reverse Fundamental Radio Configuration information.</td>
</tr>
</tbody>
</table>

FCH_FRAME_SIZE – Fundamental Channel Frame Size capability indicator. If in addition to the 20 ms frame size the mobile station also supports the 5 ms frame size on the Fundamental Channel, the mobile station shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

FOR_FCH_LEN – Forward Fundamental Channel Configuration information length.

The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the FOR_FCH_RC_MAP field.

FOR_FCH_RC_MAP – Forward Fundamental Radio Configuration information.

The mobile station shall set this field as described below to indicate which Radio Configurations [see [2]] are supported by the mobile station on the Forward Fundamental Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-1.

The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Forward Fundamental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCH_FRAME_SIZE</td>
<td>1</td>
</tr>
<tr>
<td>FOR_FCH_LEN</td>
<td>3</td>
</tr>
<tr>
<td>FOR_FCH_RC_MAP</td>
<td>3 x FOR_FCH_LEN</td>
</tr>
<tr>
<td>REV_FCH_LEN</td>
<td>3</td>
</tr>
<tr>
<td>REV_FCH_RC_MAP</td>
<td>3 x REV_FCH_LEN</td>
</tr>
</tbody>
</table>
Table 2.7.4.27.1-1. **Forward Channel Radio Configurations Supported**

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC1</td>
<td>1</td>
<td>Radio Configuration 1</td>
</tr>
<tr>
<td>RC2</td>
<td>1</td>
<td>Radio Configuration 2</td>
</tr>
<tr>
<td>RC3</td>
<td>1</td>
<td>Radio Configuration 3</td>
</tr>
<tr>
<td>RC4</td>
<td>1</td>
<td>Radio Configuration 4</td>
</tr>
<tr>
<td>RC5</td>
<td>1</td>
<td>Radio Configuration 5</td>
</tr>
<tr>
<td>RC6</td>
<td>1</td>
<td>Radio Configuration 6</td>
</tr>
<tr>
<td>RC7</td>
<td>1</td>
<td>Radio Configuration 7</td>
</tr>
<tr>
<td>RC8</td>
<td>1</td>
<td>Radio Configuration 8</td>
</tr>
<tr>
<td>RC9</td>
<td>1</td>
<td>Radio Configuration 9</td>
</tr>
</tbody>
</table>

**REV_FCH_LEN** – Reverse Fundamental Channel Configuration information length.

The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the **REV_FCH_RC_MAP** field.

**REV_FCH_RC_MAP** – Reverse Fundamental Radio Configuration information.

The mobile station shall set this field as described below to indicate which Radio Configurations (see [2]) are supported by the mobile station on the Reverse Fundamental Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-2.

The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Reverse Fundamental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’.
Table 2.7.4.27.1-2. Reverse Channel Radio Configurations Supported

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC1</td>
<td>1</td>
<td>Radio Configuration 1</td>
</tr>
<tr>
<td>RC2</td>
<td>1</td>
<td>Radio Configuration 2</td>
</tr>
<tr>
<td>RC3</td>
<td>1</td>
<td>Radio Configuration 3</td>
</tr>
<tr>
<td>RC4</td>
<td>1</td>
<td>Radio Configuration 4</td>
</tr>
<tr>
<td>RC5</td>
<td>1</td>
<td>Radio Configuration 5</td>
</tr>
<tr>
<td>RC6</td>
<td>1</td>
<td>Radio Configuration 6</td>
</tr>
</tbody>
</table>
2.7.4.27.2 DCCH Type-Specific Fields

The Dedicated Control Channel configuration capability information included in the DCCH Type-specific fields contains the following subfields:

<table>
<thead>
<tr>
<th>DCCH_FRAME_SIZE</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_DCCH_LEN</td>
<td>3</td>
</tr>
<tr>
<td>FOR_DCCH_RC_MAP</td>
<td>3 x FOR_DCCH_LEN</td>
</tr>
<tr>
<td>REV_DCCH_LEN</td>
<td>3</td>
</tr>
<tr>
<td>REV_DCCH_RC_MAP</td>
<td>3 x REV_DCCH_LEN</td>
</tr>
</tbody>
</table>

DCCH_FRAME_SIZE – Frame Size supported indicator on the Dedicated Control Channel.

The mobile station shall set this field to the frame size supported for the forward and reverse DCCH, as shown in Table 2.7.4.27.2-1.

**Table 2.7.4.27.2-1. DCCH Frame Size Supported**

<table>
<thead>
<tr>
<th>DCCH_FRAME_SIZE (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Either 5 ms or 20 ms frame sizes (not dynamically switchable)</td>
</tr>
<tr>
<td>01</td>
<td>20 ms frame size only</td>
</tr>
<tr>
<td>10</td>
<td>5 ms frame size only</td>
</tr>
<tr>
<td>11</td>
<td>Both 5 ms and 20 ms frame sizes (Dynamically switchable)</td>
</tr>
</tbody>
</table>

FOR_DCCH_LEN – Forward Dedicated Control Channel Configuration information length.

The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the FOR_DCCH_RC_MAP field.

FOR_DCCH_RC_MAP – Forward Dedicated Channel Radio Configuration information.

The mobile station shall set this field as described below to indicate which Radio Configurations (See (see TIA/EIA/IS-2000-2) Table 3.1.3.1-1) are supported by the mobile station on the Forward Dedicated Control Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-1.
The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Forward Dedicated Control Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’.

**REV_DCCH_LEN** – Reverse Dedicated Control Channel Configuration information length.

The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the **REV_DCCH_RC_MAP** field.

**REV_DCCH_RC_MAP** – Reverse Dedicated Control Channel Radio Configuration information.

The mobile station shall set this field as described below to indicate which Radio Configurations (see TIA/EIA/IS-2000-2 Table 2.1.3.1-1) are supported by the mobile station on the Reverse Dedicated Control Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-2.

The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Reverse Dedicated Control Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’.
2.7.4.27.3 FOR_SCH Type-Specific Fields.

The Forward Supplemental Channel configuration capability information included in the FOR_SCH Type-specific fields contains the following subfields:

```
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_LEN</td>
<td>Forward Supplemental Channel information length in units of 3 bits.</td>
</tr>
<tr>
<td></td>
<td>The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the FOR_SCH_RC_MAP field.</td>
</tr>
<tr>
<td>FOR_SCH_RC_MAP</td>
<td>Forward Supplemental Channel Radio Configuration capability.</td>
</tr>
<tr>
<td></td>
<td>The mobile station shall set this field as described below to indicate which Radio Configurations (see [2]) are supported by the mobile station on the Forward Supplemental Channel.</td>
</tr>
<tr>
<td></td>
<td>This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-1.</td>
</tr>
<tr>
<td></td>
<td>The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Forward Supplemental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’.</td>
</tr>
<tr>
<td>FOR_SCH_NUM</td>
<td>Number of Forward Supplemental Channels.</td>
</tr>
<tr>
<td></td>
<td>The mobile station shall set this field to the number of Forward Supplemental Channels supported by the mobile station.</td>
</tr>
</tbody>
</table>
```
If the FOR_SCH_NUM field is greater than zero, the mobile station shall include one occurrence of the following 8 fields for each Forward Supplemental Channel supported by the mobile station. The first occurrence is SCH0 related information. The second occurrence (if any) is SCH1 related information.

FOR_TURBO_SUPPORTED – Forward Turbo Coding supported indicator.

If the mobile station supports Turbo Coding on this Forward Supplemental Channel, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

FOR_MAX_TURBO_BLOCK_SIZE – Forward maximum Turbo Coding block size.

If the field FOR_TURBO_SUPPORTED is set to ‘0’, the mobile station shall omit this field; otherwise the mobile station shall include this field and set it to the maximum block size allowed for Turbo coding (see Table 2.7.4.27.3-1).

<table>
<thead>
<tr>
<th>FOR_MAX_TURBO_BLOCK_SIZE</th>
<th>REV_MAX_TURBO_BLOCK_SIZE</th>
<th>FOR_MAX_CONV_BLOCK_SIZE</th>
<th>REV_MAX_CONV_BLOCK_SIZE</th>
<th>Block Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(binary)</td>
<td></td>
<td></td>
<td></td>
<td>R-SCH RC 3 and 5</td>
</tr>
<tr>
<td>0000</td>
<td></td>
<td></td>
<td></td>
<td>172</td>
</tr>
<tr>
<td>0001</td>
<td></td>
<td></td>
<td></td>
<td>360</td>
</tr>
<tr>
<td>0010</td>
<td></td>
<td></td>
<td></td>
<td>744</td>
</tr>
<tr>
<td>0011</td>
<td></td>
<td></td>
<td></td>
<td>1512</td>
</tr>
<tr>
<td>0100</td>
<td></td>
<td></td>
<td></td>
<td>3048</td>
</tr>
<tr>
<td>0101</td>
<td></td>
<td></td>
<td></td>
<td>6120</td>
</tr>
<tr>
<td>0110</td>
<td></td>
<td></td>
<td></td>
<td>12264</td>
</tr>
<tr>
<td>Reserved</td>
<td>All other values are reserved</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOR_CONV-SUPPORTED**  
Forward Convolutional Coding supported indicator.
- If the mobile station supports Convolutional Coding on this Forward Supplemental Channel, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**FOR_MAX_CONV-BLOCK_SIZE**  
Forward maximum Convolutional Coding block size.
- If the field FOR_CONV_SUPPORTED is set to ‘0’, the mobile station shall omit this field; otherwise the mobile station shall include this field and set it to the maximum block size allowed for Convolutional coding. (see Table 2.7.4.27.3-1)

**RESERVED**  
Reserved bits.
- The mobile station shall set this field to ‘000000’
2.7.4.27.4 REV_SCH Type-Specific Fields.

The Reverse Supplemental Channel configuration capability information included in the REV_SCH Type-specific fields contains the following subfields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_LEN</td>
<td>Reverse Supplemental Channel information length in units of 3 bits. The mobile station shall set this field to the number of 3 bit units required to specify the length, in bits, of the REV_SCH_RC_MAP field.</td>
</tr>
<tr>
<td>REV_SCH_RC_MAP</td>
<td>Reverse Supplemental Channel Radio Configuration capability. The mobile station shall set this field as described below to indicate which Radio Configurations (See [2]) are supported by the mobile station on the Reverse Supplemental Channel. This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific Radio Configuration. Bit positions of these indicators in the field and corresponding Radio Configurations are specified in Table 2.7.4.27.1-1. The mobile station shall set each indicator to ‘1’ if the corresponding Radio Configuration on the Reverse Supplemental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’. The mobile station shall set any unused bits in the field to ‘0’ .</td>
</tr>
<tr>
<td>REV_SCH_NUM</td>
<td>Number of Reverse Supplemental Channels The mobile station shall set this field to the number of Reverse Supplemental Channels supported by the mobile station.</td>
</tr>
<tr>
<td>REV_TURBO_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>REV_MAX_TURBO_BLOCK_SIZE</td>
<td>0 or 4</td>
</tr>
<tr>
<td>REV_CONV_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>REV_MAX_CONV_BLOCK_SIZE</td>
<td>0 or 4</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

REV_SCH_NUM occurrences of the following fields:
If the REV_SCH_NUM field is greater than zero, the mobile station shall include one occurrence of the following 8 fields for each Reverse Supplemental Channel supported by the mobile station. The first occurrence is SCH0 related information. The second occurrence (if any) is SCH1 related information.

**REV_TURBO-SUPPORTED** – Reverse Turbo Coding supported indicator. If the mobile station supports Turbo Coding on this Reverse Supplemental Channel, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**REV_MAX_TURBO-BLOCK_SIZE** – Reverse maximum Turbo Coding block size. If the field REV_TURBO_SUPPORTED is set to ‘0’, the mobile station shall omit this field; otherwise the mobile station shall include this field and set it to the maximum block size allowed for Turbo coding (see Table 2.7.4.27.3-1).

**REV_CONV-SUPPORTED** – Reverse Convolutional Coding supported indicator. If the mobile station supports Convolutional Coding on this Reverse Supplemental Channel, it shall set this field to ‘1’; otherwise, the mobile station shall set this field to ‘0’.

**REV_MAX_CONV-BLOCK_SIZE** – Reverse maximum Convolutional Coding block size. If the field REV_CONV_SUPPORTED is set to ‘0’, the mobile station shall omit this field; otherwise the mobile station shall include this field and set it to the maximum block size allowed for Convolutional coding (see Table 2.7.4.27.3-1).

**RESERVED** – Reserved bits. The mobile station shall set this field to ‘000000’
2.7.4.28 Extended Multiplex Option Information

This information record can be included in a Status Response Message or an Extended Status Response Message to return multiplex option information about the mobile station.
<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_MO_FOR_FCH</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_MO_FOR_FCH occurrences of the following two-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO_FOR_FCH</td>
<td>16</td>
</tr>
<tr>
<td>FOR_RATES_FCH</td>
<td>8</td>
</tr>
</tbody>
</table>

| NUM_MO_REV_FCH      | 4      |

NUM_MO_REV_FCH occurrences of the following two-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO_REV_FCH</td>
<td>16</td>
</tr>
<tr>
<td>REV_RATES_FCH</td>
<td>8</td>
</tr>
</tbody>
</table>

| NUM_MO_FOR_DCCH     | 4      |

NUM_MO_FOR_DCCH occurrences of the following one-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO_FOR_DCCH</td>
<td>16</td>
</tr>
</tbody>
</table>

| NUM_MO_REV_DCCH     | 4      |

NUM_MO_REV_DCCH occurrences of the following one-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO_REV_DCCH</td>
<td>16</td>
</tr>
</tbody>
</table>

| NUM_MO_FOR_SCH      | 4      |

NUM_MO_FOR_SCH occurrences of the following two-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>MO_FOR_SCH</td>
<td>16</td>
</tr>
</tbody>
</table>

| NUM_MO_REV_SCH      | 4      |

NUM_MO_REV_SCH occurrences of the following two-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>MO_REV_SCH</td>
<td>16</td>
</tr>
</tbody>
</table>
NUM_MO_FOR_FCH – Number of Forward Fundamental Channel Multiplex Options. The mobile station shall set this field to the number of the Forward Fundamental Channel Multiplex Options supported by the mobile station.

If NUM_MO_FOR_FCH is not equal to ‘0000’, the mobile station shall include NUM_MO_FOR_FCH occurrences of the following two fields for each supported Forward Fundamental Channel multiplex option:

MO_FOR_FCH – Forward Fundamental Channel multiplex option. The mobile station shall set this field to the Forward Fundamental Channel multiplex option.

FOR_RATES_FCH – Forward Fundamental Channel transmission rates. The mobile station shall set this field as described below to indicate which transmission rates are supported by the mobile station on the Forward Fundamental Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific transmission rate. Bit positions of these indicators in the field and corresponding transmission rates are specified in Table 2.7.4.28-1 if MO_FOR_FCH is equal to 1, and Table 2.7.4.28-2 if MO_FOR_FCH is equal to 2.

The mobile station shall set each indicator to ‘1’ if the corresponding transmission rate on the Forward Fundamental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to ‘0’.
### Table 2.7.4.28-1. Forward Fundamental Channel Transmission Rates for MO_FOR_FCH equal to 1

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS1_9600_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 9600 bps</td>
</tr>
<tr>
<td>RS1_4800_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 4800 bps</td>
</tr>
<tr>
<td>RS1_2400_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 2400 bps</td>
</tr>
<tr>
<td>RS1_1200_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 1200 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2.7.4.28-2. Forward Fundamental Channel Transmission Rates for MO_FOR_FCH equal to 2

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS2_14400_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 14400 bps</td>
</tr>
<tr>
<td>RS2_7200_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 7200 bps</td>
</tr>
<tr>
<td>RS2_3600_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 3600 bps</td>
</tr>
<tr>
<td>RS2_1800_FOR</td>
<td>1</td>
<td>Forward Traffic Channel, 1800 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**NUM_MO_REV_FCH** – Number of Reverse Fundamental Channel Multiplex Options. The mobile station shall set this field to the number of the Reverse Fundamental Channel Multiplex Options supported by the mobile station.

If **NUM_MO_REV_FCH** is not equal to ‘0000’, the mobile station shall include **NUM_MO_REV_FCH** occurrences of the following two fields for each supported Reverse Fundamental Channel multiplex option:

**MO_REV_FCH** – Reverse Fundamental Channel multiplex option. The mobile station shall set this field to the Reverse Fundamental Channel multiplex option.
REV_RATES_FCH – Reverse Fundamental Channel transmission rates.

The mobile station shall set this field as described below to indicate which transmission rates are supported by the mobile station on the Reverse Fundamental Channel.

This field consists of the sequence of 1-bit indicators, each indicating the mobile station support for specific transmission rate. Bit positions of these indicators in the field and corresponding transmission rates are specified in Table 2.7.4.28-3 if MO_REV_FCH is equal to 1, and Table 2.7.4.28-4 if MO_REV_FCH is equal to 2.

The mobile station shall set each indicator to '1' if the corresponding transmission rate on the Reverse Fundamental Channel is supported by the mobile station; otherwise, the mobile station shall set the indicator to '0'.

### Table 2.7.4.28-3. Reverse Fundamental Channel Transmission Rates for MO_REV_FCH equal to 1

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS1_9600_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 9600 bps</td>
</tr>
<tr>
<td>RS1_4800_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 4800 bps</td>
</tr>
<tr>
<td>RS1_2400_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 2400 bps</td>
</tr>
<tr>
<td>RS1_1200_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 1200 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
Table 2.7.4.28-4. Reverse Fundamental Channel Transmission Rates for MO_REV_FCH equal to 2

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS2_14400_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 14400 bps</td>
</tr>
<tr>
<td>RS2_7200_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 7200 bps</td>
</tr>
<tr>
<td>RS2_3600_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 3600 bps</td>
</tr>
<tr>
<td>RS2_1800_REV</td>
<td>1</td>
<td>Reverse Traffic Channel, 1800 bps</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

NUM_MO_FOR_DCCH  – Number of Forward Dedicated Control Channel Multiplex Options.

The mobile station shall set this field to the number of the Forward Dedicated Control Channel Multiplex Options supported by the mobile station.

If NUM_MO_FOR_DCCH is not equal to '0000', the mobile station shall include NUM_MO_FOR_DCCH occurrence of the following one field for each supported Forward Dedicated Control Channel multiplex option:

MO_FOR_DCCH  – Forward Dedicated Control Channel multiplex option.

The mobile station shall set this field to the Forward Dedicated Control Channel multiplex option.

NUM_MO_REV_DCCH – Number of Reverse Dedicated Control Channel Multiplex Options.

The mobile station shall set this field to the number of the Reverse Dedicated Control Channel Multiplex Options supported by the mobile station.

If NUM_MO_REV_DCCH is not equal to '0000', the mobile station shall include NUM_MO_REV_DCCH occurrence of the following one field for each supported Reverse Dedicated Control Channel multiplex option:

MO_REV_DCCH  – Reverse Dedicated Control Channel multiplex option.

The mobile station shall set this field to the Reverse Dedicated Control Channel multiplex option.

NUM_MO_FERFOR_SCH  – Number of Forward Supplemental Channel Multiplex Options.
The mobile station shall set this field to the number of the Reverse–Forward Supplemental Channel Multiplex Options supported by included in the mobile station this message. The mobile station shall include the multiplex option associated with the highest data rate it supports for each combination of MuxPDU type, rate set, and block size. If NUM_MO_REVSCH is not equal to '0000', the mobile station shall include NUM_MO_REVSCH occurrence of the following two fields:

FOR_SCH_ID – Forward Supplemental Channel identifier.

The mobile station shall set this field to specify the Forward Supplemental Channel to which the Forward Supplemental multiplex option supported by the mobile station corresponds.

MO_FOR_SCH – Forward Supplemental Channel multiplex option.

The mobile station shall set this field to the Forward Supplemental Channel multiplex option associated with the maximum data rate (see [3]) that the mobile station supports. If any Rate Set 1 multiplex option is included, then mobile station support of MuxPDU Type 1 is implied and the mobile station is not required to include multiplex option 0x03. If any Rate Set 2 multiplex option is included, then mobile station support of MuxPDU Type 2 is implied and the mobile station is not required to include multiplex option 0x04 (see [3]).

NUM_MO_REVSCH – Number of Reverse Supplemental Channel Multiplex Options.

The mobile station shall set this field to the number of the Reverse Supplemental Channel Multiplex Options supported by included in this message. The mobile station shall include the multiplex option associated with the highest data rate it supports for each combination of MuxPDU type, rate set, and block size. If NUM_MO_REVSCH is not equal to '0000', the mobile station shall include NUM_MO_REVSCH occurrence of the following two fields:

REV_SCH_ID – Reverse Supplemental Channel identifier.

The mobile station shall set this field to specify the Reverse Supplemental Channel to which the Reverse Supplemental multiplex option supported by the mobile station corresponds.

3 If any Rate Set 1 multiplex option is included, then mobile station support of MuxPDU Type 1 is implied and the mobile station is not required to include multiplex option 0x03. If any Rate Set 2 multiplex option is included, then mobile station support of MuxPDU Type 2 is implied and the mobile station is not required to include multiplex option 0x04 (see [3]).

4 If the mobile station supports the multiplex option associated with the maximum data rate, the mobile station shall support all lower data rates as specified in [3].

5 If any Rate Set 1 multiplex option is included, then mobile station support of MuxPDU Type 1 is implied and the mobile station is not required to include multiplex option 0x03. If any Rate Set 2 multiplex option is included, then mobile station support of MuxPDU Type 2 is implied and the mobile station is not required to include multiplex option 0x04 (see [3]).
MO_REV_SCH – Reverse Supplemental Channel multiplex option.

The mobile station shall set this field to the Reverse Supplemental Channel multiplex option associated with the maximum data rate (see [3]) that the mobile station supports.6

RESERVED – Reserved bits.

The mobile station shall add reserved bits as needed in order to make the length of the entire information record equal to an integer number of octets. The mobile station shall set these bits to ‘0’.

---

6 If the mobile station supports the multiplex option associated with the maximum data rate, the mobile station shall support all lower data rates as specified in [3].
2.7.4.29 Geo-Location Information

This information record identifies the geo-location capabilities of the mobile station. The mobile station shall use the following fixed-length format for the type-specific fields:

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO_LOC</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

GEO_LOC – Geo-location.

The mobile station shall set this field to the value shown in Table 2.7.4.34-1.

Table 2.7.4.34-1. Geo-location Codes

<table>
<thead>
<tr>
<th>GEO_LOC (binary)</th>
<th>Type of Wireless Assisted GPS Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No mobile station assisted geo-location capabilities</td>
</tr>
<tr>
<td>001</td>
<td>IS-801 capable (Advanced Forward Link Triangulation only)</td>
</tr>
<tr>
<td>010</td>
<td>IS-801 capable (Advanced Forward Link Triangulation and Global Positioning Systems)</td>
</tr>
<tr>
<td>011</td>
<td>Global Positioning Systems only</td>
</tr>
</tbody>
</table>

All other GEO_LOC_TYPE values are reserved.

RESERVED – Reserved bit.

The mobile station shall set this field to ‘00000’.
2.7.4.30 Band Subclass Information

This information record can be included in a Status Response Message, or an Extended Status Response Message to return band subclass information about the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_SUBCLASS_INFO</td>
<td>8 × RECORD_LEN</td>
</tr>
</tbody>
</table>

BAND_SUBCLASS_INFO – Band subclass information.

This field indicates which band subclasses are supported by the mobile station.

If BAND_CLASS specified in the Status Request Message is equal to '00010' (TACS Band), this field consists of the following subfields which are included in the information record in the order shown:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_SUBCLASS_0</td>
<td>1</td>
<td>Band Subclass 0</td>
</tr>
<tr>
<td>BAND_SUBCLASS_1</td>
<td>1</td>
<td>Band Subclass 1</td>
</tr>
<tr>
<td>BAND_SUBCLASS_2</td>
<td>1</td>
<td>Band Subclass 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

If BAND_CLASS specified in the Status Request Message is equal to '00101' (450 MHz NMT Band), this field consists of the following subfields which are included in the information record in the order shown:
If BAND_CLASS specified in the Status Request Message is equal to '01010' (Secondary 800 MHz band), this field consists of the following subfields which are included in the information record in the order shown:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_SUBCLASS_0</td>
<td>1</td>
<td>Band Subclass 0</td>
</tr>
<tr>
<td>BAND_SUBCLASS_1</td>
<td>1</td>
<td>Band Subclass 1</td>
</tr>
<tr>
<td>BAND_SUBCLASS_2</td>
<td>1</td>
<td>Band Subclass 2</td>
</tr>
<tr>
<td>BAND_SUBCLASS_3</td>
<td>1</td>
<td>Band Subclass 3</td>
</tr>
<tr>
<td>BAND_SUBCLASS_4</td>
<td>1</td>
<td>Band Subclass 4</td>
</tr>
<tr>
<td>BAND_SUBCLASS_5</td>
<td>1</td>
<td>Band Subclass 5</td>
</tr>
<tr>
<td>BAND_SUBCLASS_6</td>
<td>1</td>
<td>Band Subclass 6</td>
</tr>
<tr>
<td>BAND_SUBCLASS_7</td>
<td>1</td>
<td>Band Subclass 7</td>
</tr>
</tbody>
</table>

The mobile station shall set each subfield to '1' if the corresponding sub-band class is supported by the mobile station; otherwise, the mobile station shall set the subfield to '0'.

**RESERVED** – Reserved bits.

The mobile station shall set all reserved bits to '0'.

When more band subclasses are defined, the reserved bits will be used for the new corresponding subfields. Sufficient octets will be added to this field to accommodate the new subfields. All the undefined bits in an additional octet will be reserved bits.

The mobile station shall set all the reserved bits to '0'. If all bits are set to '0' in an octet and all succeeding octets, the mobile station shall omit the octet and the succeeding octets.

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2-557
3. REQUIREMENTS FOR BASE STATION CDMA OPERATION

This section defines requirements that are specific to CDMA base station equipment and operation.

3.1 Reserved

3.2 Reserved

3.3 Security and Identification

3.3.1 Authentication

The base station may be equipped with a database that includes unique mobile station authentication keys, shared secret data, or both for each registered mobile station in the system. This database is used for authentication of mobile stations that are equipped for authentication operation.

If the base station supports mobile station authentication, it shall provide the following capabilities: The base station shall send and receive authentication messages and perform the authentication calculations described in 2.3.12.1. If the base station supports 800 MHz analog operation, the base station should set the RAND parameter of the Access Parameters Message to the same value transmitted on the forward analog control channel (see [6]).

3.3.2 Encryption

If the base station supports mobile station authentication (see 3.3.1), it may also support message encryption by providing the capability to send encryption control messages and the ability to perform the operations of encryption and decryption as specified in 2.3.12.2.

3.3.3 Voice Privacy

If the base station supports mobile station authentication (see 3.3.1), it may also support voice privacy using the private long code mask, as specified in 2.3.12.3.

3.4 Supervision

3.4.1 Access Channel

The base station shall continually monitor each active Access Channel. The base station should provide control in cases of overload by using the Access Parameters Message.

3.4.2 Reverse Traffic Channel

The base station shall continually monitor each active Reverse Traffic Channel to determine if the call is active. If the base station detects that the call is no longer active, the base station shall declare loss of Reverse Traffic Channel continuity (see 3.6.4).
3.5 Reserved

3.6 Call Processing

This section describes base station call processing. It contains frequent references to the messages that flow between the base station and the mobile station. While reading this section, it may be helpful to refer to the message formats (see 2.7 and 3.7), and to the call flow examples (see Annex B). The values for the time and numeric constants used in this section (e.g., T1b and N4m) are specified in Annex D.

Base station call processing consists of the following types of processing:

- **Pilot and Sync Channel Processing** - During *Pilot and Sync Channel Processing*, the base station transmits the Pilot Channel and Sync Channel which the mobile station uses to acquire and synchronize to the CDMA system while the mobile station is in the *Mobile Station Initialization State*.

- **Paging Channel Processing** - During *Paging Channel Processing*, the base station transmits the Paging Channel which the mobile station monitors to receive messages while the mobile station is in the *Mobile Station Idle State* and the *System Access State*.

- **Access Channel Processing** - During *Access Channel Processing*, the base station monitors the Access Channel to receive messages which the mobile station sends while the mobile station is in the *System Access State*.

- **Traffic Channel Processing** - During *Traffic Channel Processing*, the base station uses the Forward and Reverse Traffic Channels to communicate with the mobile station while the mobile station is in the *Mobile Station Control on the Traffic Channel State*.

3.6.1 Pilot and Sync Channel Processing

During *Pilot and Sync Channel Processing*, the base station transmits the Pilot and Sync Channels which the mobile station uses to acquire and synchronize to the CDMA system while the mobile station is in the *Mobile Station Initialization State*.

3.6.1.1 Preferred Set of CDMA Channels

The preferred set of frequency assignments are the CDMA Channels on which the mobile station attempts to acquire the CDMA system (see [2]).

The base station shall support at least one member of the preferred set of frequency assignments. The base station may support additional CDMA Channels.

3.6.1.2 Pilot Channel Operation

The Pilot Channel (see [2]) is a reference channel which the mobile station uses for acquisition, timing, and as a phase reference for coherent demodulation.

The base station shall continually transmit a Pilot Channel for every CDMA Channel supported by the base station, unless the base station is classified as a hopping pilot beacon.
3.6.1.3 Sync Channel Operation

The Sync Channel (see [2]) provides the mobile station with system configuration and timing information.

The base station shall transmit at most one Sync Channel for each supported CDMA Channel. The base station shall support a Sync Channel on at least one member of the preferred set of frequency assignments that it supports. The base station should support a Sync Channel on every member of the preferred set of frequency assignments that it supports.

If the base station operates in Band Class 0 or Band Class 3 and supports the Primary CDMA Channel, then the base station shall transmit a Sync Channel on the Primary CDMA Channel.

The base station shall continually send the Sync Channel Message on each Sync Channel that the base station transmits.

3.6.2 Paging Channel and Quick Paging Channel Processing

3.6.2.1 Paging Channel Procedures

During Paging Channel Processing, the base station transmits the Paging Channel (see [2]) which the mobile station monitors to receive messages while the mobile station is in the Mobile Station Idle State and the System Access State.

The base station may transmit up to seven Paging Channels on each supported CDMA Channel.

For each Paging Channel that the base station transmits, the base station shall continually send valid Paging Channel messages (see 3.7.2), which may include the Null Message (see [4]).

The base station shall not send any message which is not completely contained within two consecutive Paging Channel slots, unless the processing requirements for the message explicitly specify a different size limitation.¹

3.6.2.1.1 CDMA Channel Determination

To determine the mobile station’s assigned CDMA Channel, the base station shall use the hash function specified in 2.6.7.1 with the following inputs:

- IMSI_S based on the IMSI with which the mobile station registered (see 2.3.1)
- Number of CDMA Channels on which the base station transmits Paging Channels.

¹See, for example, TIA/EIA-637-A[17] which specifies processing requirements for the Data Burst Message.
3.6.2.1.2 Paging Channel Determination

To determine the mobile station’s assigned Paging Channel, the base station shall use the hash function specified in 2.6.7.1 with the following inputs:

- IMSI_S based on the IMSI with which the mobile station registered (see 2.3.1)
- Number of Paging Channels which the base station transmits on the mobile station’s assigned CDMA Channel.

3.6.2.1.3 Paging Slot Determination

To determine the assigned Paging Channel slots for a mobile station with a given slot cycle index, the base station shall select a number PGSLOT using the hash function specified in 2.6.7.1 with the following inputs:

- IMSI_S based on the IMSI with which the mobile station registered (see 6.3.1)
- Maximum number of Paging Channel slots (2048).

The assigned Paging Channel slots for the mobile station are those slots for which

$$\lfloor t/4 \rfloor - \text{PGSLOT} \mod (16 \times T) = 0,$$

where $t$ is the System Time in frames, and $T$ is the slot cycle length in units of 1.28 seconds given by

$$T = 2^i,$$

where $i$ is the slot cycle index.

When the base station is able to determine that the mobile station is operating in the slotted mode and is able to determine the mobile station’s preferred slot cycle index, the base station uses for the mobile station’s slot cycle index the smaller of the mobile station’s preferred slot cycle index and the maximum slot cycle index.

When the base station is not able to determine whether the mobile station is operating in the slotted mode, or the base station is not able to determine the mobile station’s preferred slot cycle index, the base station uses for the mobile station’s slot cycle index the smaller of the maximum slot cycle index and 1.

3.6.2.1.4 Message Transmission and Acknowledgment Procedures

The Paging Channel acknowledgment procedures facilitate the reliable exchange of messages between the base station and the mobile station on the f-csch and r-csch. The acknowledgment procedures and requirements are described in [4].

3.6.2.2 Overhead Information

The base station sends overhead messages to provide the mobile station with the information that it needs to operate with the base station.

The base station shall maintain a configuration sequence number (CONFIG_SEQ), and shall increment CONFIG_SEQ modulo 64 whenever the base station modifies the following messages:
1. **System Parameters Message**
2. **Neighbor List Message** (Band Class 0 only)
3. **CDMA Channel List Message**
4. **Extended System Parameters Message**
5. **Extended Neighbor List Message** (band classes other than Band Class 0)
6. **General Neighbor List Message**
7. **Global Service Redirection Message**
8. **User Zone Identification Message**
9. **Private Neighbor List Message**
10. **Extended Global Service Redirection Message**
11. **Extended CDMA Channel List Message**

The base station shall maintain an access configuration sequence number (ACC_CONFIG_SEQ), and shall increment ACC_CONFIG_SEQ modulo 64 whenever the base station modifies the Access Parameters Message.

On each of the Paging Channels the base station transmits, the base station shall send each of the following system overhead messages at least once per $T_{1b}$ seconds:

1. **Access Parameters Message**
2. **CDMA Channel List Message**
3. **Extended System Parameters Message**
4. **System Parameters Message**

If BAND_CLASS is equal to ‘00001’, the base station shall send the **Extended Neighbor List Message** and may also send the **General Neighbor List Message**. If BAND_CLASS is equal to ‘00000’, the base station shall send the **Neighbor List Message**, and may also send the **General Neighbor List Message**. If the base station is sending the **Neighbor List Message**, it shall send it at least once per $T_{1b}$ seconds. If the base station is sending the **Extended Neighbor List Message**, it shall send it at least once per $T_{1b}$ seconds. If the base station is sending the **General Neighbor List Message**, it shall send it at least once per $T_{1b}$ seconds.

If the base station uses addressing modes requiring use of only the IMSI_M_S, independent of values of the IMSI_M_11_12 and MCC_M, the base station shall set IMSI_T_SUPPORTED to ‘0’, MCC to ‘1111111111’, and IMSI_11_12 to ‘1111111’ in the **Extended System Parameters Message**.

If the base station sets IMSI_T_SUPPORTED to ‘1’, the base station shall not set PREF_MSID_TYPE to ‘00’ in the **Extended System Parameters Message**.

The base station may send a **Global Service Redirection Message** on any given Paging Channel. If the message is sent, the base station shall send it at least once per $T_{1b}$ seconds.

If P_REV is greater than or equal to six, the base station may send an **Extended Global
Service Redirection Message on any given Paging Channel. If the message is sent, the base station shall send it at least once per $T_{1b}$ seconds. The base station may send this message to redirect only those mobile stations with MOB_P_REV equal to or greater than six.

When both the Global Service Redirection Message and the Extended Global Service Redirection Message are sent, the base station shall use the Global Service Redirection Message for mobile stations with MOB_P_REV less than six, and shall use the Extended Global Service Redirection Message for mobile stations with MOB_P_REV equal to or greater than six. When only the Global Service Redirection Message is sent and this message is for mobile station with MOB_P_REV less than six, the base station shall set EXCL_P_REV_MS to ‘1’.

If only the Global Service Redirection Message is sent and this message is for redirecting all mobile stations, the base station shall set EXCL_P_REV_MS to ‘0’.

The base station may send a User Zone Identification Message on any given Paging Channel. If the message is sent, the base station shall send it at least once per $T_{1b}$ seconds.

The base station may send a Private Neighbor List Message on any given Paging Channel. If the message is sent, the base station shall send it at least once per $T_{1b}$ seconds.

The base station may send an Extended CDMA Channel List Message on any given Paging Channel. If the message is sent, the base station shall send it at least once per $T_{1b}$ seconds.

3.6.2.3 Mobile Station Directed Messages

The base station shall use the following rules for selecting the Paging Channel slot in which to send a message to a mobile station:

- If the base station is able to determine that the mobile station is operating in the non-slotted mode, the base station may send the message to the mobile station in any Paging Channel slot.

- If the base station is able to determine that the mobile station is operating in the slotted mode and is able to determine the mobile station’s slot cycle index (see 2.6.2.1.1.3), the base station shall send the message at least once in an assigned Paging Channel slot for the mobile station (see 3.6.2.1.3), with the position within the slot subject to the following limitations:
  - If the mobile station has registered with a class 0 IMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with CLASS_0_DONE set to ‘1’ in that slot.
  - If the mobile station has registered with a class 1 IMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with CLASS_1_DONE set to ‘1’ in that slot.
  - If the mobile station has been assigned a TMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with TMSI_DONE set to ‘1’ in that slot.
If the base station is not able to determine whether the mobile station is operating in the non-slotted mode, or the base station is not able to determine the mobile station's slot cycle index, the base station shall assume that the mobile station is operating in the slotted mode with a slot cycle index which is the smaller of MAX_SLOT_CYCLE_INDEX and 1. The base station shall send the message at least once in an assigned Paging Channel slot for the mobile station (see 3.6.2.1.3), with the position within the slot subject to the following limitations:

- If the mobile station has registered with a class 0 IMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with CLASS_0_DONE set to ‘1’ in that slot.
- If the mobile station has registered with a class 1 IMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with CLASS_1_DONE set to ‘1’ in that slot.
- If the mobile station has been assigned a TMSI, the base station shall not send the message in the assigned Paging Channel slot after sending a General Page Message with TMSI_DONE set to ‘1’ in that slot.

The base station should send at least one General Page Message in each Paging Channel slot. The base station shall not omit a General Page Message in two adjacent slots. The base station should send messages directed to mobile stations operating in the slotted mode as the first messages in the slot.

If the base station sends a General Page Message with ORDERED_TMSIS set to ‘1’ in a slot, the base station shall order page records with PAGE_CLASS equal to ‘10’ in ascending order such that if a particular TMSI_CODE value for one page record is greater than the TMSI_CODE value for another page record, the page record with the greater TMSI_CODE value is sent later in the slot.

The base station may send the following messages directed to a mobile station on the f-csch. If the base station sends a message, the base station shall comply with the specified requirements for sending the message, if any:

1. Abbreviated Alert Order
2. Audit Order
3. Authentication Challenge Message
4. Base Station Challenge Confirmation Order
5. Channel Assignment Message
6. Data Burst Message
7. Extended Channel Assignment Message
8. Feature Notification Message
9. General Page Message
10. Intercept Order
11. **Local Control Order**

12. **Lock Until Power-Cycled Order**: The base station should send this order in an unassured mode.

13. **Maintenance Required Order**

14. **PACA Message**

15. **Registration Accepted Order**

16. **Registration Rejected Order**

17. **Registration Request Order**

18. **Release Order**

19. **Reorder Order**

20. **Retry Order**

21. **Service Redirection Message**

22. **Slotted Mode Order**

23. **SSD Update Message**

24. **Status Request Message**

25. **TMSI Assignment Message**

26. **Unlock Order**: The base station should send this order in unassured mode.

27. **User Zone Reject Message**.

3.6.2.4 Broadcast Messages

The base station may transmit *Data Burst Messages* directed to broadcast addresses. When transmitting broadcast messages that are to be received by mobile stations operating in the slotted mode, the base station may use broadcast page records (see 3.7.2.3.2.17) in accordance with the broadcast procedures specified in 3.6.2.4.1 to announce the presence of broadcast *Data Burst Messages* on the Paging Channel. The base station should use the rules specified in 3.6.2.4.1 for selecting the Paging Channel slot in which to send a broadcast *Data Burst Message*.

3.6.2.4.1 Broadcast Procedures for Slotted Mode

The base station may announce the presence of broadcast Data Burst Messages on the Paging Channel by paging, using a broadcast address with PAGE_CLASS equal to ‘11’ and PAGE_SUBCLASS equal to ‘00’.

3.6.2.4.1.1 General Overview

The base station may transmit Data Burst Messages directed to broadcast addresses. Since mobile stations operating in slotted mode do not constantly monitor a Paging Channel, it is necessary to use special procedures to ensure that mobile stations operating in the slotted mode are able to receive the message. The base station may either send a broadcast
message in many slots, or may send a broadcast message in a predetermined paging slot. This single transmission of the pending broadcast message may be announced by a preceding "broadcast page". A broadcast page is a General Page Message record with the PAGE_CLASS field set to ‘11’.

If pending transmission of the broadcast message is announced by the broadcast page, mobile stations use the BC_ADDR and the BURST_TYPE fields of the broadcast page record to determine whether or not to receive the announced broadcast message. The base station sets the value of the BC_ADDR according to the requirements of the standards related to the BURST_TYPE. There is a predetermined timing relationship between the sending of the broadcast page and the sending of the related broadcast message. This timing relationship allows mobile stations to determine which slot to monitor in order to receive the broadcast message.

To reduce the overhead for sending broadcast pages or broadcast messages, a base station may use periodic broadcast paging (see 3.6.2.4.1.2.3). When periodic broadcast paging is enabled, broadcast pages or broadcast messages are sent only once during a broadcast paging cycle. Mobile stations that are operating in the slotted mode and are configured to receive broadcast messages monitor the paging channel during the slot in which the broadcast pages or broadcast messages are sent. For the purpose of periodic broadcast paging, system time is divided into broadcast paging cycles, each having a duration of \((B + 3)\) Paging Channel slots, where \(B\) is a power of two. In each broadcast paging cycle, the first paging slot may contain broadcast pages or broadcast messages.

### 3.6.2.4.1.2 Requirements for Sending Broadcast Messages

#### 3.6.2.4.1.2.1 Broadcast Delivery Options

When transmitting broadcast messages that are to be received by mobile stations operating in the slotted mode, the base station shall use one of the two following procedures to transmit a broadcast message.

#### 3.6.2.4.1.2.1.1 Method 1: Multi-Slot Broadcast Message Transmission

The base station may send a broadcast message using this method without regard to whether periodic broadcast paging is enabled or disabled (see 3.6.2.4.1.2.3).

When using this method, the base station shall send the broadcast message in a sufficient number of paging slots such that it may be received by any mobile station that is operating in the slotted mode. For example, the base station may send the broadcast message in \(M\) successive paging slots where \(M\) is the number of slots in a maximum paging cycle as defined in 2.6.2.1.1.3.3.

#### 3.6.2.4.1.2.1.2 Method 2: Periodic Broadcast Paging

If the base station sends a broadcast message using this method, then the base station shall enable periodic broadcast paging (see 3.6.2.4.1.2.3).

To deliver a broadcast message using this method, the base station should perform the following:
If the number and size of the broadcast messages waiting to be sent are such that the messages can be sent in a single slot, the base station should send the broadcast messages in the first slot of the next broadcast paging cycle (see 2.6.2.1.1.3.3).

If there is a single broadcast message waiting to be sent, the base station should send the broadcast message beginning in the first slot of the next broadcast paging cycle (see 2.6.2.1.1.3.3).

Otherwise, the base station should first include a broadcast page for each broadcast message to be sent, in a General Page Message that is sent in the first slot of the next broadcast paging cycle (see 2.6.2.1.1.3.3). The base station should then send the related broadcast messages in the paging slots specified in 3.6.2.4.1.2.4.

3.6.2.4.1.2.2 Duplicate Broadcast Message Transmission

If the base station sends a broadcast message or a broadcast page and an associated broadcast message more than once when periodic broadcast paging is enabled (see 3.6.2.4.1.2.3), then all repetitions of the broadcast message or the broadcast page and the associated broadcast message should be sent within $4 \times (B + 3)$ paging slots of the paging slot in which the broadcast message or broadcast page was first sent. $(B + 3)$ is the duration of the broadcast paging cycle as defined in 2.6.2.1.1.3.3).

When a base station sends a broadcast message or a broadcast page when periodic broadcast paging is enabled (see 3.6.2.4.1.2.3), and the base station has a second, different broadcast message to send which contains identical BURST_TYPE and BC_ADDR fields, then the base station shall wait $4 \times (B + 3)$ paging slots after the first slot of the broadcast paging cycle containing the final sending of the first broadcast message or broadcast page before sending the second, different broadcast message or related broadcast page.

3.6.2.4.1.2.3 Periodic Broadcast Paging

The base station uses the BCAST_INDEX field of the Extended System Parameters Message to specify the current state of periodic broadcast paging to all mobile stations.

To enable periodic broadcast paging, the base station shall set the BCAST_INDEX field of the Extended System Parameters Message to an unsigned 3-bit number in the range 1-7, equal to the broadcast slot cycle index as defined in 2.6.2.1.1.3.3. The value of the BCAST_INDEX field may exceed the value of the MAX_SLOT_CYCLE_INDEX field sent in the System Parameters Message.

To indicate that periodic broadcast paging is either disabled or is not supported by the base station, the base station shall set the BCAST_INDEX field to ‘000’.

3.6.2.4.1.2.4 Broadcast Message Slot Determination

When a base station uses broadcast paging, it shall determine the slot in which to send the corresponding broadcast message using the following procedures:

- The base station shall consider a broadcast page to have been sent in the paging slot in which the General Page Message containing the broadcast page began.
• The reference slot is defined as the paging slot in which the broadcast page was sent.

• Let n represent the ordinal number of the broadcast page relative to other broadcast pages that are contained in the same General Page Message (n = 1, 2, 3,...). The base station shall send the broadcast message announced by broadcast page n in the paging slot that occurs n \times 3 paging slots after the reference slot.

3.6.2.5 Quick Paging Channel Processing

The base station may support a Quick Paging Channel. The base station may transmit up to three Quick Paging Channels on each supported CDMA Channel.

When a Quick Paging Channel is supported, the base station shall transmit paging indicators to the mobile station in the assigned positions in the assigned Quick Paging Channel slot. The base station shall set the paging indicators to “ON” if the mobile station is operating in the slotted mode and is to receive the Paging Channel in the assigned Paging Channel slot following its assigned Quick Paging Channel slot.

When the base station changes CONFIG_MSG_SEQ, the base station should set the paging indicators for all mobile stations to “ON” for each Quick Paging Channel slot for a time interval \( T \) (in units of 1.28 seconds), such that

\[
T = N \times 2^{\text{MAX SLOT CYCLE INDEX}},
\]

where \( N \) is an integer greater than or equal to one.

If the base station supports configuration change indicators on the Quick Paging Channel, when the base station changes \( \text{CONFIG MSG SEQ} \), the base station shall set all configuration change indicators to “ON” for each Quick Paging Channel slot for a time interval of \( T_{31m} \) seconds. At all other times, the base station shall set all configuration change indicators to “OFF”.

If the base station does not support configuration change indicators on the Quick Paging Channel, then the base station shall set all configuration change indicators to “OFF”.

When the base station sends a broadcast message using Multi-Slot Broadcast Message Transmission (see 3.6.2.4.1.2.1.1), the base station should set all paging indicators to “ON” for the Quick Paging Channel slot which begins 100 ms prior to the beginning of the Paging Channel slot in which the broadcast message begins.

The base station shall set all reserved indicators to “OFF”.

3.6.2.5.1 Quick Paging Channel Determination

To determine the mobile station’s assigned Quick Paging Channel, the base station shall use the hash function specified in 2.6.7.1 with the following inputs:

• IMSI_S based on the IMSI with which the mobile station registered (see 2.3.1)

• Number of Quick Paging Channels which the base station transmits on the mobile station’s assigned CDMA Channel.
3.6.2.5.2 Quick Paging Channel Slot Determination

The mobile station's assigned Quick Paging Channel slots are those slots for which

\[ \left\lfloor \frac{(t+5)}{4} \right\rfloor - \text{PGSLOT} \mod (16 \times T) = 0, \]

where \( t \) is the System Time in frames, \( \text{PGSLOT} \) is selected in the range 0 to 2047 by using the hash function specified in 2.6.7.1, and \( T \) is the slot cycle length in units of 1.28 seconds such that

\[ T = 2^i, \]

and \( i \) is the slot cycle index.

3.6.2.5.3 Paging Indicator Position Determination

To determine the mobile station's assigned paging indicators, the base station shall use the same formula as used by the mobile station (see 2.6.2.1.2.2).

3.6.2.5.4 Configuration Change Indicator Position Determination

Configuration change indicators are transmitted on the first Quick Paging Channel.

If the Quick Paging Channel data rate is 2400 bps (indicator rate is 4800 bps), the bit positions of the first pair of configuration change indicators in a Quick Paging Channel slot shall be the last two bits in the first 40 ms half of the Quick Paging Channel slot. The bit positions of the second pair of configuration change indicators in a Quick Paging Channel slot shall be the last two bits in the Quick Paging Channel slot.

If the Quick Paging Channel data rate is 4800 bps (indicator rate is 9600 bps), the bit positions of the first four configuration change indicators in a Quick Paging Channel slot shall be the last four bits in the first 40 ms half of the Quick Paging Channel slot. The bit position of the second four configuration change indicators in a Quick Paging Channel slot shall be the last four bits in the Quick Paging Channel slot.

3.6.2.5.5 Reserved Indicator Positions

On the first Quick Paging Channel, if the Quick Paging Channel data rate is 2400 bps (indicator rate is 4800 bps), the reserved indicator positions are described as follows:

- The two Quick Paging Channel bit positions prior to the last two bits in the first 40 ms half of a Quick Paging Channel slot are reserved. The two Quick Paging Channel bit positions prior to the last two bits in a Quick Paging Channel slot are also reserved.

On the first Quick Paging Channel, if the Quick Paging Channel data rate is 4800 bps (indicator rate is 9600 bps), the reserved indicator positions are described as follows:

- The four Quick Paging Channel bit positions prior to the last four bits in the first 40 ms half of a Quick Paging Channel slot are reserved. The four Quick Paging Channel bit positions prior to the last four bits in a Quick Paging Channel slot are also reserved.

On Quick Paging Channels other than the first Quick Paging Channel, if the Quick Paging
Channel data rate is 2400 bps (indicator rate is 4800 bps), the reserved indicator positions are described as follows:

- The last four Quick Paging Channel bit positions in the first 40 ms half of a Quick Paging Channel slot are reserved. The last four Quick Paging Channel bit positions in a Quick Paging Channel slot are also reserved.

On Quick Paging Channels other than the first Quick Paging Channel, if the Quick Paging Channel data rate is 4800 bps (indicator rate is 9600 bps), the reserved indicator positions are described as follows:

- The last eight Quick Paging Channel bit positions in the first 40 ms half of a Quick Paging Channel slot are reserved. The last eight Quick Paging Channel bit positions in a Quick Paging Channel slot are also reserved.

3.6.3 Access Channel Processing

During Access Channel Processing, the base station monitors the Access Channel to receive messages which the mobile station sends while the mobile station is in the System Access State.

Each Access Channel is associated with a Paging Channel. Up to 32 Access Channels can be associated with a Paging Channel. The number of Access Channels associated with a particular Paging Channel is specified in the Access Parameters Message sent on that Paging Channel.

The base station shall continually monitor all Access Channels associated with each Paging Channel that the base station transmits.

3.6.3.1 Reserved

3.6.3.2 Reserved

3.6.3.3 Response to Page Response Message

If the base station receives a Page Response Message, the base station should send a Channel Assignment Message, an Extended Channel Assignment Message, or a Release Order. The base station may also start authentication procedures (see 2.3.12), start TMSI assignment procedures (see 2.3.15), send a Data Burst Message, or request status information records with the Status Request Message. If the base station is operating with the mobile station in Band Class 0, the base station may also request the status information records with the Status Request Order.

If the base station sends the Extended Channel Assignment Message, the base station may include more than one pilot to be in the Active Set.

If the base station sends a Channel Assignment Message or an Extended Channel Assignment Message, the base station shall perform the following:

- If the message directs the mobile station to a CDMA Traffic Channel, the base station shall begin Traffic Channel Processing (see 3.6.4) for the mobile station.
• If the message directs the mobile station to an 800 MHz wide analog voice channel, the base station shall follow the procedure described in [6].
• If the message directs the mobile station to an 800 MHz narrow analog voice channel, the base station shall follow the procedure described in [28].
• Layer 3 shall send a mobile station inactive on common channel indication to Layer 2 (see [4]).

3.6.3.4 Response to Orders
No requirements.

3.6.3.5 Response to Origination Message
If the base station receives an Origination Message, the base station should send a Channel Assignment Message, an Extended Channel Assignment Message, an Intercept Order, a Reorder Order, a Release Order, a PACA Message, a Service Redirection Message, or a Retry Order. The base station may also commence authentication procedures (see 2.3.12) or TMSI assignment procedures (see 2.3.15). The base station may also request status information records with the Status Request Message. If the base station is operating with the mobile station in Band Class 0, the base station may also request status information records with the Status Request Order.
If the base station sends the Extended Channel Assignment Message, the base station may include more than one pilot to be in the Active Set.
If the base station sends a Channel Assignment Message or an Extended Channel Assignment Message, the base station shall perform the following:
• If the message directs the mobile station to a CDMA Traffic Channel, the base station shall begin Traffic Channel Processing (see 3.6.4) for the mobile station.
• If the message directs the mobile station to an 800 MHz wide analog voice channel, the base station shall follow the procedure described in [2].
• If the message directs the mobile station to an 800 MHz narrow analog voice channel, the base station shall follow the procedure described in [28].
• The base station shall raise a mobile station inactive on common channel indication for the mobile station.
If the base station sends a Channel Assignment Message, the base station shall not set RESPOND equal to ‘0’ when ASSIGN_MODE = ‘001’, ASSIGN_MODE = ‘010’, or ASSIGN_MODE = ‘101’. If the base station sends an Extended Channel Assignment Message, the base station shall not set RESPOND equal to ‘0’ when ASSIGN_MODE = ‘001’ or ASSIGN_MODE = ‘010’

3.6.3.6 Response to Registration Message
If the base station receives a Registration Message, the base station may send a Registration Accepted Order, a Registration Rejected Order, or a Service Redirection Message. The base station may also start authentication procedures (see 2.3.12), start TMSI assignment
procedures (see 2.3.15), or request status information records with the *Status Request Message*. If the base station is operating with the mobile station in Band Class 0, the base station may also request the status information records with a *Status Request Order*.

If the *Registration Message* specifies a power-down registration, Layer 3 shall send a *mobile station inactive on common channel* indication to Layer 2 (see [4]).

### 3.6.3.7 Response to Data Burst Message

No requirements.

### 3.6.3.8 Reserved

### 3.6.3.9 Reserved

### 3.6.3.10 Service Redirection

If the base station sends a *Service Redirection Message* or a *Global Service Redirection Message* to the mobile station, Layer 3 shall send a *mobile station inactive on common channel* indication to Layer 2 (see [4]).

### 3.6.4 Traffic Channel Processing

During *Traffic Channel Processing*, the base station uses the Forward and Reverse Traffic Channels to communicate with the mobile station while the mobile station is in the *Mobile Station Control on the Traffic Channel State*.

Traffic Channel processing consists of the following substates:

- **Traffic Channel Initialization Substate** - In this substate, the base station begins transmitting on the Forward Traffic Channel and receiving on the Reverse Traffic Channel.

- **Waiting for Order Substate** - In this substate, the base station sends the *Alert With Information Message* to the mobile station.

- **Waiting for Answer Substate** - In this substate, the base station waits for the *Connect Order* from the mobile station.

- **Conversation Substate** - In this substate, the base station exchanges Traffic Channel frames with the mobile station in accordance with the current service configuration.

- **Release Substate** - In this substate, the base station disconnects the call.

### 3.6.4.1 Special Functions and Actions

The base station performs the following special functions and actions in one or more of the Traffic Channel processing substates:

#### 3.6.4.1.1 Forward Traffic Channel Power Control

When the base station enables Forward Traffic Channel power control, the mobile station reports frame error rate statistics to the base station using the *Power Measurement Report Message*.  

3-15
The base station may enable Forward Traffic Channel power control using the *System Parameters Message* sent on the Paging Channel and the *Power Control Parameters Message* sent on the Forward Traffic Channel. The base station may enable periodic reporting which causes the mobile station to report frame error rate statistics at specified intervals. The base station may also enable threshold reporting which causes the mobile station to report frame error rate statistics when the frame error rate reaches a specified threshold.\(^2\)

The base station may use the reported frame error rate statistics to adjust the transmit power of the Forward Traffic Channel.

### 3.6.4.1.2 Service Configuration and Negotiation

During Traffic Channel operation, the mobile station and base station communicate through the exchange of Forward and Reverse Traffic Channel Configurations. The mobile station and base station use a common set of attributes for building and interpreting Traffic Channel frames. This set of attributes, referred to as a service configuration, consists of both negotiable and non-negotiable parameters.

The set of negotiable service configuration parameters consists of the following:

1. **Forward and Reverse Multiplex Options**: These control the way in which the information bits of the Forward and Reverse Traffic Channel frames, respectively, are divided into various types of traffic, such as signaling traffic, primary traffic and secondary traffic. A multiplex option together with a radio configuration specifies the frame structures and transmission rates (see [3]). The Multiplex Options which support Supplemental Code Channel transmission and Supplemental Channel transmission on the Forward and Reverse Traffic Channels are included in [3]. Invocation of Supplemental Code Channel operation on the Forward or Reverse Traffic Channels occurs by transmission of the *Supplemental Channel Request Message*, the *Supplemental Channel Assignment Message*, and the *General Handoff Direction Message*. The Multiplex Options which support Supplemental Code Channel transmission and Supplemental Channel transmission on the Forward and Reverse Traffic Channels are included in [3]. The multiplex option used for the Forward Traffic Channel can be the same as that used for the Reverse Traffic Channel, or it can be different.

2. **Forward and Reverse Traffic Channel Configurations**: These include the radio configurations and other necessary attributes for the Forward and Reverse Traffic Channels. The Traffic Channel Configuration used can be different for the Forward and Reverse Traffic Channels or it can be the same.

3. **Forward and Reverse Traffic Channel Transmission Rates**: These are the transmission rates actually used for the Forward and Reverse Traffic Channels, respectively. The transmission rates for the Forward Traffic Channel can include all of the transmission rates supported by the radio configuration associated with

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\(^2\)In this section the term base station may imply multiple cells or sectors.
the Forward Traffic Channel multiplex option, or a subset of the supported rates.
Similarly, the transmission rates used for the Reverse Traffic Channel can include
all rates supported by the radio configuration associated with the Reverse Traffic
Channel multiplex option, or a subset of the supported rates. The transmission
rates used for the Forward Traffic Channel can be the same as those used for the
Reverse Traffic Channel, or they can be different.

4. Service Option Connections: These are the services in use on the Traffic Channel.
There can be multiple service option connections. It is also possible that there is
no service option connection, in which case the base station uses the Forward
Traffic Channel as follows:

- Sends signaling traffic and null traffic on the Forward Fundamental
  Channel.

- Sends signaling traffic on the Forward Dedicated Control Channel.

- Sends power control bits on the Forward Fundamental Channel if
  FPC_PRI_CHAN is set to '0'; sends power control bits on the Forward
  Dedicated Control Channel if FPC_PRI_CHAN is set to '1'.

Associated with each service option connection are a service option, a Forward
Traffic Channel traffic type, a Reverse Traffic Channel traffic type, and a service
option connection reference. The associated service option formally defines the
way in which traffic bits are processed by the mobile station and base station. The
associated Forward and Reverse Traffic Channel traffic types specify the types of
traffic used to support the service option. A service option can require the use of a
particular type of traffic, such as primary or secondary, or it can accept more than
one traffic type. A service option can be one-way, in which case it can be
supported on the Forward Traffic Channel only or the Reverse Traffic Channel
only. Alternatively, a service option can be two-way, in which case it can be
supported on the Forward and Reverse Traffic Channels simultaneously.

Connected service options can also invoke operation on Supplemental Code
Channels in either one or both of the Forward and Reverse Traffic Channels by
negotiating a multiplex option that supports operation on Supplemental Code
Channels (see [3] for Multiplex Options applicable to Supplemental Code
Channels), and by using the appropriate Supplemental Code Channel related
messages (i.e., the Supplemental Channel Request Message, the Supplemental
Channel Assignment Message, and the General Handoff Direction Message). After
Supplemental Code Channels have been assigned by the base station, the
connected service option can transmit primary and/or secondary traffic on
Supplemental Code Channels. Connected service options can also invoke
operation on Supplemental Channels in either one or both of the Forward and
Reverse Traffic Channels by negotiating a multiplex option that supports operation
on Supplemental Channels (see [3] for Multiplex Options applicable to
Supplemental Channels) and by using the appropriate Supplemental Channel
related messages (i.e., the Supplemental Channel Request Message, the Universal
Handoff Direction Message, the Supplemental Channel Request Mini Message, the
Extended Supplemental Channel Assignment Message, the Forward Supplemental
Channel Assignment Mini Message, and the Reverse Supplemental Channel Assignment Mini Message). After Supplemental Channels have been assigned by the base station, the connected service option can transmit primary and/or secondary traffic on Supplemental Channels. The associated service option connection reference provides a means for uniquely identifying the service option connection. The reference serves to resolve ambiguity when there are multiple service option connections in use.

The non-negotiable service configuration parameters are sent from the base station to the mobile stations only, and consists of the following:

1. **Reverse Pilot Gating Rate:** This controls the way in which the reverse pilot is gated on the Reverse Pilot Channel. The base station specifies the reverse pilot gating rate to be used in the Service Connect Message, the General Handoff Direction Message, and the Universal Handoff Direction Message.

2. **Forward and Reverse Power Control Parameters:** These consist of forward power control operation mode, outer loop power control parameters (Ex. target frame error rate, minimum $E_b/N_t$ setpoint, and maximum $E_b/N_t$ setpoint) for the Forward Fundamental Channel and Forward Dedicated Control Channel, and Power Control Subchannel indicator which indicates where the mobile station is to perform the primary inner loop estimation and the base station is to multiplex the Power Control Subchannel.

3. **Logical to Physical Mapping:** This is a table of logical to physical mapping entries, consisting of service reference identifier, logical resource, physical resource, forward flag, reverse flag, and priority.

The mobile station can request a default service configuration associated with a service option at call origination, and can request new service configurations during Traffic Channel operation. A requested service configuration can differ greatly from its predecessor or it can be very similar. For example, the mobile station can request a service configuration in which all of the service option connections are different from those of the existing configuration; or the mobile station can request a service configuration in which the existing service option connections are maintained with only minor changes, such as a different set of transmission rates or a different mapping of service option connections to Forward and Reverse Traffic Channel traffic types.

If the mobile station requests a service configuration that is acceptable to the base station, they both begin using the new service configuration. If the mobile station requests a service configuration that is not acceptable to the base station, the base station can reject the requested service configuration or propose an alternative service configuration. If the base station proposes an alternative service configuration, the mobile station can accept or reject the base station’s proposed service configuration, or propose yet another service configuration. This process, called service negotiation, ends when the mobile station and base station find a mutually acceptable service configuration, or when either the mobile station or base station rejects a service configuration proposed by the other.

It is also possible for the base station to request a default service configuration, associated with a service option, when paging the mobile station and to request new service
configurations during Traffic Channel operation. The service negotiation proceeds as described above, but with the roles of the mobile station and base station reversed.

For CDMA mode operation in Band Class 0, the mobile station and base station can also use an alternative method for negotiating a service configuration known as service option negotiation. Service option negotiation is similar to service negotiation, but offers less flexibility for specifying the attributes of the service configuration. During service option negotiation, the base station or mobile station specifies only which service option is to be used. There is no facility for explicitly specifying the multiplex options, traffic types or transmission rates to be used on the Forward and Reverse Traffic Channels in conjunction with the service option. Instead, implicit service configuration attributes are assumed. In particular, the Forward and Reverse Multiplex Options and transmission rates are assumed to be the default multiplex options and transmission rates associated with the requested service option, and the traffic type for both the Forward and Reverse Traffic Channels is assumed to be primary traffic. Furthermore, a service configuration established using service option negotiation is restricted to having only a single service option connection.

At mobile station origination and termination, the type of negotiation to use, either service negotiation or service option negotiation, is indicated in the Channel Assignment Message. Service negotiation is always used with the Extended Channel Assignment Message. If a CDMA-to-CDMA hard handoff occurs during the call, the type of negotiation to use following the handoff is indicated in the Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message.

For CDMA mode operation in band classes other than Band Class 0, only service negotiation is to be used.

The following messages are used to support service negotiation:

1. **Service Request Message**: The mobile station can use this message to propose a service configuration, or to accept or reject a service configuration proposed in a Service Response Message. The base station can use this message to propose a service configuration, or to reject a service configuration proposed in a Service Response Message.

2. **Service Response Message**: The mobile station can use this message to accept or reject a service configuration proposed in a Service Request Message, or to propose an alternative service configuration. The base station can use this message to reject a service configuration proposed in a Service Request Message, or to propose an alternative service configuration.

3. **Service Connect Message**: The base station can use this message to accept a service configuration proposed in a Service Request Message or Service Response Message, and instruct the mobile station to begin using the service configuration.

4. **Service Connect Completion Message**: The mobile station can use this message to acknowledge the transition to a new service configuration.

5. **Service Option Control Message**: The mobile station and base station can use this message to invoke service option specific functions.
6. **Extended Channel Assignment Message**: The base station can use this message to accept or reject the initial service configuration proposed by the mobile station in an *Origination Message* or a *Page Response Message*.

The following messages are used to support service option negotiation:

1. **Service Option Request Order**: The mobile station and base station can use this message either to request a service option or suggest an alternative service option.

2. **Service Option Response Order**: The mobile station and base station can use this message to accept or reject a service option request.

3. **Service Option Control Order**: The mobile station and base station can use this message to invoke service option specific functions.

The following messages are used to support both service negotiation and service option negotiation:

1. **Origination Message**: The mobile station can use this message to propose an initial service configuration.

2. **Channel Assignment Message**: The base station can use this message to accept or reject the initial service configuration proposed by the mobile station in an *Origination Message* or a *Page Response Message*, and to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used during the call.

3. **Extended Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff.

4. **General Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff. The base station can use this message to accept a service configuration proposed in a *Service Request Message* or *Service Response Message*. The base station can also use this message to instruct the mobile station to begin using the service configuration.

5. **General Page Message**: The base station can use this message to propose an initial service configuration.

6. **Page Response Message**: The mobile station can use this message to accept or reject the initial service configuration proposed by the base station in a *General Page Message*, or to propose an alternative initial service configuration.

7. **Status Request Message**: The base station can use this message to request service capability information from the mobile station.

8. **Status Response Message**: The mobile station can use this message to return the service capability information requested by the base station in a *Status Request Message*. 
9. **Extended Status Response Message**: The mobile station can use this message to return the service capability information requested by the base station in a Status Request Message.

10. **Universal Handoff Direction Message**: The base station can use this message to indicate which type of negotiation, either service negotiation or service option negotiation, is to be used following a CDMA-to-CDMA hard handoff. The base station can use this message to accept a service configuration proposed in a Service Request Message or Service Response Message. The base station can also use this message to instruct the mobile station to begin using the service configuration.

3.6.4.1.2.1 Use of Variables

3.6.4.1.2.1.1 Maintaining the Service Request Sequence Number

The base station shall maintain a service request sequence number variable, SERV_REQ_NUM, for use with service negotiation. Upon beginning Traffic Channel processing, the base station shall set SERV_REQ_NUM to 0. Each time the base station sends a new Service Request Message, it shall set the SERV_REQ_SEQ field of the message to the current value of SERV_REQ_NUM, and shall then set SERV_REQ_NUM equal to (SERV_REQ_NUM + 1) modulo 8.

3.6.4.1.2.1.2 Maintaining the Service Connect Sequence Number

The base station shall maintain a service connect sequence number variable, SERV_CON_NUM, for use with service negotiation. Upon beginning Traffic Channel processing, the base station shall set SERV_CON_NUM to 0. Each time the base station sends a new Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record, it shall set the SERV_CON_SEQ field of the message to the current value of SERV_CON_NUM, and shall then set SERV_CON_NUM equal to (SERV_CON_NUM + 1) modulo 8.

3.6.4.1.2.1.3 Assigning Service Option Connection References

When the base station assigns a service option connection reference for use in identifying a new service option connection during service negotiation, the base station shall use the following criteria:

1. The base station shall not assign a reference equal to ‘00000000’; and
2. The base station shall not assign a reference that is associated with a service option connection of the current service configuration; and
3. If there was a previous service configuration, the base station shall not assign a reference that was associated with a service option connection of the previous service configuration.

3.6.4.1.2.1.4 Maintaining the Service Negotiation Indicator Variable

The base station shall maintain a service negotiation indicator variable, SERV_NEG, to indicate which type of negotiation to use, either service negotiation or service option
negotiation. The base station shall set SERV_NEG to enabled whenever service negotiation is to be used, and shall set SERV_NEG to disabled whenever service option negotiation is to be used. The precise rules for setting SERV_NEG are specified in 3.6.4.2 and 3.6.6.2.2.

For CDMA operation in band classes other than Band Class 0, the base station shall set SERV_NEG to enabled.

3.6.4.1.2.1.5 Maintaining the Service Option Request Number

The base station shall maintain a service option request number variable, SO_REQ, for use with service option negotiation. The base station shall set SO_REQ to a special value, NULL, if the base station does not have an outstanding service option request. If the base station has an outstanding service option request, the base station shall set SO_REQ to the number of the service option associated with the outstanding request.

3.6.4.1.2.2 Service Subfunctions

As illustrated in Figure 3.6.4.1.2.2-1, the base station supports service configuration and negotiation by performing the following set of service subfunctions.

- **Normal Service Subfunction** - While this subfunction is active, the base station processes service configuration requests from the mobile station and sends service configuration requests to the mobile station.

- **Waiting for Service Request Message Subfunction** - While this subfunction is active, the base station waits to receive a Service Request Message.

- **Waiting for Service Response Message Subfunction** - While this subfunction is active, the base station waits to receive a Service Response Message.

- **Waiting for Service Action Time Subfunction** - While this subfunction is active, the base station waits for the action time associated with a new service configuration.

- **Waiting for Service Connect Completion Message Subfunction** - While this subfunction is active, the base station waits to receive a Service Connect Completion Message or a Handoff Completion Message.

- **SO Negotiation Subfunction** - While this subfunction is active and the base station is operating in Band Class 0, the base station supports service option negotiation with the mobile station.

The **SO Negotiation Subfunction** supports service option negotiation. All of the other service subfunctions support service negotiation.

At any given time during Traffic Channel processing, only one of the service subfunctions is active. For example, when the base station first begins Traffic Channel processing, either the **Normal Service Subfunction** or the **SO Negotiation Subfunction** is active. Each of the other service subfunctions may become active in response to various events which occur during the Traffic Channel substates. Typically, the base station processes events pertaining to service configuration and negotiation in accordance with the requirements for the active service subfunction. However, some Traffic Channel substates do not allow for the processing of certain events pertaining to service configuration and negotiation, or
specify requirements for processing such events which supersede the requirements of the active service subfunction.
Figure 3.6.4.1.2.2-1. Base Station Service Subfunctions

Notes:
- SCM stands for Service Connect Message.
- GHDM stands for General Handoff Direction Message.
- UHDM stands for Universal Handoff Direction Message.
- Processing for special cases, such as timeouts and errors, is not shown in this diagram.
3.6.4.1.2.2.1 Normal Service Subfunction

While this subfunction is active, the base station processes service configuration requests from the mobile station and sends service configuration requests to the mobile station.

While the Normal Service Subfunction is active, the base station shall perform the following:

- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The base station shall discard any Reverse Traffic Channel frame which has a format that is not supported by the base station. The base station may discard any type of Reverse Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- To initiate service negotiation for a new service configuration, the base station shall send a Service Request Message to propose the new service configuration and shall activate the Waiting for Service Response Message Subfunction.

- For any service option connection that is part of the current service configuration, the base station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.

- The base station may send a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record. If the base station sends this message, the base station shall activate the Waiting for Service Action Time Subfunction.

- If SERV_NEG changes from enabled to disabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the SO Negotiation Subfunction.

- If the base station receives one of the following service negotiation messages, the base station shall process the message according to the specified requirements, if any:

  1. **Service Connect Completion Message**

  2. **Service Option Control Message**: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the base station shall process the message in accordance with the requirements for the service option.

  3. **Service Request Message**: The base station shall process the message as follows:

    - If the purpose of the message is to propose a service configuration, the base station shall process the message as follows:
If the base station accepts the proposed service configuration, the base station shall send a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record and shall activate the Waiting for Service Action Time Subfunction.

If the base station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the base station shall send a Service Response Message to reject the proposed service configuration.

If the base station does not accept the proposed service configuration and has an alternative service configuration to propose, the base station shall send a Service Response Message to propose the alternative service configuration. The base station shall activate the Waiting for Service Request Message Subfunction.

4. Service Response Message

- If the base station receives one of the following service option negotiation messages, the base station shall process the message according to the specified requirements, if any:
  1. Service Option Request Order
  2. Service Option Response Order
  3. Service Option Control Order

3.6.4.1.2.2.2 Waiting for Service Request Message Subfunction

While this subfunction is active, the base station waits to receive a Service Request Message.

While the Waiting for Service Request Message Subfunction is active, the base station shall perform the following:

- If the base station does not receive a Service Request Message, the base station shall activate the Normal Service Subfunction.

- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The base station shall discard any Reverse Traffic Channel frame which has a format that is not supported by the base station. The base station may discard any type of Reverse Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- For any service option connection that is part of the current service configuration, the base station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.
If SERV_NEG changes from enabled to disabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the SO Negotiation Subfunction.

If the base station receives one of the following service negotiation messages, the base station shall process the message according to the specified requirements, if any:

1. **Service Connect Completion Message**

2. **Service Option Control Message**: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the base station shall process the message in accordance with the requirements for the service option.

3. **Service Request Message**: The base station shall process the message as follows:
   - If the purpose of the message is to accept a proposed service configuration, the base station shall perform one of the following actions:
     - The base station shall send a Service Connect Message, General Handoff Direction Message, or Universal Handoff Direction Message and shall activate the Waiting for Service Action Time Subfunction.
     - The base station shall send a Service Request Message to propose an alternative service configuration and shall activate the Waiting for Service Response Message Subfunction.
   - If the purpose of the message is to reject a proposed service configuration, the base station shall activate the Normal Service Subfunction.
   - If the purpose of the message is to propose a service configuration, the base station shall process the message as follows:
     - If the base station accepts the proposed service configuration, the base station shall send a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record and shall activate the Waiting for Service Action Time Subfunction.
     - If the base station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the base station shall send a Service Response Message to reject the proposed service configuration. The base station shall activate the Normal Service Subfunction.
     - If the base station does not accept the proposed service configuration and has an alternative service configuration to propose, the base station shall send a Service Response Message to propose the alternative service configuration.

4. **Service Response Message**
If the base station receives one of the following service option negotiation messages, the base station shall process the message according to the specified requirements, if any:

1. Service Option Request Order
2. Service Option Response Order
3. Service Option Control Order

3.6.4.1.2.2.3 Waiting for Service Response Message Subfunction

While this subfunction is active, the base station waits to receive a Service Response Message.

While the Waiting for Service Response Message Subfunction is active, the base station shall perform the following:

- If the base station does not receive a Service Response Message, the base station shall activate the Normal Service Subfunction.
- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The base station shall discard any Reverse Traffic Channel frame which has a format that is not supported by the base station. The base station may discard any type of Reverse Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.
- For any service option connection that is part of the current service configuration, the base station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the associated service option.
- If SERV_NEG changes from enabled to disabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the SO Negotiation Subfunction.
- If the base station receives one of the following service negotiation messages, the base station shall process the message according to the specified requirements, if any:

1. Service Connect Completion Message
2. Service Option Control Message: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the base station shall process the message in accordance with the requirements for the service option.
3. Service Request Message: The base station should not process the Layer 3 fields of the message.
4. Service Response Message: The base station shall process the message as follows:
If the service request sequence number (SERV_REQ_SEQ) from the message does not match the sequence number of the Service Request Message for which the base station is expecting a response, the base station shall not process the layer-3 fields of the message.

If the purpose of the message is to accept a proposed service configuration, the base station shall perform one of the following actions:

- The base station shall send a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record and shall activate the Waiting for Service Action Time Subfunction. Or
- The base station shall send a Service Request Message to propose an alternative service configuration.

If the purpose of the message is to reject a proposed service configuration, the base station shall activate the Normal Service Subfunction.

If the purpose of the message is to propose a service configuration, the base station shall process the message as follows:

- If the base station accepts the proposed service configuration, the base station shall send a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message containing a service configuration record and shall activate the Waiting for Service Action Time Subfunction.
- If the base station does not accept the proposed service configuration and does not have an alternative service configuration to propose, the base station shall send a Service Request Message to reject the proposed service configuration. The base station shall activate the Normal Service Subfunction.
- If the base station does not accept the proposed service configuration and has an alternative service configuration to propose, the base station shall send a Service Request Message to propose the alternative service configuration.

If the base station receives one of the following service option negotiation messages, the base station shall process the message according to the specified requirements, if any:

1. Service Option Request Order
2. Service Option Response Order
3. Service Option Control Order

3.6.4.1.2.2.4 Waiting for Service Action Time Subfunction

While this subfunction is active, the base station waits for the action time associated with a new service configuration.
While the Waiting for Service Action Time Subfunction is active, the base station shall perform the following:

- Prior to the action time associated with the Service Connect Message, a General Handoff Direction Message, or Universal Handoff Direction Message containing a service configuration record, the base station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The base station shall discard any Reverse Traffic Channel frame which has a format that is not supported by the base station. The base station may discard any type of Reverse Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- At the action time associated with the Service Connect Message, General Handoff Direction Message, or Universal Handoff Direction Message containing a service configuration record, the base station shall begin to use the service configuration specified by the Service Connect Message, the General Handoff Direction Message, or the Universal Handoff Direction Message containing a service configuration record, as the current service configuration and shall begin to process Forward and Reverse Traffic Channel frames accordingly. The base station shall activate the Waiting for Service Connect Completion Message Subfunction.

- If SERV_NEG changes from enabled to disabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the SO Negotiation Subfunction.

- If the base station receives one of the following service negotiation messages, the base station shall process the message according to the specified requirements, if any:
  1. Service Connect Completion Message
  2. Service Option Control Message: If the service option connection specified by the message is part of the current or pending service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the base station shall process the message in accordance with the requirements for the service option.
  3. Service Request Message
  4. Service Response Message

- If the base station receives one of the following service option negotiation messages, the base station shall process the message according to the specified requirements, if any:
  1. Service Option Request Order
  2. Service Option Response Order
  3. Service Option Control Order
3.6.4.1.2.2.5 Waiting for Service Connect Completion Message Subfunction

While this subfunction is active, the base station waits to receive a Service Connect Completion Message, or a Handoff Completion Message.

While the Waiting for Service Connect Completion Message Subfunction is active, the base station shall perform the following:

- If the base station has sent a Service Connect Message and does not receive a Service Connect Completion Message, or if the base station has sent a General Handoff Direction Message or a Universal Handoff Direction Message containing a Service Configuration record and does not receive a Handoff Completion Message, the base station shall activate the Normal Service Subfunction.

- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the current service configuration. The base station shall discard any Reverse Traffic Channel frame which has a format that is not supported by the base station. The base station may discard any type of Reverse Traffic Channel traffic that is not signaling traffic and is not part of the current service configuration.

- The base station shall not initiate service negotiation for a new service configuration.

- If SERV_NEG changes from enabled to disabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the SO Negotiation Subfunction.

- If the base station receives one of the following service negotiation messages, the base station shall process the message according to the specified requirements, if any:

  1. Service Connect Completion Message, or Handoff Completion Message: The base station shall activate the Normal Service Subfunction.

  2. Service Option Control Message: If the service option connection specified by the message is part of the current service configuration, and the service option specified by the message is the same as the service option associated with the service option connection, the base station shall process the message in accordance with the requirements for the service option.

  3. Service Request Message

  4. Service Response Message

- If the base station receives one of the following service option negotiation messages, the base station shall process the message according to the specified requirements, if any:

  1. Service Option Request Order

  2. Service Option Response Order

  3. Service Option Control Order
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3.6.4.1.2.2.6 SO Negotiation Subfunction

While this subfunction is active, the base station supports service option negotiation with the mobile station.

Upon activating the SO Negotiation Subfunction, the base station shall set SO_REQ to NULL. The base station shall delete from the current service configuration any service option connection which does not use primary traffic on both the Forward and Reverse Traffic Channels.

While the SO Negotiation Subfunction is active, the base station shall perform the following:

- If the current service configuration includes a service option connection, the base station shall process the received primary traffic bits in accordance with the requirements for the service option associated with the service option connection; otherwise, the base station shall discard the received primary traffic bits.

- If the current service configuration includes a service option connection, the base station shall transmit primary traffic bits in accordance with the requirements for the service option associated with the service option connection; otherwise, the base station shall transmit null traffic and power control bits on the Forward Fundamental Channel, if the Fundamental channel is present to transmit power control bits on the Forward Dedicated Control Channel, if only the Dedicated Control Channel is present.

- If the current service configuration includes a service option connection, the base station may send a Service Option Control Order to invoke a service option specific function in accordance with the requirements for the service option associated with the service option connection.

- To initiate service option negotiation, the base station shall set SO_REQ to the number of the requested service option and shall send a Service Option Request Order containing the requested service option number.

- If SERV_NEG changes from disabled to enabled (see 3.6.6.2.2.2, 3.6.6.2.2.10, and 3.6.6.2.2.11), the base station shall activate the Normal Service Subfunction.

- The base station shall process a service option request received in an Origination Message, a Page Response Message, or a Service Option Request Order as follows:

  - If the base station accepts the requested service option, the base station shall set SO_REQ to NULL and shall send a Service Option Response Order accepting the requested service option within T4b seconds. The base station shall begin using the service configuration implied by the requested service option in accordance with the requirements for the requested service option. The implied service configuration shall include the default Forward and Reverse Multiplex Options and transmission radio configurations associated with the requested service option. This implied service configuration shall include one service option connection for which the service option connection reference is 1, for which the service option is the requested service option, and for which the Forward and Reverse Traffic Channel types are both primary traffic.
– If the base station does not accept the requested service option and has an
alternative service option to request, the base station shall set SO_REQ to the
alternative service option number and shall send a Service Option Request Order
requesting the alternative service option within T4b seconds.

– If the base station does not accept the requested service option and does not
have an alternative service option to request, the base station shall set SO_REQ
to NULL and shall send a Service Option Response Order to reject the request
within T4b seconds. The base station shall continue to use the current service
configuration.

• If the base station receives a Service Option Response Order, it shall process the
order as follows:

  – If the service option number specified in the order is equal to SO_REQ, the base
  station shall set SO_REQ to NULL and shall begin using the service
  configuration implied by the specified service option in accordance with the
  requirements for the service option. The implied service configuration shall
  include the default Forward and Reverse Multiplex Options and transmission
  radio configurations associated with the requested service option. This implied
  service configuration shall include one service option connection for which the
  service option connection reference is 1, for which the service option is the
  requested service option, and for which the Forward and Reverse Traffic Channel
types are both primary traffic.

  – If the order indicates a service option rejection, the base station shall set
  SO_REQ to NULL. The base station shall continue to use the current service
  configuration.

  – If the order does not indicate a service option rejection and the service option
  specified in the order is not equal to SO_REQ, the base station shall set SO_REQ
to NULL, should send a Release Order (ORDQ = ‘00000010’), and should enter
  the Release Substate.

• If the base station receives a Service Option Control Order, the base station shall
process the order as follows:

  – If the current service configuration includes a service option connection, the
  base station shall process the received Service Option Control Order in
  accordance with the requirements for the service option associated with the
  service option connection.

• If the base station receives one of the following service negotiation messages, the
base station shall process the message according to the specified requirements, if
any:

  1. Service Connect Completion Message
  2. Service Option Control Message
  3. Service Request Message
  4. Service Response Message
3.6.4.1.3 Ordering of Messages

The Layer 2 protocol does not guarantee delivery of messages in any order. If the base station requires that the mobile station receive a set of messages in a certain order, the base station shall send each message in assured mode requiring confirmation of delivery and shall wait for the confirmation of delivery of each message before transmitting the next message in the set.

3.6.4.1.4 Message Action Times

A Forward Traffic Channel message without a USE_TIME field or with a USE_TIME field set to ‘0’ has an implicit action time. A message that has its USE_TIME field set to ‘1’ has an explicit action time that is specified in the ACTION_TIME field of the message.

A message with an explicit action time is called a pending message.

Unless otherwise specified, a message having an implicit action time shall take effect no later than the first 80 ms boundary (relative to System Time) occurring at least 80 ms after the end of the frame containing the last bit of the message. A message with an explicit action time, except for a Power Up Function Message, shall take effect when System Time (in 80 ms units) modulo 64 becomes equal to the message’s ACTION_TIME field. A Power Up Function Message shall take effect ACTION_TIME_FRAME frames after the time when System Time (in 80 ms units) modulo 64 becomes equal to the message’s ACTION_TIME field. The difference in time between ACTION_TIME and the end of the frame containing the last bit of the message shall be at least 80 ms.

The base station shall support two pending messages at any given time, not including pending Service Option Control Orders, Service Option Control Messages, or Power Up Function Messages. The number of pending Service Option Control Orders or Service Option Control Messages that the base station is required to support is specific to the service option (see the relevant service option descriptions). In addition, the base station shall support one pending Power Up Function Message.

3.6.4.1.5 Long Code Transition Request Processing

If a request for voice privacy is specified in the Origination Message or Page Response Message, the base station may send a Long Code Transition Request Order (ORDQ = ‘00000001’) requesting a transition to the private long code.

The base station shall process the Long Code Transition Request Order as follows:

- If the Long Code Transition Request Order requests a transition to the private long code and the base station accepts the request, the base station shall send a Long Code Transition Request Order (ORDQ = ‘00000001’). If the base station does not accept the private long code transition request, the base station shall send a Long Code Transition Request Order (ORDQ = ‘00000000’).
• If the *Long Code Transition Request Order* requests a transition to the public long code and the base station accepts the request, the base station shall send a *Long Code Transition Request Order* (ORDQ = ‘00000000’). If the base station does not accept the public long code transition request, the base station shall send a *Long Code Transition Request Order* (ORDQ = ‘00000001’).

The base station shall process the *Long Code Transition Response Order* as follows:
• If the *Long Code Transition Response Order* indicates that the mobile station accepts the long code transition requested in the *Long Code Transition Request Order* sent by the base station, the base station shall use the requested long code mask on both the Forward Traffic Channel and the Reverse Traffic Channel. The base station shall specify an explicit action time in the *Long Code Transition Request Order*. The base station shall begin using the requested long code mask using the explicit action time (see 3.6.4.1.4).

3.6.4.1.6 Processing Resource Request Messages

The base station shall process *Resource Request Message* and *Resource Request Mini Message*, as follows:
• The base station may send one of the messages that assign appropriate resources (e.g., *Extended Supplemental Channel Assignment Message*, *Resource Allocation Message*, *Resource Allocation Mini Message*, *Forward Supplemental Channel Assignment Mini Message*, *Reverse Supplemental Channel Assignment Mini Message*, *Universal Handoff Direction Message*) to the mobile station. If the base station sends one of these messages, the base station shall set PILOT_GATING_USE_RATE to ‘0’ and start transmitting the Forward Power Control Subchannel with the maximum rate at the action time of the message.
• The base station may send a *Retry Order* to the mobile station.

3.6.4.1.7 Reserved

3.6.4.1.8 Processing Resource Release Request Message and Resource Release Request Mini Message

The base station may perform the following in response to receiving a *Resource Release Request Message* or *Resource Release Request Mini Message*:
• The base station may send a *Extended Release Message*, *Extended Release Mini Message*, or a *Universal Handoff Direction Message* to instruct the mobile station to commence the reverse pilot gating operation.

3.6.4.2 Traffic Channel Initialization Substate

In this substate, the base station begins transmitting on the Forward Traffic Channel and acquires the Reverse Traffic Channel.

Upon entering the *Traffic Channel Initialization Substate*, the base station shall perform the following:
Layer 3 shall send an L2-Supervision.Request primitive to Layer 2 to reset the message acknowledgment procedures as specified in [4].

The base station shall set its Forward and Reverse Traffic Channel long code masks to the public long code mask (see [2]).

The base station shall set its Forward and Reverse Traffic Channel frame offsets (see [2]) to the frame offset assigned to the mobile station.

If the base station set the ASSIGN_MODE field of the Channel Assignment Message to '000', the base station shall set SERV_NEG to disabled. If the base station set the ASSIGN_MODE field of the Channel Assignment Message to '100', the base station shall set SERV_NEG to enabled. For operation in band classes other than Band Class 0, SERV_NEG is always equal to enabled.

If the base station uses the Extended Channel Assignment Message, the base station shall set the SERV_NEG to enabled.

The base station shall determine the initial service configuration as follows:

- If SERV_NEG is equal to disabled, the initial service configuration shall include Multiplex Option 1 and Radio Configuration 1 for both the Forward and Reverse Traffic Channels, and shall include no service option connections.

- If SERV_NEG is equal to enabled and the base station set the GRANTED_MODE field of the Channel Assignment Message or the Extended Channel Assignment Message to '00', the initial service configuration shall include the multiplex option and Radio Configuration for the Forward and Reverse Traffic Channels as specified by the DEFAULT_CONFIG field, and shall include no service option connections.

- If SERV_NEG is equal to enabled and the base station set the GRANTED_MODE field of the Channel Assignment Message or the Extended Channel Assignment Message to '01' or '10', the initial service configuration shall include the default Forward and Reverse Traffic Channel multiplex options and transmission rates corresponding to the service option requested by the mobile station in the Origination Message, in the case of a mobile-station-originated call, or the Page Response Message, in the case of a mobile station terminated call, and shall include no service option connections.

- If SERV_NEG is equal to disabled, the base station shall activate the SO Negotiation Subfunction (see 3.6.4.1.2.2.6); otherwise, the base station shall activate the Normal Service Subfunction (see 3.6.4.1.2.2.1).

The base station shall set PILOT_GATING_USE_RATE to '0'.

While in the Traffic Channel Initialization Substate, the base station shall perform the following:

- If the Forward Fundamental Channel is assigned, the base station shall transmit null Traffic Channel data on the Forward Fundamental Channel, except when transmitting signaling traffic.
• If FPC_PRI_CHAN is set to ‘0’, the base station shall transmit power control bits on
the Forward Fundamental Channel. If FPC_PRI_CHAN is set to ‘1’, the base station
shall transmit power control bits on the Forward Dedicated Control Channel.

• If the base station acquires the Reverse Traffic Channel, Layer 3 shall send a reverse
dedicated channel acquired indication to Layer 2 (see [4]). If the call is a mobile
station terminated call and the base station set BYPASS_ALERT_ANSWER to ‘1’, the
base station shall enter the Conversation Substate (see 3.6.4.4). If the call is a
mobile station terminated call and the base station set BYPASS_ALERT_ANSWER to
‘0’, the base station shall enter the Waiting for Order Substate (see 3.6.4.3.1). If the
call is a mobile-station-originated call, the base station shall enter the Conversation
Substate (see 3.6.4.4).

• If the base station fails to acquire the Reverse Traffic Channel, the base station shall
either retransmit the Channel Assignment Message or the Extended Channel
Assignment Message on the Paging Channel and remain in the Traffic Channel
Initialization Substate, or the base station should disable transmission on the
Forward Traffic Channel and discontinue the Traffic Channel Processing for the
mobile station.

3.6.4.3 Alerting

3.6.4.3.1 Waiting for Order Substate

In this substate, the base station sends an Alert With Information Message to the mobile
station.

Upon entering the Waiting for Order Substate, the base station shall perform the following:

• If SERV_NEG is equal to disabled, the base station shall process the service option
request specified in the Page Response Message in accordance with the
requirements for the active service subfunction (see 3.6.4.1.2.2).

• If SERV_NEG is equal to enabled and the base station set the GRANTED_MODE field
of the Channel Assignment Message or the Extended Channel Assignment Message to
‘00’ or ‘01’, the base station should initiate service negotiation to request a service
configuration in accordance with the requirements for the active service subfunction
(see 3.6.4.1.2.2).

• If SERV_NEG is equal to enabled and the base station set the GRANTED_MODE field
of the Channel Assignment Message or the Extended Channel Assignment Message to
‘10’, the base station should send a Service Connect Message in accordance with the
requirements for the active service subfunction (see 3.6.4.1.2.2).

While in the Waiting for Order Substate, the base station shall perform the following:

• The base station shall transmit the power control subchannel as specified in [2].

• The base station shall process Forward and Reverse Traffic Channel frames in
accordance with the requirements for the active service subfunction (see
3.6.4.1.2.2).
• If the base station declares a loss of Reverse Traffic Channel continuity (see 3.4), the base station should send a *Release Order* to the mobile station. If the base station sends a *Release Order*, the base station shall enter the *Release Substate*.

• The base station may perform Forward Traffic Channel power control as specified in 3.6.4.1.1.

• The base station may request a new service configuration by initiating service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

• The base station may send a *Service Option Control Message* or *Service Option Control Order* to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

• The base station may request a long code transition, as specified in 3.6.4.1.5, either autonomously or in response to a request for voice privacy specified in the *Origination Message* or *Page Response Message*.

• The base station may perform authentication procedures as specified in 3.3.1.

• The base station may perform TMSI assignment procedures (see 2.3.15).

• The base station may send the following messages. If the base station sends a message, the base station shall comply with the specified requirements for sending the message, if any.

  1. *Alert With Information Message*: The base station shall enter the *Waiting for Answer Substate*.

  2. *Analog Handoff Direction Message*: The base station shall enter the *Waiting for Order Task* (see 3.6.4.3.1 for handoff to a wide analog channel and [28] for handoff to a narrow analog channel).

  3. *Audit Order*

  4. *Authentication Challenge Message*

  5. *Base Station Challenge Confirmation Order*

  6. *Candidate Frequency Search Request Message*

  7. *Candidate Frequency Search Control Message*

  8. *Data Burst Message*

  9. *Extended Handoff Direction Message*

  10. *Extended Release Message*: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the *Release Substate*.

  11. *Extended Release Mini Message*: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the *Release Substate*.
12. General Handoff Direction Message
13. Extended Neighbor List Update Message
15. Local Control Order
16. Lock Until Power-Cycled Order: The base station should send this order in unassured mode.
17. Long Code Transition Request Order
18. User Zone Reject Message
19. User Zone Update Message
20. Maintenance Order: The base station shall enter the Waiting for Answer Substate.
21. Maintenance Required Order
22. Message Encryption Mode Order
23. Mobile Station Registered Message
24. Neighbor List Update Message
25. Parameter Update Order (see 2.3.12.1.3).
26. Periodic Pilot Measurement Request Order
27. Pilot Measurement Request Order
28. Power Control Message
29. Power Control Parameters Message
30. Power Up Function Message
31. Power Up Function Completion Message
32. Release Order: The base station shall enter the Release Substate.
33. Resource Allocation Message
34. Resource Allocation Mini Message
35. Retrieve Parameters Message
36. Service Connect Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
37. Service Option Control Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
38. Service Option Control Order
39. Service Option Request Order
40. **Service Option Response Order**

41. **Service Request Message**: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

42. **Service Response Message**: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

43. **Set Parameters Message**

44. **SSD Update Message**

45. **Status Request Message**

46. **Status Request Order**

47. **Supplemental Channel Assignment Message**

48. **TMSI Assignment Message**

49. **Universal Handoff Direction Message**

- If the base station receives one of the following messages from the mobile station, the base station shall process the message according to the specified requirements, if any:

  1. **Base Station Challenge Order**: The base station shall process the message as described in 2.3.12.1.5.

  2. **Candidate Frequency Search Report Message**: The base station shall process the message as described in 2.6.6.2.2.6.

  3. **Candidate Frequency Search Response Message**: The base station shall process the message as described in 2.6.6.2.2.4.

  4. **Data Burst Message**

  5. **Extended Release Response Message**

  6. **Extended Release Response Mini Message**

  7. **Handoff Completion Message**

  8. **Local Control Response Order**

  9. **Long Code Transition Request Order**: The base station shall process the message as described in 3.6.4.1.5.

  10. **Long Code Transition Response Order**

  11. **Mobile Station Reject Order**

  12. **Outer Loop Report Message**

  13. **Parameters Response Message**

  14. **Parameter Update Confirmation Order**
15. **Periodic Pilot Strength Measurement Message**

16. **Pilot Strength Measurement Mini Message**

17. **Pilot Strength Measurement Message:** The base station shall process the message as described in 3.6.6.2.2.1.

18. **Power Measurement Report Message:** The base station may process the message as described in 3.6.4.1.1.

19. **Release Order:** The base station shall send the mobile station a *Release Order* within T2b seconds and enter the *Release Substate*; otherwise, the base station shall send an *Alert with Information Message*, within T2b seconds, and enter the *Waiting for Answer Substate*.

20. **Request Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

21. **Request Narrow Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

22. **Request Wide Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

23. **Resource Request Message:** The base station shall process the message as described in 3.6.4.1.6.

24. **Resource Request Mini Message:** The base station shall process the message as described in 3.6.4.1.6.

25. **Service Connect Completion Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

26. **Service Option Control Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

27. **Service Option Control Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

28. **Service Option Request Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

29. **Service Option Response Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

30. **Service Request Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
31. **Service Response Message**: The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

32. **SSD Update Confirmation Order**

33. **SSD Update Rejection Order**

34. **Status Response Message**

35. **Status Message**

36. **TMSI Assignment Completion Message**

37. **User Zone Update Request Message**: The base station shall process this message as specified in 3.6.7.2.

### 3.6.4.3.2 Waiting for Answer Substate

In this substate, the base station waits for a *Connect Order* from the mobile station. While in the *Waiting for Answer Substate*, the base station shall perform the following:

- The base station shall transmit the power control subchannel (see [2]).
- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the requirements for the active service subfunction (see [2]).
- If the base station declares a loss of Reverse Traffic Channel continuity (see 3.4), the base station should send a *Release Order* to the mobile station. If the base station sends a *Release Order*, the base station shall enter the *Release Substate*.
- The base station may perform Forward Traffic Channel power control as specified in 3.6.4.1.1.
- The base station may request a new service configuration by initiating service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
- The base station may send a *Service Option Control Message* or *Service Option Control Order* to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
- The base station may request a long code transition, as specified in 3.6.4.1.5, either autonomously or in response to a request for voice privacy specified in the *Origination Message* or *Page Response Message*.
- The base station may perform authentication procedures as specified in 3.3.1.
- The base station may perform TMSI assignment procedures (see 2.3.15).
- The base station may send the following messages. If the base station sends a message, the base station shall comply with the specified requirements for sending the message, if any.
  
  1. **Alert With Information Message**
2. **Analog Handoff Direction Message**: The base station shall enter the Waiting for Answer Task (see 3.6.4.3.2 for handoff to a wide analog channel and [28] for handoff to a narrow analog channel).

3. **Audit Order**

4. **Authentication Challenge Message**

5. **Base Station Challenge Confirmation Order**

6. **Candidate Frequency Search Request Message**

7. **Candidate Frequency Search Control Message**

8. **Data Burst Message**

9. **Extended Handoff Direction Message**

10. **Extended Neighbor List Update Message**

11. **Extended Release Message**: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the Release Substate.

12. **Extended Release Mini Message**: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the Release Substate.

13. **Extended Supplemental Channel Assignment Message**

14. **Forward Supplemental Channel Assignment Mini Message**

15. **General Handoff Direction Message**

16. **In-Traffic System Parameters Message**

17. **Local Control Order**

18. **Lock Until Power-Cycled Order**: The base station should send this order in unassured mode.

19. **Long Code Transition Request Order**

20. **Maintenance Order**

21. **Maintenance Required Order**

22. **Message Encryption Mode Order**

23. **Mobile Assisted Burst Operation Parameters Message**

24. **Mobile Station Registered Message**

25. **Neighbor List Update Message**

26. **Parameter Update Order (see 2.3.12.1.3).**

27. **Periodic Pilot Measurement Request Order**

28. **Pilot Measurement Request Order**
29. Power Control Message
30. Power Control Parameters Message
31. Power Up Function Message
32. Power Up Function Completion Message
33. Release Order: The base station shall enter the Release Substate.
34. Resource Allocation Message
35. Resource Allocation Mini Message
36. Retrieve Parameters Message
37. Reverse Supplemental Channel Assignment Mini Message
38. Service Connect Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
39. Service Option Control Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
40. Service Option Control Order
41. Service Option Request Order
42. Service Option Response Order
43. Service Request Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
44. Service Response Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
45. Set Parameters Message
46. SSD Update Message
47. Status Request Message
48. Status Request Order
49. Supplemental Channel Assignment Message
50. TMSI Assignment Message
51. Universal Handoff Direction Message
52. User Zone Reject Message
53. User Zone Update Message
• If the base station receives one of the following messages from the mobile station, the base station shall process the message according to the specified requirements, if any:

  1. **Base Station Challenge Order**: The base station shall process the message as described in 2.3.12.1.5.
  2. **Candidate Frequency Search Report Message**: The base station shall process the message as described in 3.6.6.2.2.6.
  3. **Candidate Frequency Search Response Message**: The base station shall process the message as described in 3.6.6.2.2.4.
  4. **Connect Order**: The base station shall enter the **Conversation Substate**.
  5. **Data Burst Message**
  6. **Extended Release Response Message**
  7. **Extended Release Response Mini Message**
  8. **Flash With Information Message**: If the message contains a Keypad Facility record with feature codes indicating User Selective Call Forwarding with a pre-registered number, a stored number, or voice mail, the base station may send the mobile station a **Release Order** and enter the **Release Substate**.
  9. **Handoff Completion Message**: The base station shall process the message as described in 3.6.6.2.2.7.
  10. **Local Control Response Order**
  11. **Long Code Transition Request Order**: The base station shall process the message as described in 3.6.4.1.5.
  12. **Long Code Transition Response Order**
  13. **Mobile Station Reject Order**
  14. **Origination Continuation Message**
  15. **Outer Loop Report Message**
  16. **Parameters Response Message**
  17. **Parameter Update Confirmation Order**
  18. **Periodic Pilot Strength Measurement Message**
  19. **Pilot Strength Measurement Message**: The base station shall process the message as described in 3.6.6.2.2.1.
  20. **Pilot Strength Measurement Mini Message**
  21. **Power Measurement Report Message**: The base station may process the message as described in 3.6.4.1.1.
  22. **Release Order**: The base station shall send the mobile station a **Release Order** within $T_{2b}$ seconds and enter the **Release Substate**; otherwise, the base station
shall send an Alert with Information Message, within T2b seconds, and enter the Waiting for Answer Substate.

23. **Resource Request Message:** The base station shall process the message as described in 3.6.4.1.6.

24. **Resource Request Mini Message:** The base station shall process the message as described in 3.6.4.1.6.

25. **Request Analog Service Order:** The base station may respond with an Analog Handoff Direction Message.

26. **Request Narrow Analog Service Order:** The base station may respond with an Analog Handoff Direction Message.

27. **Request Wide Analog Service Order:** The base station may respond with an Analog Handoff Direction Message.

28. **Service Connect Completion Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

29. **Service Option Control Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

30. **Service Option Control Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

31. **Service Option Request Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

32. **Service Option Response Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

33. **Service Request Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

34. **Service Response Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

35. **SSD Update Confirmation Order**

36. **SSD Update Rejection Order**

37. **Status Response Message**

38. **Status Message**

39. **TMSI Assignment Completion Message**
40. User Zone Update Request Message: The base station shall process this message as specified in 3.6.7.2.

3.6.4.4 Conversation Substate

In this substate, the base station exchanges Traffic Channel frames with the mobile station in accordance with the current service configuration.

Upon entering the Conversation Substate, the base station shall perform the following:

- If SERV_NEG equals enabled, the call is mobile-station-originated and the base station sets the GRANTED_MODE field of the Channel Assignment Message or the Extended Channel Assignment Message to ‘10’, the base station should send a Service Connect Message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

- If SERV_NEG equals disabled and the call is mobile-station-originated, the base station shall process the service option request specified in the Origination Message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

While in the Conversation Substate, the base station shall perform the following:

- The base station shall transmit the power control subchannel as specified in [2].

- The base station shall process Forward and Reverse Traffic Channel frames in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

- When PILOT_GATING_USE_RATE is equal to ‘0’ and the base station is to establish a Fundamental Channel or a Dedicated Control Channel, the base station shall send a Universal Handoff Direction Message to the mobile station.

- When PILOT_GATING_USE_RATE is equal to ‘1’ and the base station has data to send, the base station may send a Resource Allocation Message, Resource Allocation Mini Message, Extended Supplemental Channel Assignment Message, Forward Supplemental Channel Assignment Mini Message, Reverse Supplemental Channel Assignment Mini Message, or Universal Handoff Direction Message to start transmitting the Forward Power Control Subchannel with the maximum rate and start exchange of user information.

- If both the Fundamental Channel and the Dedicated Control Channel are currently established, and the base station is to release one of these two channels, the base station shall send a Universal Handoff Direction Message, Extended Release Message, or an Extended Release Mini Message to the mobile station.
• When PILOT_GATING_USE_RATE is equal to ‘0’ and the base station does not have any data to send and the base station has determined that the mobile station does not have any data to send (see the RLP out-of-data indication in [39]), then the base station may send an Extended Release Message, Extended Release Mini Message or Universal Handoff Direction Message to start transmitting the Forward Power Control Subchannel with the specified rate and stop the exchange of user information.

• If the base station declares a loss of Reverse Traffic Channel continuity (see 3.4), the base station should send a Release Order to the mobile station. If the base station sends a Release Order, the base station shall enter the Release Substate.

• The base station may perform Forward Traffic Channel power control as specified in 3.6.4.1.1.

• The base station may request a new service configuration by initiating service negotiation or service option negotiation in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

• The base station may send a Service Option Control Message or Service Option Control Order to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

• The base station may request a long code transition, as specified in 3.6.4.1.5, either autonomously or in response to a request for voice privacy specified in the Origination Message or Page Response Message.

• The base station may perform authentication procedures as specified in 3.3.1.

• The base station may perform TMSI assignment procedures (see 2.3.15).

• If the call is mobile-station-originated and the PACA_REORIG field of the Origination Message is equal to ‘1’, the base station should send either an Alert With Information Message which contains a signal information record with the SIGNAL_TYPE field set to ‘01’ or ‘10’, or an Alert With Information Message which does not contain a signal information record.

• The base station may control operation of the Forward or Reverse Supplemental Code Channels by including Supplemental Code Channel assignment information in the Supplemental Channel Assignment Message, or the General Handoff Direction Message.

• The base station may control operation of the Forward or Reverse Supplemental Channels by including Supplemental Channel assignment information in the Extended Supplemental Channel Assignment Message, the Forward Supplemental Channel Assignment Mini Message, or the Reverse Supplemental Channel Assignment Mini Message.

• The base station may send the following messages. If the base station sends a message, the base station shall comply with the specified requirements for sending the message, if any:

1. Alert With Information Message: If the message contains a signal information record with the SIGNAL_TYPE field set to ‘01’ or ‘10’, or if the message does not
contain a signal information record, the base station shall enter the Waiting for Answer Substate.

2. Analog Handoff Direction Message: The base station shall enter the Conversation Task (see [6] for handoff to a wide analog channel and [28] for handoff to an 800 MHz narrow analog channel).

3. Audit Order

4. Authentication Challenge Message

5. Base Station Challenge Confirmation Order

6. Candidate Frequency Search Request Message

7. Candidate Frequency Search Control Message

8. Continuous DTMF Tone Order

9. Data Burst Message

10. Extended Handoff Direction Message

11. Extended Neighbor List Update Message

12. Extended Release Message: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the Release Substate.

13. Extended Release Mini Message: If the physical channels indicated in CH_IND field of this message includes all the physical channels currently being processed by the mobile station, the base station shall enter the Release Substate.

14. Extended Supplemental Channel Assignment Message

15. Forward Supplemental Channel Assignment Mini Message

16. General Handoff Direction Message

17. Flash With Information Message

18. In-Traffic System Parameters Message

19. Local Control Order

20. Lock Until Power-Cycled Order: The base station should send this order in unassured mode.

21. Long Code Transition Request Order

22. Maintenance Order: The base station shall enter the Waiting for Answer Substate.

23. Maintenance Required Order

24. Message Encryption Mode Order

25. Mobile Assisted Burst Operation Parameters Message
26. Mobile Station Registered Message
27. Neighbor List Update Message
28. Parameter Update Order (see 2.3.12.1.3).
29. Periodic Pilot Measurement Request Order
30. Pilot Measurement Request Order
31. Power Control Message
32. Power Control Parameters Message
33. Power Up Function Message
34. Power Up Function Completion Message
35. Resource Allocation Message
36. Resource Allocation Mini Message
37. Release Order: The base station shall enter the Release Substate.
38. Retrieve Parameters Message
39. Retry Order
40. Reverse Supplemental Channel Assignment Mini Message
41. Send Burst DTMF Message
42. Service Connect Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
43. Service Option Control Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
44. Service Option Control Order
45. Service Option Request Order
46. Service Option Response Order
47. Service Redirection Message: The base station shall enter the Release Substate.
48. Service Request Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
49. Service Response Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
50. Set Parameters Message
51. SSD Update Message
52. Status Request Message
53. **Status Request Order**

54. **Supplemental Channel Assignment Message**

55. **TMSI Assignment Message**

56. **Universal Handoff Direction Message**

57. **User Zone Reject Message**

58. **User Zone Update Message**

- If the base station receives one of the following messages from the mobile station, the base station shall process the message according to the specified requirements, if any:

  1. **Base Station Challenge Order**: The base station shall process the message as described in 2.3.12.1.5.

  2. **Candidate Frequency Search Report Message**: The base station shall process the message as described in 3.6.6.2.2.6.

  3. **Candidate Frequency Search Response Message**: The base station shall process the message as described in 3.6.6.2.2.4.

  4. **Continuous DTMF Tone Order**

  5. **Data Burst Message**

  6. **Extended Release Response Message**

  7. **Extended Release Response Mini Message**

  8. **Flash With Information Message**

  9. **Handoff Completion Message**: The base station shall process the message as described in 3.6.6.2.2.7.

10. **Local Control Response Order**

11. **Long Code Transition Request Order**: The base station shall process the message as described in 3.6.4.1.5.

12. **Long Code Transition Response Order**

13. **Mobile Station Reject Order**

14. **Origination Continuation Message**

15. **Outer Loop Report Message**

16. **Parameters Response Message**

17. **Parameter Update Confirmation Order**

18. **Periodic Pilot Strength Measurement Message**

19. **Pilot Strength Measurement Message**: The base station shall process the message as described in 3.6.6.2.2.1.

20. **Pilot Strength Measurement Mini Message**
21. **Power Measurement Report Message:** The base station may process the message as described in 3.6.4.1.1.

22. **Release Order:** The base station shall send the mobile station a *Release Order* within T2b seconds and enter the *Release Substate*; otherwise, the base station shall send an *Alert with Information Message*, within T2b seconds, and enter the *Waiting for Answer Substate*.

23. **Resource Release Request Message:** The base station shall process the message as described in 3.6.4.1.8.

24. **Resource Release Request Mini Message:** The base station shall process the message as described in 3.6.4.1.8.

25. **Resource Request Message:** The base station shall process the message as described in 3.6.4.1.6.

26. **Resource Request Mini Message:** The base station shall process the message as described in 3.6.4.1.6.

27. **Request Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

28. **Request Narrow Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

29. **Request Wide Analog Service Order:** The base station may respond with an *Analog Handoff Direction Message*.

30. **Send Burst DTMF Message**

31. **Service Connect Completion Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

32. **Service Option Control Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

33. **Service Option Control Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

34. **Service Option Request Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

35. **Service Option Response Order:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

36. **Service Request Message:** The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
37. **Service Response Message**: The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).

38. **SSD Update Confirmation Order**

39. **SSD Update Rejection Order**

40. **Status Response Message**

41. **Status Message**

42. **Supplemental Channel Request Message**: The base station may respond with a Supplemental Channel Assignment Message, an Extended Supplemental Channel Assignment Message, or a Retry Order.

43. **Supplemental Channel Request Mini Message**: The base station may respond with a Forward Supplemental Channel Assignment Mini Message or a Reverse Supplemental Channel Assignment Mini Message, or both. The base station may also respond with a Retry Order.

44. **TMSI Assignment Completion Message**

45. **User Zone Update Request Message**: The base station shall process this message as specified in 3.6.7.2.

### 3.6.4.5 Release Substate

In this substate, the base station disconnects the call.

While in the **Release Substate**, the base station shall perform the following:

- The base station shall transmit the power control subchannel as specified in [2].
- The base station shall transmit on the Forward Traffic Channel for at least $T_{3b}$ seconds. The base station shall transmit null traffic and power control bits on the Forward Fundamental Channel, except when transmitting signaling traffic, if the Fundamental Channel is present or transmit power control bits on the Forward Dedicated Control Channel, if only the dedicated Control Channel is present. After $T_{3b}$ seconds, the base station should stop transmitting on the Forward Traffic Channel.
- The base station shall process Reverse Traffic Channel signaling traffic and may discard other types of Reverse Traffic Channel traffic.
- The base station may perform TMSI assignment procedures (see 2.3.15).
- The base station may perform Forward Traffic Channel power control as specified in 3.6.4.1.1.
- The base station may send a Service Option Control Message to invoke a service option specific function in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
• The base station may send the following messages. If the base station sends a message, the base station shall comply with the specified requirements for sending the message, if any.

1. Alert With Information Message: If the message contains a signal information record with the SIGNAL_TYPE field set to ‘01’ or ‘10’, or if the message does not contain a signal information record, the base station shall enter the Waiting for Answer Substate.

2. Audit Order

3. Candidate Frequency Search Request Message

4. Candidate Frequency Search Control Message

5. Data Burst Message

6. Extended Handoff Direction Message

7. Extended Neighbor List Update Message

8. Extended Release Message

9. Extended Release Mini Message

10. Extended Supplemental Channel Assignment Message

11. Forward Supplemental Channel Assignment Mini Message

12. General Handoff Direction Message

13. In-Traffic System Parameters Message

14. Local Control Order

15. Lock Until Power-Cycled Order: The base station should send this order in unassured mode.

16. Maintenance Order: The base station shall enter the Waiting for Answer Substate.

17. Maintenance Required Order

18. Mobile Assisted Burst Operation Parameters Message

19. Mobile Station Registered Message

20. Neighbor List Update Message

21. Parameter Update Order (see 2.3.12.1.3 or 3.7.4).

22. Power Control Message

23. Power Control Parameters Message

24. Power Up Function Message

25. Power Up Function Completion Message

26. Release Order
27. Resource Allocation Message
29. Retrieve Parameters Message
30. Reverse Supplemental Channel Assignment Mini Message
31. Service Option Control Message: The base station shall send the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
32. Service Option Control Order
33. Status Request Message
34. Status Request Order
35. Supplemental Channel Assignment Message
36. TMSI Assignment Message
37. User Zone Update Message
38. Universal Handoff Direction Message
39. User Zone Reject Message
40. User Zone Update Message

- If the base station receives one of the following messages from the mobile station, the base station shall process the message according to the specified requirements, if any:
  1. Base Station Challenge Order: The base station shall process the message as described in 2.3.12.1.5.
  2. Candidate Frequency Search Report Message: The base station shall process the message as described in 3.6.6.2.2.6.
  3. Candidate Frequency Search Response Message: The base station shall process the message as described in 3.6.6.2.2.4.
  4. Connect Order
  5. Continuous DTMF Tone Order
  6. Data Burst Message
  7. Extended Release Response Message
  8. Flash With Information Message
  9. Handoff Completion Message: The base station shall process the message as described in 3.6.6.2.2.7.
  10. Local Control Response Order
  11. Long Code Transition Request Order
  12. Long Code Transition Response Order
13. Mobile Station Reject Order
14. Origination Continuation Message
15. Parameter Update Confirmation Order
16. Parameters Response Message
17. Periodic Pilot Strength Measurement Message: The base station shall process the message as described in 3.6.6.2.2.1
18. Pilot Strength Measurement Message
20. Release Order
21. Request Analog Service Order
22. Request Narrow Analog Service Order
23. Request Wide Analog Service Order
26. Resource Request Message
27. Resource Request Mini Message
28. Send Burst DTMF Message
29. Service Connect Completion Message
30. Service Option Control Message: The base station shall process the message in accordance with the requirements for the active service subfunction (see 3.6.4.1.2.2).
31. Service Option Control Order
32. Service Option Request Order
33. Service Option Response Order
34. Service Request Message
35. Service Response Message:
36. SSD Update Confirmation Order
37. SSD Update Rejection Order
38. Status Response Message
39. Status Message
40. TMSI Assignment Completion Message
41. User Zone Update Request Message: The base station shall process this message as specified in 3.6.7.2.
3.6.5 Registration

Registration is the process by which a mobile station notifies the base station of its location, status, identification, slot cycle, and other characteristics. The base station can make use of location information to efficiently page the mobile station when establishing a mobile station terminated call. Registration also provides the mobile station’s SLOT_CYCLE_INDEX parameter so that the base station can determine which Paging Channel slots a mobile station operating in the slotted mode is monitoring. Registration also provides the protocol revision number so that the base station knows the capabilities of the mobile station.

The CDMA system supports ten different forms of registration:

1. Power-up registration. The mobile station registers when it powers on, or switches from using the analog system.
2. Power-down registration. The mobile station registers when it powers off if previously registered in the current serving system.
3. Timer-based registration. The mobile station registers when a timer expires.
4. Distance-based registration. The mobile station registers when the distance between the current base station and the base station in which it last registered exceeds a threshold.
5. Zone-based registration. The mobile station registers when it enters a new zone.
6. Parameter-change registration. The mobile station registers when certain of its stored parameters change or when it enters a new system.
7. Ordered registration. The mobile station registers when the base station requests it.
8. Implicit registration. When a mobile station successfully sends an Origination Message or Page Response Message, the base station can infer the mobile station’s location. This is considered an implicit registration.
9. Traffic Channel registration. Whenever the base station has registration information for a mobile station that has been assigned to a Traffic Channel, the base station can notify the mobile station that it is registered.
10. User Zone Registration. The mobile station registers when it selects an active User Zone (see 2.6.9.1.2).

The first five forms of registration, as a group, are called autonomous registration and are conditioned, in part, by roaming status and by indicators contained in the System Parameters Message (see 2.6.5.3). The base station may initiate ordered registration through the Registration Request Order.

The base station can obtain registration information by sending the Status Request Message to the mobile station on either the Paging Channel or the Forward Traffic Channel. If the base station is operating with the mobile station in Band Class 0, the base station can also obtain registration information by sending the Status Request Order to the mobile station on
the Forward Traffic Channel. The base station may notify the mobile station that it is registered through the \textit{Mobile Station Registered Message}.

3.6.5.1 Registration on the Paging and Access Channels

The base station shall specify the forms of registration that are enabled, the corresponding registration parameters, and the roaming status conditions for which registration is enabled in the \textit{System Parameters Message}. If any of the autonomous registration forms are enabled, the base station should also enable parameter-change registration.

The base station should process an \textit{Origination Message} or \textit{Page Response Message} sent on the Access Channel as an implicit registration of the mobile station sending the message. The base station can obtain complete registration information about the mobile station at any time by sending a \textit{Registration Request Order} to the mobile station.

3.6.5.2 Registration on the Traffic Channels

The base station can obtain registration information from a mobile station on the Traffic Channel by means of the \textit{Status Request Message} or the \textit{Status Request Order}. When the base station has registration information for a mobile station, the base station may send a \textit{Mobile Station Registered Message} to the mobile station, specifying the base station’s registration system, zone, and location information.

3.6.6 Handoff Procedures

3.6.6.1 Overview

3.6.6.1.1 Types of Handoff

The base station supports the following three handoff procedures:

- \textit{Soft Handoff}: A handoff in which a new base station commences communications with the mobile station without interrupting the communications with the old base station. The base station\textsuperscript{3} can direct the mobile station to perform a soft handoff only when all Forward Traffic Channels assigned to the mobile station have identical band classes, frequency assignments and frame offsets. Soft handoff provides diversity of Forward Traffic Channels and Reverse Traffic Channel paths on the boundaries between base stations.

- \textit{CDMA-to-CDMA Hard Handoff}: A handoff in which the base station directs the mobile station to transition between disjoint sets of base stations, different band classes, different frequency assignments, \textit{different radio configuration}, or different frame offsets.

- \textit{CDMA-to-Analog Handoff}: A handoff in which the base station directs the mobile station from a Forward Traffic Channel to an analog voice channel.

\textsuperscript{3}In this section the term base station may imply multiple cells or sectors.
Base station support of CDMA-to-CDMA hard handoff between different band classes and
support of CDMA-to-analog handoff is optional.

Section 2.6.6 describes the mobile station requirements during handoff.

3.6.6.1.2 Active Set
The Active Set contains the pilots (see 2.6.6.1.2) associated with the Forward Traffic
Channels assigned to the mobile station. Initially the base station informs the mobile
station of the contents of the Active Set using the Channel Assignment Message or the
Extended Channel Assignment Message; subsequent changes to the contents of the Active
Set are provided using the Extended Handoff Direction Message, General Handoff Direction
Message, or Universal Handoff Direction Message.

3.6.6.2 Requirements

3.6.6.2.1 Overhead Information
The base station sends the following messages governing the pilot search procedures
performed by the mobile station:

- System Parameters Message
- In-Traffic System Parameters Message
- Neighbor List Message
- Extended Neighbor List Message
- Neighbor List Update Message
- Extended Neighbor List Update Message
- General Neighbor List Message
- General Handoff Direction Message
- Extended Handoff Direction Message
- Candidate Frequency Search Request Message
- Candidate Frequency Search Control Message
- Universal Handoff Direction Message

3.6.6.2.1.1 System Parameters
The base station sends handoff related parameters on the Paging Channel in the System
Parameters Message and the Extended System Parameters Message.
The base station may revise handoff related parameters for a mobile station operating on
the Traffic Channel by sending the In-Traffic System Parameters Message.
The base station may modify the values of the parameters SRCH_WIN_A, T_ADD, TDROP,
T_COMP, and T_TDROP through the Extended Handoff Direction Message, the General
Handoff Direction Message, or the Universal Handoff Direction Message. In addition, the
base station may also modify the values of the parameters SRCH_WIN_N, SRCH_WIN_R,
SOFT_SLOPE, ADD_INTERCEPT, and DROP_INTERCEPT through the General Handoff Direction Message or the Universal Handoff Direction Message.

3.6.6.2.1.2 Neighbor List

The base station sends a Neighbor List on the Paging Channel in the Neighbor List Message, the Extended Neighbor List Message, or the General Neighbor List Message. The base station should list the pilots in the Neighbor List Message in descending priority order (see 2.6.6.2.6.3).

The base station may revise the Neighbor List for a mobile station operating on the Traffic Channel by sending a Neighbor List Update Message or an Extended Neighbor List Update Message.

The base station shall not include a pilot that is a member of the mobile station’s Active Set in a Neighbor List Update Message or an Extended Neighbor List Update Message. The base station shall not specify more than N₈m pilots in the Neighbor List Message, Extended Neighbor List Message, General Neighbor List Message, or in the Extended Neighbor List Update Message. The base station shall not specify more than 20 pilots in the Neighbor List Update Message. The base station should list the pilots in the Neighbor List Update Message in descending priority order (see 2.6.6.2.6.3).

The base station may also indicate the availability of neighboring analog systems in the General Neighbor List Message to assist the mobile station in performing system reselection (see 2.6.2.1.6).

3.6.6.2.1.3 Candidate Frequency Neighbor List

The base station sends a Candidate Frequency Neighbor List and inter-frequency hard handoff related parameters in the Candidate Frequency Search Request Message. The base station shall not specify more than N₈m pilots in the Candidate Frequency Search Request Message.

3.6.6.2.1.4 Candidate Frequency Search List

The base station designates a subset of the Candidate Frequency Neighbor List included in the Candidate Frequency Search Request Message as the Candidate Frequency Search List. For each pilot belonging to the Candidate Frequency Search List, the base station shall set the corresponding SEARCH_SET field of the Candidate Frequency Search Request Message to ‘1’.

3.6.6.2.2 Call Processing During Handoff

3.6.6.2.2.1 Processing the Pilot Strength Measurement Message

The base station should use the pilot strength measurements in the Pilot Strength Measurement Message to determine a new Active Set.

The base station may also use the PN phase measurements in the Pilot Strength Measurement Message to estimate the propagation delay to the mobile station. This estimate can be used to reduce Reverse Traffic Channel acquisition time.
The base station may respond to a *Pilot Strength Measurement Message* received from the mobile station by sending the *Extended Handoff Direction Message*, the *General Handoff Direction Message*, or the *Universal Handoff Direction Message*.

### 3.6.6.2.2.2 Processing the Extended Handoff Direction Message

The base station shall maintain a handoff message sequence number. If the base station specifies that the mobile station is to use service negotiation, the base station shall set the SERV_NEG variable (see 3.6.4.1.2.1.4) to be enabled at the action time of the message. The sequence number shall be initialized to zero prior to the transmission of the first *Extended Handoff Direction Message*, *General Handoff Direction Message* (see 3.6.6.2.2.10), or the *Universal Handoff Direction Message* to the mobile station. The base station shall increment the sequence number modulo 4 each time the base station modifies the pilot list (including the order in which pilots are specified within the list) or the code channels (including a change in the ordering such that the first code channel occurrence for any pilot is changed) sent to the mobile station in an *Extended Handoff Direction Message*, a *General Handoff Direction Message*, or a *Universal Handoff Direction Message*.

Following a hard handoff, the base station should set the handoff message sequence number to the value of the LAST_HDM_SEQ field of the *Handoff Completion Message* and should use the pilot order contained in the *Handoff Completion Message* to interpret the contents of subsequent *Power Measurement Report Messages*.

The base station shall set the contents of an *Extended Handoff Direction Message* according to the following rules:

- An *Extended Handoff Direction Message* shall list no more than $N_{6m}$ pilots in the new Active Set.
- An *Extended Handoff Direction Message* shall identify the identical power control subchannels (i.e., those carrying identical power control bits).
- An *Extended Handoff Direction Message* may change the code channel associated with an Active Set pilot that remains in the new Active Set.
- The base station specifies the long code mask to be used on the new Forward Traffic Channel by using the PRIVATE_LCM field of the *Extended Handoff Direction Message*. The base station may change the long code mask to be used on the new Forward Traffic Channel via the PRIVATE_LCM field of the *Extended Handoff Direction Message* only for CDMA-to-CDMA hard handoffs. If a change of long code mask is specified and the base station does not specify an explicit action time in the *Extended Handoff Direction Message*, the base station shall begin using the new long code mask on the first 80 ms boundary (relative to System Time) occurring at least 80 ms after the end of the frame containing the last bit of the message.
• For CDMA-to-CDMA handoffs, the base station may require the mobile station to perform a reset of the acknowledgment procedures by using the RESET_L2 field of the Extended Handoff Direction Message. If the base station requires the mobile station to reset the acknowledgment procedures, Layer 3 shall send an indication to Layer 2 to reset the acknowledgment procedures (see [4]). The acknowledgment procedures shall be reset immediately after the action time of the Extended Handoff Direction Message.

• For CDMA-to-CDMA hard handoffs, the base station may alter the frame offset by setting the FRAME_OFFSET field to a new value. If the base station specifies a new frame offset and does not specify an explicit action time, the base station shall change its Forward and Reverse Traffic Channel frame offsets at the second 80 ms boundary (relative to System Time) after the end of transmission of the Extended Handoff Direction Message, unless the end of transmission of the message coincides with an 80 ms boundary, in which case the change in frame offsets shall occur 80 ms after the end of transmission.

• For CDMA-to-CDMA hard handoffs to Band Class 0 or Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting the NOM_PWR field to the new nominal transmit power offset. For CDMA-to-CDMA hard handoffs to band classes other than Band Class 0 and Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting both the NOM_PWR and NOM_PWR_EXT fields to the new nominal transmit power offset.

• The base station may specify a different band class by setting the BAND_CLASS and CDMA_FREQ fields to the band class and CDMA frequency assignment respectively. The base station shall not specify a band class not supported by the mobile station.

• If the base station sends the Extended Handoff Direction Message in assured mode, the base station should set the action time of the message such that there is sufficient time for the mobile station to transmit a message containing the acknowledgment prior to the action time.

• For CDMA-to-CDMA hard handoffs, the base station may specify whether the mobile station is to use service negotiation or service option negotiation by setting the SERV_NEG_TYPE field of the Extended Handoff Direction Message. If the base station specifies that the mobile station is to use service negotiation, the base station shall set the SERV_NEG variable (see 3.6.4.1.2.1.4) to enabled at the action time of message. If the base station specifies that the mobile station is to use service option negotiation, the base station shall set SERV_NEG to disabled at the action time of the message.

3.6.6.2.2.3 Processing the Candidate Frequency Search Request Message

The base station may send a Candidate Frequency Search Request Message to direct the mobile station to perform a single or periodic search on the Candidate Frequency.

The base station may request the mobile station to perform an aligned search of the Candidate Frequency Search Set (see 2.6.6.2.8.3). If the base station requests the mobile
station to perform an aligned search, the base station shall specify an explicit action time for the Candidate Frequency Search Request Message.

The base station shall maintain a search message sequence number. The sequence number shall be initialized to zero prior to the transmission of the first Candidate Frequency Search Request Message to the mobile station. Each time the base station sends a new Candidate Frequency Search Request Message to the mobile station, it shall set the CFSRM_SEQ field to the current value of the sequence number, and increment the sequence number modulo 4.

3.6.6.2.4.2 Processing the Candidate Frequency Search Response Message

The base station should use the mobile station’s search capabilities as reported in the Candidate Frequency Search Response Message to determine an appropriate period for the mobile station’s periodic search on the Candidate Frequency.

3.6.6.2.4.5 Processing the Candidate Frequency Search Control Message

The base station may send a Candidate Frequency Search Control Message to direct the mobile station to perform a single search, or to start or stop a periodic search on the Candidate Frequency.

The base station may request the mobile station to perform an aligned search of the Candidate Frequency Search Set (see 2.6.6.2.8.3). If the base station requests the mobile station to perform an aligned search, the base station shall specify an explicit action time for the Candidate Frequency Search Control Message.

Each time the base station sends a new Candidate Frequency Search Control Message to the mobile station, it shall set the CFSCM_SEQ field to the current value of the sequence number, and increment the sequence number modulo 4.

3.6.6.2.4.6 Processing the Candidate Frequency Search Report Message

The base station should use the value of the LAST_SRCH_MSG field and of the LAST_SRCH_MSG_SEQ field of the Candidate Frequency Search Report Message to interpret the contents of the message.

If the SEARCH_MODE field of the Candidate Frequency Search Report Message is equal to ‘0000’, the base station should use the pilot strength measurements in the message to determine whether to direct the mobile station to perform a CDMA-to-CDMA inter-frequency handoff, and to determine the new Active Set. If the SEARCH_MODE field of the Candidate Frequency Search Report Message is equal to ‘0001’, the base station should use the analog frequency strength measurements in the message to determine whether to direct the mobile station to perform a CDMA-to-Analog handoff.

3.6.6.2.4.7 Transmitting During Handoff

The base station shall continue transmission to the mobile station on the Fundamental Channel or the Dedicated Control Channel of a Forward Traffic Channel removed from the Active Set until it receives the Handoff Completion Message from the mobile station or determines that the call has been released.
The base station should discontinue transmission to the mobile station on the
Fundamental Channel or the Dedicated Control Channel of a Forward Traffic Channel
removed from the Active Set after it receives the *Handoff Completion Message*.

For Forward Multiplex Options 3 through 16, the base station should discontinue
transmission of Forward Supplemental Code Channels removed from the Code Channel List according to the following rules:

- If a *General Handoff Direction Message* is used to remove one or more Forward
  Supplemental Code Channels, the base station should discontinue transmission on
  those code channels no later than the action time of the *General Handoff Direction
  Message*.

- If a *Supplemental Channel Assignment Message* is used to remove one or more
  Forward Supplemental Code Channels, the base station should discontinue
  transmission on those Forward Supplemental Code Channels no later than the implicit action time of the *Supplemental Channel Assignment Message*.

3.6.6.2.2.8 Ordering Pilot Measurements From the Mobile Station

The base station may direct the mobile station to send a *Pilot Strength Measurement
Message* by sending a *Pilot Measurement Request Order*.

The base station may send a *Periodic Pilot Measurement Request Order* to direct the mobile
station to periodically send pilot strength measurements. In response to the order, the
mobile station reports the pilot strength measurements using the *Periodic Pilot Strength
Measurement Message*.

3.6.6.2.2.9 Processing the Supplemental Channel Assignment Message

The base station may use this message to specify Supplemental Code Channel assignment
parameters for the mobile station’s Forward Traffic Channel, Reverse Traffic Channel, or
both. This information includes the parameters that control the timing of the Supplemental
Code Channel assignment (e.g., starting time and duration), and parameters that control
the number of Supplemental Code Channels which will be used during the assignment
(e.g., the number of Reverse Supplemental Code Channels on which the mobile station may
transmit and the set of Walsh codes on which the mobile station receives Forward
Supplemental Code Channels for each pilot in the mobile station’s Active Set). The *Supplemental Channel Assignment Message* shall be used only with Multiplex Options 3
through 16.

The base station shall set the content of a *Supplemental Channel Assignment Message*
according to the following rules:
• The base station may set USE_RETRY_DELAY to ‘1’ and RETRY_DELAY to a delay in 320 ms units starting at the next 80 ms system time boundary during which the mobile station is to refrain from sending subsequent Supplemental Channel Request Messages. The base station may set RETRY_DELAY to ‘11111111’ to indicate that the mobile station is to refrain from transmitting Supplemental Channel Request Messages indefinitely. Otherwise, the base station shall set USE_RETRY_DELAY to ‘0’ and omit RETRY_DELAY in which case the mobile station is to reset any previously set RETRY_DELAY indication.

• The base station shall set REV_DTX_DURATION to the maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmission on a Reverse Supplemental Code Channel before resuming transmission on the Reverse Supplemental Code Channel within the reverse assignment duration. The base station shall set this field to ‘0000’ if the mobile station is to stop using a Reverse Supplemental Code Channel once it has stopped transmitting on that Reverse Supplemental Code Channel. The base station shall set this field to ‘1111’ if the mobile station is allowed to resume transmission on a Reverse Supplemental Code Channel at any time within the reverse assignment duration.

• A Supplemental Channel Assignment Message may specify Reverse Supplemental Code Channel assignments. If Reverse Supplemental Code Channel assignment information is included, the base station shall set REV_INCLUDED to ‘1’ and include the appropriate Reverse Supplemental Code Channel assignment information. Otherwise, the base station shall set REV_INCLUDED to ‘0’.

• The base station shall indicate the implicit, explicit, or linked start time for a Reverse Supplemental Code Channel assignment as follows:
  – The base station may set EXPL_REV_START_TIME to ‘1’ and set REV_START_TIME to the System Time, in units of 80 ms (modulo 64), at which the mobile station is to start transmitting on the Reverse Supplemental Code Channels.
  – The base station may set USE_REV_HDM_SEQ to ‘1’ and set REV_LINKED_HDM_SEQ to the sequence number of the General Handoff Direction Message (HDM_SEQ) with which this message is linked to indicate that the mobile station is to start processing the Reverse Supplemental Code Channels at the action time of the linked General Handoff Direction Message.
  – The base station may set EXPL_REV_START_TIME to ‘0’ and USE_REV_HDM_SEQ to ‘0’ to indicate that the mobile station is to start processing Reverse Supplemental Code Channels at the implicit action time of this message.
  – The base station shall not set both EXPL_REV_START_TIME and USE_REV_HDM_SEQ to ‘1’.

3-65
The base station may set USE_REV_Duration to ‘1’ and REV_DURATION to the
time interval, in units of 80 ms, after the implicit, explicit, or linked action time for
the message (as specified in 2.6.6.2.5.1), during which the mobile station is to
transmit on the specified Reverse Supplemental Code Channels. The base station
may set USE_REV_DURATION to ‘0’ to indicate an infinite duration for the
assignment of Reverse Supplemental Code Channels. If NUM_REV_CODES is ‘000’,
then the base station shall set USE_REV_Duration to ‘0’.

If Reverse Supplemental Code Channel assignment information is included, the base
station shall set NUM_REV_CODES to the number of Reverse Supplemental Code
Channels to be used in this Reverse Supplemental Code Channel assignment. The
base station shall not set NUM_REV_CODES to be greater than the number of codes
supported by the currently negotiated multiplex option.

The base station may set USE_T_ADD_ABORT, the Reverse Supplemental Code
Channel assignment T_ADD abort indicator, to ‘1’ to indicate that the mobile station
is to abort Reverse Supplemental Code Channel assignments implicitly when a
T_ADD trigger occurs. Otherwise, the base station shall set USE_T_ADD_ABORT to
‘0’. If NUM_REV_CODES is set to ‘000’, the base station shall set
USE_T_ADD_ABORT to ‘0’.

If the base station is sending this message in response to a Supplemental Channel
Request Message which includes a Supplemental Channel Request Message sequence
number and the mobile station is to clear the IGNORE_SCAM field, the base station
shall set USE_SCRM_SEQ_NUM to ‘1’ and set USE_SCRM_SEQ_NUM to the
sequence number corresponding to the SCRM_SEQ_NUM field in a Supplemental
Channel Request Message to which the mobile station is to match this message.
Otherwise, the base station shall set USE_SCRM_SEQ_NUM to ‘0’ and omit
SCRM_SEQ_NUM.

A Supplemental Channel Assignment Message may specify Forward Supplemental
Code Channel assignments. If Forward Supplemental Code Channel assignment
information is included, the base station shall set FOR_INCLUDED to ‘1’ and include
the appropriate Forward Supplemental Code Channel assignment information.
Otherwise, the base station shall set FOR_INCLUDED to ‘0’.

The base station shall set FOR_SUP_CONFIG to ‘00’ if the mobile station is to stop
processing the forward supplemental code after the action time of the Supplemental
Channel Assignment Message. The base station should not transmit to the mobile
station on the Forward Supplemental Code Channels after the message takes effect.

The base station shall set FOR_SUP_CONFIG to ‘01’ if the mobile station is to start
processing the Forward Supplemental Code Channels in the Code Channel List at
the implicit, explicit, or linked action time for the message as specified in
2.6.6.2.5.1.
The base station shall set FOR_SUP_CONFIG to ‘10’ if the Forward Supplemental Code Channels associated with the pilots in the Active set are specified in the Supplemental Channel Assignment Message and is to stop processing Forward Supplemental Code Channels at the implicit action time of the message. The base station should not transmit to the mobile station on the Forward Supplemental Code Channels after the message takes effect.

The base station shall set FOR_SUP_CONFIG to ‘11’ if the Forward Supplemental Code Channels associated with the pilots in the Active set are specified in the Supplemental Channel Assignment Message and the mobile station is to start processing the Forward Supplemental Code Channels at the implicit, explicit, or linked action time for the message as specified in 2.6.6.2.5.1.

The base station shall set FOR_DURATION to the time interval, in units of 80 ms, after the implicit, explicit, or linked action time for the message (as specified in 2.6.6.2.5.1), during which the mobile station is to process the specified Forward Supplemental Code Channels. The base station may set USE_FOR_DURATION to ‘0’ to indicate an infinite duration for the allocation of Forward Supplemental Code Channels. The base station should not transmit to the mobile station on the Forward Supplemental Code Channels outside the time interval specified by FOR_DURATION.

The base station may set EXPL_FOR_START_TIME to ‘1’ and set FOR_START_TIME to the System Time, in units of 80 ms (modulo 64), at which the mobile station is to start processing the Forward Supplemental Code Channels.

The base station may set USE_FOR_HDM_SEQ to ‘1’ and set FOR_LINKED_HDM_SEQ to the sequence number of the General Handoff Direction Message (HDM_SEQ) with which this message is linked to indicate that the mobile station is to start processing the Forward Supplemental Code Channels at the action time of the linked General Handoff Direction Message.

The base station shall not set both USE_FOR_HDM_SEQ and EXPL_FOR_START_TIME within a Supplemental Channel Assignment Message to ‘1’.

The number of Supplemental Code Channels assigned by Supplemental Channel Assignment Message shall not exceed the maximum number of Supplemental Code Channels for the negotiated Forward Multiplex Option.

The base station may set EXPL_FOR_START_TIME to ‘0’ and USE_FOR_HDM_SEQ to ‘0’ to indicate that the mobile station is to start processing Forward Supplemental Code Channels at the implicit action time of this message.

3.6.6.2.10 Processing the General Handoff Direction Message

The base station shall maintain a handoff message sequence number. The sequence number shall be initialized to zero prior to the transmission of the first Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message (see 3.6.6.2.11) to the mobile station (see 2.6.6.2.2). The base station shall increment the sequence number modulo 4 each time the base station modifies the pilot list.
(including the order in which pilots are specified within the list) or the code channels
(including a change in the ordering such that the first code channel occurrence for any pilot
is changed) sent to the mobile station in an Extended Handoff Direction Message or a
General Handoff Direction Message, or a Universal Handoff Direction Message.

Following a hard handoff, the base station should set the handoff message sequence
number to the value of the LAST_HDM_SEQ field of the Handoff Completion Message and
should use the pilot order contained in the Handoff Completion Message to interpret the

The base station shall set the contents of a General Handoff Direction Message according to
the following rules:

- A General Handoff Direction Message shall list no more than N6m pilots in the new
  Active Set.
- The base station may include a Service Configuration Information Record in the
  General Handoff Direction Message to accept a service configuration proposed in a
  Service Request Message or Service Response Message, and instruct the mobile
  station to begin using the service configuration.
- A General Handoff Direction Message shall identify the identical power control
  subchannels (i.e., those carrying identical power control bits).
- A General Handoff Direction Message shall identify the transmit power level of the
  power control subchannels to the transmit power level of 20 ms frames at a 9600
  bps or 14400 bps rate on their respective associated channels (Forward
  Fundamental Channel or Forward Dedicated Control Channel).
- For CDMA-to-CDMA handoffs, the base station may specify Power Control
  Subchannel Gain action time (PC_ACTION_TIME). If PC_ACTION_TIME is included
  in this message, the base station shall apply the new FPC_SUBCHAN_GAIN at the
time specified by PC_ACTION_TIME. If the PC_ACTION_TIME is not included in this
message but the explicit action time is included, the base station shall apply the
new FPC_SUBCHAN_GAIN at the action time of the General Handoff Direction
Message. If the implicit action time is used, the base station should gradually apply
any change in FPC_SUBCHAN_GAIN.
- A General Handoff Direction Message may change the code channel associated with
  an Active Set pilot that remains in the new Active Set.
- The base station specifies the long code mask to be used on the new Forward Traffic
  Channel by using the PRIVATE_LCM field of the General Handoff Direction Message.
The base station may change the long code mask to be used on the new Forward
Traffic Channel via the PRIVATE_LCM field of the General Handoff Direction Message
only for CDMA-to-CDMA hard handoffs. If a change of long code mask is specified
and the base station does not specify an explicit action time in the General Handoff
Direction Message, the base station shall begin using the new long code mask on the
first 80 ms boundary (relative to System Time) occurring at least 80 ms after the end
of the frame containing the last bit of the message.
For CDMA-to-CDMA handoffs, the base station may require the mobile station to perform a reset of the acknowledgment procedures by using the RESET_L2 field of the *General Handoff Direction Message*. If the base station requires the mobile station to reset the acknowledgment procedures, Layer 3 shall send an indication to Layer 2 to reset the acknowledgment procedures (see [4]). The acknowledgment procedures of the base station that the mobile station is to handoff to shall be reset immediately after the action time of the *General Handoff Direction Message*.

For CDMA-to-CDMA hard handoffs, the base station may alter the frame offset by setting the FRAME_OFFSET field to a new value. If the base station specifies a new frame offset and does not specify an explicit action time, the base station shall change its Forward and Reverse Traffic Channel frame offsets at the second 80 ms boundary (relative to System Time) after the end of transmission of the *General Handoff Direction Message*, unless the end of transmission of the message coincides with an 80 ms boundary, in which case the change in frame offsets shall occur 80 ms after the end of transmission.

For CDMA-to-CDMA hard handoffs to Band Class 0 or Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting the NOM_PWR field to the new nominal transmit power offset. For CDMA-to-CDMA hard handoffs to band classes other than Band Class 0 and Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting both the NOM_PWR and NOM_PWR_EXT fields to the new nominal transmit power offset.

The base station may specify a different band class by setting the BAND_CLASS and CDMA_FREQ fields to the band class and CDMA frequency assignment respectively. The base station shall not specify a band class not supported by the mobile station.

If the base station sends the *General Handoff Direction Message* in assured mode, the base station should set the action time of the message such that there is sufficient time for the mobile station to transmit a message containing the acknowledgment prior to the action time.

For CDMA-to-CDMA hard handoffs, the base station may specify whether the mobile station is to use service negotiation or service option negotiation by setting the SERV_NEG_TYPE field of the *General Handoff Direction Message*. If the base station specifies that the mobile station is to use service negotiation, the base station shall set the SERV_NEG variable (see 3.6.4.1.2.1.4) to enabled at the action time of the message. If the base station specifies that the mobile station is to use service option negotiation, the base station shall set SERV_NEG to disabled at the action time of the message.
The base station may specify whether the mobile station is to restore its configuration to what it was before the handoff attempt, if it fails in the handoff attempt using criteria specified in the Candidate Frequency Search Request Message, by using the RETURN_IF_HANDOFF_FAIL field of the General Handoff Direction Message. The base station may specify whether the mobile station is to periodically search a CDMA Candidate Frequency for useable pilots, using criteria specified in the Candidate Frequency Search Request Message, by using the PERIODIC_SEARCH field of the General Handoff Direction Message.

The base station may include Forward Supplemental Code Channel assignment information in the General Handoff Direction Message if the Forward Multiplex Option for the currently connected service option is 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, or 16. If Forward Supplemental Code Channel assignment information is included, the base station shall include FOR_INCLUDED, set FOR_INCLUDED to ‘1’, and include the appropriate Forward Supplemental Code Channel assignment information.

The number of Forward Supplemental Code Channels assigned by the General Handoff Direction Message shall not exceed the maximum number of Forward Supplemental Code Channels for the negotiated Forward Multiplex Option.

The base station shall set FOR_SUP_CONFIG to ‘00’ if the mobile station is to stop processing the Forward Supplemental Code Channel after the action time of General Handoff Direction Message. The base station should not transmit to the mobile station on the Forward Supplemental Code Channels after the message takes effect.

The base station shall set FOR_SUP_CONFIG to ‘01’ if the mobile station is to start processing the Forward Supplemental Code Channels in the Code Channel List at the action time of the message.

The base station shall set FOR_SUP_CONFIG to ‘10’ if the Forward Supplemental Code Channels associated with the pilots in the Active set are specified in the General Handoff Direction Message and the mobile station is to stop processing Forward Supplemental Code Channels at the implicit action time of the message. The base station should not transmit to the mobile station on the Forward Supplemental Code Channels after the message takes effect.

The base station shall set FOR_SUP_CONFIG to ‘11’ if the Forward Supplemental Code Channels associated with the pilots in the Active set are specified in the General Handoff Direction Message and the mobile station is to start processing the Forward Supplemental Code Channels at the action time of the message.

The base station shall set FOR_DURATION to the time interval after the action time of the message, in units of 80 ms, during which the mobile station is to process the specified Forward Supplemental Code Channels. The base station may set USE_FOR_DURATION to ‘0’ to indicate an infinite duration for the allocation of Forward Supplemental Code Channels. The base station should not transmit to the mobile station on the Forward Supplemental Code Channels outside the time interval specified by FOR_DURATION.
If FOR_INCLUDED is included in the message, the base station shall include EXPL_CODE_CHAN for each pilot included in the message. If EXPL_CODE_CHAN is included and set to '1' for a pilot, the code channels associated with the pilot in the General Handoff Direction Message shall be ordered such that the first code channel occurrence is associated with the Forward Fundamental Channel and the successive occurrences are associated with Forward Supplemental Code Channels. If EXPL_CODE_CHAN is included and is set to '0', for each pilot in the new Active Set, the base station shall include BASE_CODE_CHAN and set it to the base code channel index in the range of 1 to (63 - NUM_FOR_SUP + 1), inclusive, that the mobile station is to use as the first Forward Supplemental Code Channel associated with this pilot. The mobile station is to use NUM_FOR_SUP adjacent code channels beginning with index BASE_CODE_CHAN (i.e., BASE_CODE_CHAN through BASE_CODE_CHAN + NUM_FOR_SUP - 1) for the Forward Supplemental Code Channels associated with this pilot.

The base station may include Reverse Supplemental Code Channel assignment information in the General Handoff Direction Message if the Reverse Multiplex Option is 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, or 16. If Reverse Supplemental Code Channel assignment information is included, the base station shall include REV_INCLUDED, set REV_INCLUDED to '1', and include the appropriate Reverse Supplemental Code Channel assignment information in the additional fields.

If Reverse Supplemental Code Channel assignment information is included, the base station shall set NUM_REV_CODES to the number of Reverse Supplemental Code Channels to be used by the mobile station. The base station shall not set NUM_REV_CODES to be greater than the number of codes supported by the currently negotiated multiplex option.

The base station may set USE_T_ADD_ABORT, the Reverse Supplemental Code Channel assignment T_ADD abort indicator, to '1' to indicate that the mobile station is to abort Reverse Supplemental Code Channel assignments implicitly when a T_ADD trigger occurs. Otherwise, the base station shall set USE_T_ADD_ABORT to '0'. If NUM_REV_CODES is set to '000', the base station shall set USE_T_ADD_ABORT to '0'.

The base station shall set REV_DTX_DURATION to the maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmission on a Reverse Supplemental Code Channel before resuming transmission on the Reverse Supplemental Code Channel. The base station shall set this field to '0000' if the mobile station is to stop using a Reverse Supplemental Code Channel once it has stopped transmitting on that Reverse Supplemental Code Channel. The base station shall set this field to '1111' if the mobile station is allowed to resume transmission on a Reverse Supplemental Code Channel at any time within the reverse assignment duration.

The base station may set CLEAR_RETRY_DELAY to '1' to indicate that the mobile station is to cancel any previously stored retry delay. Otherwise, the base station shall set CLEAR_RETRY_DELAY to '0' to indicate that the mobile station is to continue to honor any previously stored retry delay (see 2.6.6.2.5.1).
• The base station may indicate a duration for the Reverse Supplemental Code Channel assignment (in 80 ms superframes) by setting USE_REV_DURATION to ‘1’ and indicating the desired duration in the REV_DUR_FIELD. If USE_REV_DURURATION is set to ‘0’, a duration of infinity is indicated, and the base station shall set the REV_DUR_FIELD to ‘00000000’. If NUM_REV_CODES is ‘000’, then the base station shall set USE_REV_DUR_DURATION to ‘0’ and shall set REV_DUR_FIELD to ‘00000000’.

• The base station may set USE_REV_DUR_DURATION to ‘1’ and REV_DUR_FIELD to the time interval after the action time of the message, in units of 80 ms, during which the mobile station may transmit on the assigned Reverse Supplemental Code Channels. The base station may set USE_REV_DUR_DURATION to ‘0’ to indicate an infinite duration for the allocation of Forward Supplemental Code Channels.

• The base station may specify a closed loop power control step size by setting USE_PWR_CNTL_STEP to ‘1’ and indicating the desired power control step size in the PWR_CNTL_STEP field (see 2.1.2.3.2). Otherwise, the base station shall set USE_PWR_CNTL_STEP to ‘0’. The base station shall not specify a power control step size not supported by the mobile station.

3.6.6.2.2.11 Processing the Universal Handoff Direction Message

The base station shall maintain a handoff message sequence number. The sequence number shall be initialized to zero prior to the transmission of the first Extended Handoff Direction Message (see 3.6.6.2.2), General Handoff Direction Message (see 3.6.6.2.10), or Universal Handoff Direction Message to the mobile station. The base station shall increment the sequence number modulo 4 each time the base station modifies the pilot list (including the order in which pilots are specified within the list) or the code channels (including a change in the ordering such that the first code channel occurrence for any pilot is changed) sent to the mobile station in an Extended Handoff Direction Message, a General Handoff Direction Message, or an Universal Direction Message.

Following a hard handoff, the base station should set the handoff message sequence number to the value of the LAST_HDM_SEQ field of the Handoff Completion Message and should use the pilot order contained in the Handoff Completion Message to interpret the contents of subsequent Power Measurement Report Messages.

The base station shall set the contents of a Universal Handoff Direction Message according to the following rules:

• A Universal Handoff Direction Message shall list no more than N6m pilots in the new Active Set.

• The base station may include a Service Configuration Information Record in the Universal Handoff Direction Message to accept a service configuration proposed in a Service Request Message or Service Response Message, and instruct the mobile station to begin using the service configuration.

• A Universal Handoff Direction Message shall identify the identical power control subchannels (i.e., those carrying identical power control bits).
• A *Universal Handoff Direction Message* shall identify the transmit power level of the power control subchannels to the transmit power level of 20 ms frames at a 9600 bps or 14400 bps rate on their respective associated channels (Forward Fundamental Channel or Forward Dedicated Control Channel).

• For CDMA-to-CDMA handoffs, the base station may specify Power Control Subchannel Gain action time [PC_ACTION_TIME]. If PC_ACTION_TIME is included in this message, the base station shall apply the new FPC_SUBCHAN_GAIN at the time specified by PC_ACTION_TIME. If the PC_ACTION_TIME is not included in this message but the explicit action time is included, the base station shall apply the new FPC_SUBCHAN_GAIN at the action time of the *Universal Handoff Direction Message*. If the implicit action time is used, the base station should gradually apply any change in FPC_SUBCHAN_GAIN.

• A *Universal Handoff Direction Message* may change the code channel associated with an Active Set pilot that remains in the new Active Set.

• A *Universal Handoff Direction Message* may delete the code channel associated with an Active Set pilot that remains in the new Active Set.

• A *Universal Handoff Direction Message* may add the code channel associated with an Active Set pilot that remains in the new Active Set.

• The base station specifies the long code mask to be used on the new Forward Traffic Channel by using the PRIVATE_LCM field of the *Universal Handoff Direction Message*. The base station may change the contents of this field only for CDMA-to-CDMA hard handoffs. If a change of long code mask is specified and the base station does not specify an explicit action time in the *Universal Handoff Direction Message*, the base station shall begin using the new long code mask on the first 80 ms boundary (relative to System Time) occurring at least 80 ms after the end of the frame containing the last bit of the message.

• For CDMA-to-CDMA handoffs, the base station may require the mobile station to perform a reset of the acknowledgment procedures by using the RESET_L2 field of the *Universal Handoff Direction Message*. If the base station requires the mobile station to reset the acknowledgment procedures, Layer 3 shall send an indication to Layer 2 to reset the acknowledgment procedures [see [4]]. The acknowledgment procedures of the base station that the mobile station is to handoff to shall be reset immediately after the action time of the *General Handoff Direction Message*.

• For CDMA-to-CDMA hard handoffs, the base station may alter the frame offset by setting the FRAME_OFFSET field to a new value. If the base station specifies a new frame offset and does not specify an explicit action time, the base station shall change its Forward and Reverse Traffic Channel frame offsets at the second 80 ms boundary (relative to System Time) after the end of transmission of the *Universal Handoff Direction Message*, unless the end of transmission of the message coincides with an 80 ms boundary, in which case the change in frame offsets shall occur 80 ms after the end of transmission.
- For CDMA-to-CDMA hard handoffs to Band Class 0 or Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting the NOM_PWR field to the new nominal transmit power offset. For CDMA-to-CDMA hard handoffs to band classes other than Band Class 0 and Band Class 3, the base station may alter the nominal transmit power offset after handoff by setting both the NOM_PWR and NOM_PWR_EXT fields to the new nominal transmit power offset.

- The base station may specify a different band class by setting the BAND_CLASS and CDMA_FREQ fields to the band class and CDMA frequency assignment respectively. The base station shall not specify a band class not supported by the mobile station.

- If the base station sends the *Universal Handoff Direction Message* in assured mode, the base station should set the action time of the message such that there is sufficient time for the mobile station to transmit a message containing the acknowledgment prior to the action time.

- For CDMA-to-CDMA handoffs, the base station may specify whether the mobile station is to use service negotiation or service option negotiation by setting the SERV_NEG_TYPE field of the *Universal Handoff Direction Message*. If the base station specifies that the mobile station is to use service negotiation, the base station shall set the SERV_NEG variable (see 3.6.4.1.2.1.4) to enabled at the action time of message. If the base station specifies that the mobile station is to use service option negotiation, the base station shall set SERV_NEG to disabled at the action time of the message.

- The base station may specify whether the mobile station is to restore its configuration to what it was before the handoff attempt, if it fails in the handoff attempt using criteria specified in the *Candidate Frequency Search Request Message*, by using the RETURN_IF_HANDOFF_FAIL field of the *Universal Handoff Direction Message*. The base station may specify whether the mobile station is to periodically search a CDMA Candidate Frequency for useable pilots, using criteria specified in the *Candidate Frequency Search Request Message*, by using the PERIODIC_SEARCH field of the *Universal Handoff Direction Message*.

- The base station specifies Active Set for the Fundamental Channel only, the Dedicated Control Channel only, or both. The Active Set of the Dedicated Control Channel shall be the same as the Active Set of the Fundamental Channel when both the Fundamental Channel and Dedicated Control Channel are assigned.

- The base station may specify the Active Set of the Supplemental Channels. The Active Set of the Supplemental Channels shall be a subset of the Active Set of the Fundamental Channel or the Dedicated Control Channel.

- A *Universal Handoff Direction Message* may specify a Reverse Supplemental Channel assignment. If Reverse Supplemental Channel assignment information is included, this message contains information that specifies the start time, duration, and the data transfer rate associated with this Reverse Supplemental Channel assignment.
• A Universal Handoff Direction Message may specify a Forward Supplemental Channel assignment. If Forward Supplemental Channel assignment information is included, this message contains the start time, duration, and SCCL_INDEX associated with this Forward Supplemental Channel assignment.

• A Universal Handoff Direction Message may update the mapping between a particular SCCL_INDEX and a set of fields that specifies the data transfer rate, QOF index, Forward Supplemental Channel Walsh code for each PILOT_PN, and the active set for the Forward Supplemental Channel associated with FOR_SCH_ID.

• A Universal Handoff Direction Message may update REV_WALSH_ID field which specifies the Reverse Supplemental Walsh cover.

• The base station may set CLEAR_RETRY_DELAY to ‘1’ to indicate that the mobile station is to cancel any previously stored retry delay. Otherwise, the base station shall set CLEAR_RETRY_DELAY to ‘0’ to indicate that the mobile station is to continue to honor any previously stored retry delay [see 2.6.6.2.5.1].

3.6.6.2.12 Processing of Extended Supplemental Channel Assignment Message
The base station may use this message to carry Forward Supplemental Channel assignment information or Reverse Supplemental Channel assignment information.

If Forward Supplemental Channel assignment information is included, this message contains the start time, duration, and SCCL_INDEX associated with this Forward Supplemental Channel assignment. If Reverse Supplemental Channel assignment information is included, this message contains information that specifies the start time, duration, and the data transfer rate associated with this Reverse Supplemental Channel assignment.

This message may specify the mapping between a particular SCCL_INDEX and a set of fields that specifies the data transfer rate, QOF index, Forward Supplemental Channel Walsh code for each PILOT_PN, and the active set for the Forward Supplemental Channel associated with FOR_SCH_ID.

This message may also include REV_WALSH_ID field which specifies the Reverse Supplemental Walsh cover.

This message also includes START_TIME_UNIT for this message, Forward Supplemental Channel Assignment Mini Messages, or Reverse Supplemental Channel Assignment Mini Messages, or Universal Handoff Direction Message.

The base station shall set the contents of an Extended Supplemental Channel Assignment Message according to the following rules:

• An Extended Supplemental Channel Assignment Message may specify a Reverse Supplemental Channel assignment. The base station shall set NUM_REV_SCH to the number of Reverse Supplemental Channels to be assigned.

• An Extended Supplemental Channel Assignment Message may specify a Forward Supplemental Channel assignment. The base station shall set NUM_FOR_SCH to the number of Forward Supplemental Channels to be assigned.
• The base station shall set the START_TIME_UNIT field to indicate the unit of the
FOR_SCH_START_TIME included in this message and the Forward Supplemental
Channel Assignment Mini Messages and REV_SCH_START_TIME included in this
message and the Reverse Supplemental Channel Assignment Mini Messages. The
base station shall set this field to one less than the number of 20 ms intervals that
is to be used by the mobile station for calculating the start time included in Forward
Supplemental Channel assignments or Reverse Supplemental Channel assignments.

• An Extended Supplemental Channel Assignment Message may specify Forward
Supplemental Channel configuration information. The base station shall set
NUM_FOR_SCH_CFG to the number of Forward Supplemental Channel to be
configured.

• The base station shall set the NUM_REC field to the number of instances of the
following record minus one included in this message. The base station shall set the
fields within each record as follows:
  - The base station shall set the SCCL_INDEX field to the index of the
    Supplemental Channel Code Information Record in the Supplemental
    Channel Code List Table.
  - The base station shall set the FOR_SCH_RATE field to the appropriate data
    rate in the Forward Supplemental Channel specification record indexed by
    SCCL_INDEX.
  - The base station shall set the NUM_SUP_SHO field to the number of Forward
    Supplemental Channels minus one, corresponding to the FOR_SCH_ID and
    the SCCL_INDEX, for which the frames are to be soft-combined by the
    mobile station. The base station shall set the fields within each record as
    follows:
      + The base station shall set the PILOT_PN field to the pilot PN sequence
        offset for this pilot in units of 64 PN chips.
      + The base station shall set the QOF_MASK_ID_SCH field to the ID of the
        Quasi Orthogonal Function mask ID corresponding to the Forward
        Supplemental Channel Code index.
      + The base station shall set the FOR_SCH_CC_INDEX field to the Forward
        Supplemental Channel code index corresponding to the PILOT_PN.

• REV_SCH_DTX_DURATION: The base station shall set REV_SCH_DTX_DURATION
to the maximum duration of time in units of 20 ms that the mobile station is
allowed to stop transmission on a Reverse Supplemental Channel before resuming
transmission on the Reverse Supplemental Channel within the reverse assignment
duration. The base station shall set this field to ‘0000’ if the mobile station is to
stop using a Reverse Supplemental Channel once it has stopped transmitting on
that Reverse Supplemental Channel. The base station shall set this field to ‘1111’ if
the mobile station is allowed to resume transmission on a Reverse Supplemental
Channel at any time within the reverse assignment duration.
3.6.6.2.2.13 Processing of Forward Supplemental Channel Assignment Mini Message

The base station may use this message to specify Forward Supplemental Channel assignment parameters for the mobile station's Forward Supplemental Channel. This information includes the FOR_SCH_ID, duration, start time, and the index to the previously specified Forward Supplemental Channel Code List, which determines the transmission rate, code channel index, and the identifier of the Quasi Orthogonal Function corresponding to the assignment.

The base station shall set the content of a Forward Supplemental Channel Assignment Mini Message according to the following rules:

- The base station shall set the FOR_SCH_ID to Forward Supplemental Channel identifier of the burst assignment that this message carries.

- The base station shall set the FOR_SCH_DURATIO field to '0000' to indicate that the mobile station should stop processing the Forward Supplemental Channel starting at the explicit start time of the message specified by FOR_SCH_START_TIME. The base station shall set the FOR_SCH_DURATIO field to '1111' to indicate that the mobile station should process the Forward Supplemental Channel, starting at the explicit start time of the message specified by FOR_SCH_START_TIME, until a subsequent Forward Supplemental Channel Assignment Mini Message or an Extended Supplemental Channel Assignment Message with the same FOR_SCH_ID field is received. The base station shall set the FOR_SCH_DURATIO field to the duration in units of 20ms (see Table 3.7.3.3.2.37-3), starting at the explicit start time of the message specified by FOR_SCH_START_TIME, during which the mobile station is to process the Forward Supplemental Channel.

- The base station shall set the FOR_SCH_START_TIME field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station is to start processing the Forward Supplemental Channel specified in this message. The explicit start time for processing Forward Supplemental Channels is the time for which:

\[
\left\lfloor \frac{t}{(\text{START\_TIME\_UNIT}+1)} \right\rfloor \mod 32 = 0,
\]
where \( t \) is the System Time in units of 20 ms.

- The base station shall set the \( \text{SCCL\_INDEX} \) field to the index of the record in the Forward Supplemental Channel Code list corresponding to the \( \text{FOR\_SCH\_ID} \).
- If \( \text{PILOT\_GATING\_USE\_RATE} \) is equal to ‘1’, the base station shall set \( \text{PILOT\_GATING\_USE\_RATE} \) to ‘0’ and start transmitting the Forward Power Control Subchannel with the maximum rate at the action time of the message.

### 3.6.6.2.2.14 Processing of Reverse Supplemental Channel Assignment Mini Message

The base station may use this message to specify Reverse Supplemental Channel assignment parameters for the mobile station Reverse Supplemental Channel. This information includes the reverse supplemental channel identifier (\( \text{REV\_SCH\_ID} \)), the duration of transmission on the Reverse Supplemental Channel, the start time for the burst assignment, and the rate at which the mobile station may transmit.

The base station shall set the content of the Reverse Supplemental Channel Assignment Mini Message according to the following rules:

- The base station shall set the \( \text{REV\_SCH\_DURATION} \) field to ‘0000’ to indicate that the mobile station should stop transmitting on the Reverse Supplemental Channel specified by \( \text{REV\_SCH\_ID} \) at the start time specified by \( \text{REV\_SCH\_START\_TIME} \). The base station shall set this field to ‘1111’ to indicate that the mobile station may transmit on the Reverse Supplemental Channel specified by \( \text{REV\_SCH\_ID} \), starting at the start time specified by \( \text{REV\_SCH\_START\_TIME} \). The base station shall set the \( \text{REV\_SCH\_DURATION} \) field to the allocated duration (see Table 3.7.3.3.2.37-3), starting at the start time specified by \( \text{REV\_SCH\_START\_TIME} \), during which the mobile station may transmit on the Reverse Supplemental Channel specified by \( \text{REV\_SCH\_ID} \).
- The base station shall set the \( \text{REV\_SCH\_START\_TIME} \) field to the System Time, in units of time specified by \( \text{START\_TIME\_UNIT} \), (modulo 32) at which the mobile station may start transmitting on the Reverse Supplemental Channel specified in this message. The explicit start time for transmitting on the Reverse Supplemental Channel is the time for which:

\[
\lfloor \frac{t}{(\text{START\_TIME\_UNIT}+1)} \rfloor - \text{REV\_SCH\_START\_TIME} \mod 32 = 0,
\]

where \( t \) is the System Time in units of 20 ms.

- The base shall set the \( \text{RATE} \) (see Table 3.7.3.3.2.37-1) to indicate the Reverse Supplemental Channel rate, which is assigned to the mobile station.
- If \( \text{PILOT\_GATING\_USE\_RATE} \) is equal to ‘1’, the base station shall set \( \text{PILOT\_GATING\_USE\_RATE} \) to ‘0’ and start transmitting the Forward Power Control Subchannel with the maximum rate at the action time of the message.

### 3.6.6.2.2.15 Processing of the Mobile Assisted Burst Operation Parameters Message

The base station may use this message to specify the operating parameters in the mobile
station for Mobile Assisted Burst Operation procedures.

- A Mobile Assisted Burst Operation Parameters Message may specify pilot strength order change reporting information. If order change reporting information is included, the base station shall set ORDER_FLAG to ‘1’ and include the appropriate order change reporting fields. Otherwise, the base station shall set ORDER_FLAG to ‘0’. If ORDER_FLAG is set to ‘1’, the base station shall perform the following procedures:
  - The base station shall set PS_MIN_DELTA to one less than the minimum pilot strength measurement difference between any two pilots in the Active Set (in units of 0.5 dB) that must be measured in order for the mobile station to send a Pilot Strength Measurement Mini Message.
  - The base station shall set ORDER_INTERVAL to the minimum interval (in 20 ms units) during which the indicated pilot strength measurement difference (greater than or equal to PS_MIN_DELTA+1, in units of 0.5 dB) must be measured by the mobile station in order for the mobile station to send a Pilot Strength Measurement Mini Message.

- A Mobile Assisted Burst Operation Parameters Message may specify periodic pilot strength reporting. If periodic reporting information is included, the base station shall set PERIODIC_FLAG to ‘1’ and include the appropriate periodic reporting fields. Otherwise, the base station shall set PERIODIC_FLAG to ‘0’. If PERIODIC_FLAG is set to ‘1’, the base station shall perform the following procedures:
  - The base station shall set NUM_PILOTS to the number of pilots for which the mobile station is to send Pilot Strength Measurement Mini Messages.
  - The base station shall set PERIODIC_INTERVAL to the interval (in 20 ms units) between Pilot Strength Measurement Mini Messages.

- A Mobile Assisted Burst Operation Parameters Message may specify threshold based pilot strength reporting. If threshold based reporting information is included, the base station shall set THRESHOLD_FLAG to ‘1’ and include the appropriate threshold based reporting fields. Otherwise, the base station shall set THRESHOLD_FLAG to ‘0’. If THRESHOLD_FLAG is set to ‘1’, the base station shall perform the following procedures:
  - The base station shall set PS_FLOOR_HIGH to the high water mark for lower limit threshold for which the mobile station is to send Pilot Strength Measurement Mini Messages.
  - The base station shall set PS_FLOOR_LOW to the low water mark for lower limit threshold for which the mobile station is to send Pilot Strength Measurement Mini Messages.
  - The base station shall set PS_CEILING_HIGH to the high water mark for upper limit threshold for which the mobile station is to send Pilot Strength Measurement Mini Messages.
The base station shall set PS_CEILING_LOW to the low water mark for upper limit threshold for which the mobile station is to send Pilot Strength Measurement Mini Messages.

The base station shall set THRESHOLD_INTERVAL to the interval (in 20 ms units) between Pilot Strength Measurement Mini Messages.

3.6.6.2.3 Active Set Maintenance

The base station shall maintain an Active Set for each mobile station under its control as follows:

- When the base station sends the Channel Assignment Message, it shall initialize the Active Set to contain only the pilot associated with the assigned Forward Traffic Channel.
- When the base station sends the Extended Channel Assignment Message, it shall initialize the Active Set to contain all pilots included in the message.
- When the base station sends an Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message, it shall add to the Active Set, before the action time of the message, all pilots included in the message, if they are not already in the Active Set.
- The base station shall delete the pilots that were not included in the most recent Extended Handoff Direction Message, General Handoff Direction Message, or Universal Handoff Direction Message, from the Active Set upon receipt of the Handoff Completion Message.

3.6.6.2.4 Soft Handoff

The base station should use soft handoff when directing a mobile station from one Forward Traffic Channel to another Forward Traffic Channel having the same frequency assignment.

3.6.6.2.4.1 Receiving During Soft Handoff

Each base station in the Active Set shall demodulate the Reverse Traffic Channel. The base station should provide diversity combining of the demodulated signals obtained by each base station in the Active Set.

3.6.6.2.4.2 Transmitting During Soft Handoff

The base station shall begin transmitting identical modulation symbols on all Forward Traffic Channels specified in an Extended Handoff Direction Message or General Handoff Direction Message, or Universal Handoff Direction Message (with the possible exception of the power control subchannel) by the action time of the message.

The base station shall transmit identical power control bits on all identical power control subchannels that were identified as such in the last Extended Handoff Direction Message, or General Handoff Direction Message, or Universal Handoff Direction Message.

The base station shall use the same long code mask on all Forward Traffic Channels whose associated pilots are in the Active Set.
3.6.6.2.5 CDMA-to-Analog Hard Handoff

The base station may direct the mobile station to perform a handoff from the CDMA system to an analog system in a band class that the mobile station supports by sending an *Analog Handoff Direction Message*.

3.6.7 CDMA Tiered Services

3.6.7.1 Overview

3.6.7.1.1 Definition

The base station may support Tiered Services to provide individual users or groups of users with custom services and special features based upon their location. The base station may also support Tiered Services to provide private network support. Important to the operation of CDMA Tiered Services is the concept of User Zones. It is via User Zones by which the base station offers custom services based upon the mobile station location.

User Zones are associated with a set of features and services, plus a geographic area in which the User Zone features/services are made available to the customers that have subscribed to that User Zone. The boundary of the User Zone Geographic area may be established based on the coverage area of a public or private base station, or it may be established independent of RF topology.

User Zones may be supported by the public system on the same frequency as the serving base station, or they may be supported on a private system operating on a different frequency.

3.6.7.1.2 Types of User Zones

User Zones may be of two basic types:

- *Broadcast User Zones*: Broadcast User Zones are identified to the mobile station using the Paging Channel. In this case, the base station broadcasts messages on the Paging Channel identifying the User Zones that fall within the coverage area of the particular cell/sector. A mobile station, as part of its monitoring of the Paging Channel, will identify the presence of a particular User Zone.

- *Mobile Specific User Zones*: Mobile Specific User Zones are not broadcast by the base station. A mobile station may use other overhead message parameters and compare them with internally stored User Zone parameters to identify the presence of a particular User Zone. These parameters may include: SID, NID, BASE_ID, BASE_LAT, and BASE_LONG.

3.6.7.2 Requirements

If the base station supports CDMA Tiered Services, the base station sends the following messages to assist the mobile station in identifying the presence of User Zones and to validate the User Zone requested by a mobile station:

- *User Zone Identification Message*
3.6.7.2.1 User Zone Identification Message

The base station identifies Broadcast User Zones supported by the base station by sending the User Zone Identification Message on the Paging Channel. The base station should list the UZID of each Broadcast User Zone supported by the base station.

3.6.7.2.2 Private Neighbor List Message

The base station sends a Private Neighbor List and identifies the User Zones supported by its private neighbor base stations by sending the Private Neighbor List Message on the Paging Channel. The Private Neighbor List Message shall list no more than $8m$ private neighbors.

3.6.7.2.3 User Zone Update Message and User Zone Reject Message on f-dsch

For a mobile station operating in the Waiting for Order Substate, Waiting for Mobile Station Answer Substate, Conversation Substate, or Release Substate of the Mobile Station Control on the Traffic Channel State, the base station may update the User Zone associated with the mobile station by sending a User Zone Update Message. The base station may also send a User Zone Reject Message to reject the User Zone requested by the mobile station in the Origination Message, Page Response Message, or User Zone Update Request Message. The base station may include the ASSIGN_UZID field in the User Zone Reject Message to assign a User Zone to the mobile station to replace the rejected User Zone.

3.6.7.2.4 User Zone Reject Message on f-csch

The base station may send the User Zone Reject Message on the Paging Channel to reject the User Zone requested by the mobile station in the Registration Message, Origination Message, or Page Response Message. The base station may include the ASSIGN_UZID field in the User Zone Reject Message to assign a User Zone to the mobile station to replace the rejected User Zone.
3.7 PDU Formats for Messages

The following sections specify the requirements on the PDU formats transmitted on the f_csch, and the f-dsch.

In any multi-bit field in the following messages, the most significant bit (MSB) shall be transmitted first.

3.7.1 Reserved

3.7.2 f-csch

The f-csch is used to send control information to mobile stations that have not been assigned to a Traffic Channel.

3.7.2.1 Reserved

3.7.2.2 Reserved
3.7.2.3 PDU Formats for Messages on the f-csch

The messages sent on the f-csch are summarized in Table 3.7.2.3-1.
<table>
<thead>
<tr>
<th>Message Name</th>
<th>MSG_TAG</th>
<th>Section Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Parameters Message</td>
<td>SPM</td>
<td>3.7.2.3.2.1</td>
</tr>
<tr>
<td>Access Parameters Message</td>
<td>APM</td>
<td>3.7.2.3.2.2</td>
</tr>
<tr>
<td>Neighbor List Message (Band Class 0 only)</td>
<td>NLM</td>
<td>3.7.2.3.2.3</td>
</tr>
<tr>
<td>CDMA Channel List Message</td>
<td>CCLM</td>
<td>3.7.2.3.2.4</td>
</tr>
<tr>
<td>Order Message</td>
<td>ORDM</td>
<td>3.7.2.3.2.7</td>
</tr>
<tr>
<td>Channel Assignment Message</td>
<td>CAM</td>
<td>3.7.2.3.2.8</td>
</tr>
<tr>
<td>Data Burst Message</td>
<td>DBM</td>
<td>3.7.2.3.2.9</td>
</tr>
<tr>
<td>Authentication Challenge Message</td>
<td>AUCM</td>
<td>3.7.2.3.2.10</td>
</tr>
<tr>
<td>SSD Update Message</td>
<td>SSDUM</td>
<td>3.7.2.3.2.11</td>
</tr>
<tr>
<td>Feature Notification Message</td>
<td>FNM</td>
<td>3.7.2.3.2.12</td>
</tr>
<tr>
<td>Extended System Parameters Message</td>
<td>ESPM</td>
<td>3.7.2.3.2.13</td>
</tr>
<tr>
<td>Extended Neighbor List Message (band classes other than Band Class 0)</td>
<td>ENLM</td>
<td>3.7.2.3.2.14</td>
</tr>
<tr>
<td>Status Request Message</td>
<td>STRQM</td>
<td>3.7.2.3.2.15</td>
</tr>
<tr>
<td>Service Redirection Message</td>
<td>SRDM</td>
<td>3.7.2.3.2.16</td>
</tr>
<tr>
<td>General Page Message</td>
<td>GPM</td>
<td>3.7.2.3.2.17</td>
</tr>
<tr>
<td>Global Service Redirection Message</td>
<td>GSRDM</td>
<td>3.7.2.3.2.18</td>
</tr>
<tr>
<td>TMSI Assignment Message</td>
<td>TASM</td>
<td>3.7.2.3.2.19</td>
</tr>
<tr>
<td>PACA Message</td>
<td>PACAM</td>
<td>3.7.2.3.2.20</td>
</tr>
<tr>
<td>Extended Channel Assignment Message</td>
<td>ECAM</td>
<td>3.7.2.3.2.21</td>
</tr>
<tr>
<td>General Neighbor List Message</td>
<td>GNLM</td>
<td>3.7.2.3.2.22</td>
</tr>
<tr>
<td>User Zone Identification Message</td>
<td>UZIM</td>
<td>3.7.2.3.2.23</td>
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<tr>
<td>Private Neighbor List Message</td>
<td>PNLM</td>
<td>3.7.2.3.2.24</td>
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<tr>
<td>Reserved</td>
<td>--</td>
<td>3.7.2.3.2.25</td>
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<tr>
<td>Sync Channel Message</td>
<td>SCHM</td>
<td>3.7.2.3.2.26</td>
</tr>
<tr>
<td>Extended Global Service Redirection Message</td>
<td>EGSRM</td>
<td>3.7.2.3.2.27</td>
</tr>
<tr>
<td>Extended CDMA Channel List Message</td>
<td>ECCLM</td>
<td>3.7.2.3.2.28</td>
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<tr>
<td>User Zone Reject Message</td>
<td>UZRM</td>
<td>3.7.2.3.2.29</td>
</tr>
</tbody>
</table>
3.7.2.3.1 Reserved

3.7.2.3.2 Message Body Contents

The following sections specify the contents of message body for each message that may be sent on the f-csch.
3.7.2.3.2.1 System Parameters Message

**MSG_TAG**: SPM

<table>
<thead>
<tr>
<th><strong>Field</strong></th>
<th><strong>Length (bits)</strong></th>
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</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
<tr>
<td>REG_ZONE</td>
<td>12</td>
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<tr>
<td>TOTAL_ZONES</td>
<td>3</td>
</tr>
<tr>
<td>ZONE_TIMER</td>
<td>3</td>
</tr>
<tr>
<td>MULT_SIDS</td>
<td>1</td>
</tr>
<tr>
<td>MULT_NIDS</td>
<td>1</td>
</tr>
<tr>
<td>BASE_ID</td>
<td>16</td>
</tr>
<tr>
<td>BASE_CLASS</td>
<td>4</td>
</tr>
<tr>
<td>PAGE_CHAN</td>
<td>3</td>
</tr>
<tr>
<td>MAX_SLOT_CYCLE_INDEX</td>
<td>3</td>
</tr>
<tr>
<td>HOME_REG</td>
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<tr>
<td>FOR_SID_REG</td>
<td>1</td>
</tr>
<tr>
<td>FOR_NID_REG</td>
<td>1</td>
</tr>
<tr>
<td>POWER_UP_REG</td>
<td>1</td>
</tr>
<tr>
<td>POWER_DOWN_REG</td>
<td>1</td>
</tr>
<tr>
<td>PARAMETER_REG</td>
<td>1</td>
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<tr>
<td>REG_PRD</td>
<td>7</td>
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<tr>
<td>BASE_LAT</td>
<td>22</td>
</tr>
<tr>
<td>BASE_LONG</td>
<td>23</td>
</tr>
<tr>
<td>REG_DIST</td>
<td>11</td>
</tr>
<tr>
<td>SRCH_WIN_A</td>
<td>4</td>
</tr>
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</table>

(continues on next page)
### Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRCH_WIN_N</td>
<td>4</td>
</tr>
<tr>
<td>SRCH_WIN_R</td>
<td>4</td>
</tr>
<tr>
<td>NGHBR_MAX_AGE</td>
<td>4</td>
</tr>
<tr>
<td>PWR_REP_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>PWR_REP_FRAMES</td>
<td>4</td>
</tr>
<tr>
<td>PWR_THRESH_ENABLE</td>
<td>1</td>
</tr>
<tr>
<td>PWR_PERIOD_ENABLE</td>
<td>1</td>
</tr>
<tr>
<td>PWR_REP_DELAY</td>
<td>5</td>
</tr>
<tr>
<td>RESCAN</td>
<td>1</td>
</tr>
<tr>
<td>T_ADD</td>
<td>6</td>
</tr>
<tr>
<td>T_DROP</td>
<td>6</td>
</tr>
<tr>
<td>T_COMP</td>
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<tr>
<td>T_TDROP</td>
<td>4</td>
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<td>EXT_SYS_PARAMETER</td>
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<tr>
<td>EXT_NGHBR_LIST</td>
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<td>GEN_NGHBR_LIST</td>
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<tr>
<td>GLOBAL_REDIRECT</td>
<td>1</td>
</tr>
<tr>
<td>PRI_NGHBR_LIST</td>
<td>1</td>
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<td>USER_ZONE_ID</td>
<td>1</td>
</tr>
<tr>
<td>EXT_GLOBAL_REDIRECT</td>
<td>1</td>
</tr>
<tr>
<td>EXT_CHAN_LIST</td>
<td>1</td>
</tr>
</tbody>
</table>

#### PILOT_PN
- Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

#### CONFIG_MSG_SEQ
- Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

#### SID
- System identification.

The base station shall set this field to the system identification number for this system (see 2.6.5.2).

#### NID
- Network identification.

This field serves as a sub-identifier of a system as defined by the owner of the SID.
The base station shall set this field to the network identification number for this network (see 2.6.5.2).

REG_ZONE - Registration zone.  
The base station shall set this field to its registration zone number (see 2.6.5.1.5).

TOTAL_ZONES - Number of registration zones to be retained.  
The base station shall set this field to the number of registration zones the mobile station is to retain for purposes of zone-based registration (see 2.6.5.1.5).  
If zone-based registration is to be disabled, the base station shall set this field to '000'.

ZONE_TIMER - Zone timer length.  
The base station shall set this field to the ZONE_TIMER value shown in Table 3.7.2.3.2.1-1 corresponding to the length of the zone registration timer to be used by mobile stations.

Table 3.7.2.3.2.1-1. Value of Zone Timer

<table>
<thead>
<tr>
<th>ZONE_TIMER Value (binary)</th>
<th>Timer Length (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>1</td>
</tr>
<tr>
<td>001</td>
<td>2</td>
</tr>
<tr>
<td>010</td>
<td>5</td>
</tr>
<tr>
<td>011</td>
<td>10</td>
</tr>
<tr>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>101</td>
<td>30</td>
</tr>
<tr>
<td>110</td>
<td>45</td>
</tr>
<tr>
<td>111</td>
<td>60</td>
</tr>
</tbody>
</table>

MULT_SIDS - Multiple SID storage indicator.  
If mobile stations may store entries of SID_NID_LIST containing different SIDs, the base station shall set this field to '1'; otherwise the base station shall set this field to '0'.

MULT_NIDS - Multiple NID storage indicator.  
If mobile stations may store multiple entries of SID_NID_LIST having the same SID (with different NIDs), the base station shall set this field to '1'; otherwise the base station shall set this field to '0'.

BASE_ID - Base station identification.
The base station shall set this field to its identification number.

**BASE_CLASS** - Base station class.

The base station shall set this field to the value shown in Table 3.7.2.3.2.1-2 corresponding to the class of service provided by this base station as follows:

For Band Class 1 and 4, the base station shall set this field to ‘0001’; otherwise, the base station shall set this field to ‘0000’.

**Table 3.7.2.3.2.1-2. Base Station Classes**

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Class of Service Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Public Macrocellular System</td>
</tr>
<tr>
<td>0001</td>
<td>Public PCS System</td>
</tr>
<tr>
<td></td>
<td>All other values are reserved.</td>
</tr>
</tbody>
</table>

**PAGE_CHAN** - Number of Paging Channels.

The base station shall set this field to the number of Paging Channels on this CDMA Channel. The base station shall not set this field to ‘000’.

**MAX_SLOT_CYCLE_INDEX** - Maximum slot cycle index.

The base station shall set this field to the SLOT_CYCLE_INDEX value corresponding to the maximum slot cycle length permitted (see 2.6.2.1.1).

**HOME_REG** - Home registration indicator.

If mobile stations that are not roaming (see 2.6.5.3) and have MOB_TERM_HOME equal to ‘1’ are to be enabled for autonomous registrations, the base station shall set this field to ‘1’. If such mobile stations are not to be enabled for autonomous registration, the base station shall set this field to ‘0’.

**FOR_SID_REG** - SID roamer registration indicator.

If mobile stations that are foreign SID roamers (see 2.6.5.3) and have MOB_TERM_FOR_SID equal to ‘1’ are to be enabled for autonomous registration, the base station shall set this field to ‘1’. If such mobile stations are not to be enabled for autonomous registration, the base station shall set this field to ‘0’.

**FOR_NID_REG** - NID roamer registration indicator.
If mobile stations that are foreign NID roamers (see 2.6.5.3) and have MOB_TERM_FOR_NID equal to ‘1’ are to be enabled for autonomous registration, the base station shall set this field to ‘1’. If such mobile stations are not to be enabled for autonomous registration, the base station shall set this field to ‘0’.

- **POWER_UP_REG** - Power-up registration indicator.
  
  If mobile stations enabled for autonomous registration are to register immediately after powering on and receiving the system overhead messages, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **POWER_DOWN_REG** - Power-down registration indicator.
  
  If mobile stations enabled for autonomous registration are to register immediately before powering down, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **PARAMETER_REG** - Parameter-change registration indicator.
  
  If mobile stations are to register on parameter change events as specified in 2.6.5.1.6, the base station shall set this field to ‘1’. If not, the base station shall set this field to ‘0’.

- **REG_PRD** - Registration period.
  
  If mobile stations are not to perform timer-based registration, the base station shall set this field to ‘0000000’. If mobile stations are to perform timer-based registration, the base station shall set this field to the value in the range 29 to 85 inclusive, such that the desired timer value is
  
  $\left[\frac{\text{REG_PRD}}{4}\right] \times 0.08 \text{ seconds}$.

- **BASE_LAT** - Base station latitude.
  
  The base station shall set this field to its latitude in units of 0.25 second, expressed as a two's complement signed number with positive numbers signifying North latitudes. The base station shall set this field to a value in the range -1296000 to 1296000 inclusive (corresponding to a range of -90° to +90°).

- **BASE_LONG** - Base station longitude.
  
  The base station shall set this field to its longitude in units of 0.25 second, expressed as a two's complement signed number with positive numbers signifying East longitude. The base station shall set this field to a value in the range -2592000 to 2592000 inclusive (corresponding to a range of -180° to +180°).

- **REG_DIST** - Registration distance.
  
  If mobile stations are to perform distance-based registration, the base station shall set this field to the non-zero “distance” beyond which the mobile station is to re-register (see 2.6.5.1.4). If mobile stations are not to perform distance-based registration, the base station shall set this field to 0.
SRCH_WIN_A - Search window size for the Active Set and Candidate Set.

The base station shall set this field to the value shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Active Set and Candidate Set.

SRCH_WIN_N - Search window size for the Neighbor Set.

The base station shall set this field to the value shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Neighbor Set.

SRCH_WIN_R - Search window size for the Remaining Set.

The base station shall set this field to the value shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Remaining Set.

NGHBR_MAX_AGE - Neighbor Set maximum AGE.

The base station shall set this field to the maximum AGE value beyond which mobile stations are to drop members from the Neighbor Set (see 2.6.6.2.6.3).

PWR_REP_THRESH - Power control reporting threshold.

The base station shall set this field to the number of bad frames (see [2]) to be received in a measurement period on the channel which carries the Power Control Subchannel before mobile stations are to generate a Power Measurement Report Message (see 2.6.4.1.1). If the base station sets PWR_THRESH_ENABLE to ‘1’, it shall not set this field to ‘00000’.

PWR_REP_FRAMES - Power control reporting frame count.

The base station shall set this field to the value such that the number given by

\[
\left\lfloor 2^{(\text{PWR_REP_FRAMES}/2)} \times 5 \right\rfloor \text{ frames}
\]

is the number of frames over which mobile stations are to count frame errors.

PWR_THRESH_ENABLE - Threshold report mode indicator.

If mobile stations are to generate threshold Power Measurement Report Messages, the base station shall set this field to ‘1’. If mobile stations are not to generate threshold Power Measurement Report Messages, the base station shall set this field to ‘0’.

PWR_PERIOD_ENABLE - Periodic report mode indicator.

If mobile stations are to generate periodic Power Measurement Report Messages, the base station shall set this field to ‘1’. If mobile stations are not to generate periodic Power Measurement Report Messages, the base station shall set this field to ‘0’.

PWR_REP_DELAY - Power report delay.
The period that mobile stations wait following a Power Measurement Report Message before restarting frame counting for power control purposes.

The base station shall set this field to the power report delay value, in units of 4 frames (see 2.6.4.1.1).

RESCAN - Rescan indicator.

If mobile stations are to re-initialize and re-acquire the system upon receiving this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

T_ADD - Pilot detection threshold.

This value is used by the mobile station to trigger the transfer of a pilot from the Neighbor Set or Remaining Set to the Candidate Set (see 2.6.6.2.6) and to trigger the sending of the Pilot Strength Measurement Message initiating the handoff process (see 2.6.6.2.5.2).

The base station shall set this field to the pilot detection threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\].

T_DROP - Pilot drop threshold.

This value is used by mobile stations to start a handoff drop timer for pilots in the Active Set and the Candidate Set (see 2.6.6.2.3).

The base station shall set this field to the pilot drop threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\].

T_COMP - Active Set versus Candidate Set comparison threshold.

Mobile stations transmit a Pilot Strength Measurement Message when the strength of a pilot in the Candidate Set exceeds that of a pilot in the Active Set by this margin (see 2.6.6.2.5.2).

The base station shall set this field to the threshold Candidate Set pilot to Active Set pilot ratio, in units of 0.5 dB.

T_TDROP - Drop timer value.

Timer value after which an action is taken by mobile stations for a pilot that is a member of the Active Set or Candidate Set, and whose strength has not become greater than T_DROP. If the pilot is a member of the Active Set, a Pilot Strength Measurement Message is issued. If the pilot is a member of the Candidate Set, it will be moved to the Neighbor Set.

The base station shall set this field to the T_TDROP value shown in Table 2.6.6.2.3-1 corresponding to the drop timer value to be used by mobile stations.

EXT_SYS_PARAMETER - Extended System Parameters Message indicator.

The base station shall set this field to ‘1’.
EXT_NGHBR_LIST - *Extended Neighbor List Message* indicator.

The base station sets this field to ‘1’ when it sends the *Extended Neighbor List Message* on the Paging Channel; otherwise the base station sets this field to ‘0’.

If the base station is operating in Band Class 1, Band Class 3, or Band Class 4, it shall set this field to ‘1’. If the base station is operating in Band Class 0, it shall set this field to ‘0’.

GEN_NGHBR_LIST - *General Neighbor List Message* indicator.

If the base station is sending the *General Neighbor List Message* on the Paging Channel, it shall set this field to ‘1’; otherwise, it shall set this field to ‘0’.

If the base station is operating in Band Class 2, Band Class 5, Band Class 6, Band Class 7, Band Class 8, or Band Class 9, and if EXT_NGHBR_LIST is set to ‘0’, the base station shall set this field to ‘1’.

GLOBAL_REDIRECT - *Global Service Redirection Message* indicator.

If the base station is sending the *Global Service Redirection Message* on the Paging Channel, it shall set this field to ‘1’; otherwise, it shall set this field to ‘0’.

PRI_NGHBR_LIST - *Private Neighbor List Message* indicator.

If the base station is sending the *Private Neighbor List Message* on the Paging Channel, it shall set this field to ‘1’; otherwise, it shall set this field to ‘0’.

USER_ZONE_ID - *User Zone Identification Message* indicator.

If the base station is sending the *User Zone Identification Message* on the Paging Channel, it shall set this field to ‘1’; otherwise, it shall set this field to ‘0’.

EXT_GLOBAL_REDIRECT - Extended *Global Service Redirection Message* indicator.

If the base station is sending the *Extended Global Service Redirection Message* on the Paging Channel, it shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

EXT_CHAN_LIST - Extended CDMA Channel List Message indicator.

The base station shall set this field to ‘1’, if the *Extended Channel List Message* is sent on the Paging Channel, otherwise, it shall set this field to ‘0’.
### 3.7.2.3.2.2 Access Parameters Message

**MSG_TAG:** APM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>ACC_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>ACC_CHAN</td>
<td>5</td>
</tr>
<tr>
<td>NOM_PWR</td>
<td>4</td>
</tr>
<tr>
<td>INIT_PWR</td>
<td>5</td>
</tr>
<tr>
<td>PWR_STEP</td>
<td>3</td>
</tr>
<tr>
<td>NUM_STEP</td>
<td>4</td>
</tr>
<tr>
<td>MAX_CAP_SZ</td>
<td>3</td>
</tr>
<tr>
<td>PAM_SZ</td>
<td>4</td>
</tr>
<tr>
<td>PSIST(0-9)</td>
<td>6</td>
</tr>
<tr>
<td>PSIST(10)</td>
<td>3</td>
</tr>
<tr>
<td>PSIST(11)</td>
<td>3</td>
</tr>
<tr>
<td>PSIST(12)</td>
<td>3</td>
</tr>
<tr>
<td>PSIST(13)</td>
<td>3</td>
</tr>
<tr>
<td>PSIST(14)</td>
<td>3</td>
</tr>
<tr>
<td>PSIST(15)</td>
<td>3</td>
</tr>
<tr>
<td>MSG_PSIST</td>
<td>3</td>
</tr>
<tr>
<td>REG_PSIST</td>
<td>3</td>
</tr>
<tr>
<td>PROBE_PN_RAN</td>
<td>4</td>
</tr>
<tr>
<td>ACC_TMO</td>
<td>4</td>
</tr>
<tr>
<td>PROBE_BKOFF</td>
<td>4</td>
</tr>
<tr>
<td>BKOFF</td>
<td>4</td>
</tr>
</tbody>
</table>

(continues on next page)
PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

ACC_MSG_SEQ - Access parameters message sequence number.

The base station shall set this field to ACC_CONFIG_SEQ (see 3.6.2.2).

ACC_CHAN - Number of Access Channels.

The base station shall set this field to one less than the number of Access Channels associated with this Paging Channel.

NOM_PWR - Nominal transmit power offset.

The base station shall set this field to the correction factor to be used by mobile stations in the open loop power estimate, expressed as a two's complement value in units of 1 dB (see [2]).

INIT_PWR - Initial power offset for access.

The base station shall set this field to the correction factor to be used by mobile stations in the open loop power estimate for the initial transmission on an Access Channel, expressed as a two's complement value in units of 1 dB (see [2]).

PWR_STEP - Power increment.

The base station shall set this field to the value by which mobile stations are to increase their transmit power between successive access probes in an access probe sequence, in units of 1 dB.

NUM_STEP - Number of access probes.

The base station shall set this field to one less than the maximum number of access probes mobile stations are to transmit in a single access probe sequence.

MAX_CAP_SZ - Maximum Access Channel message capsule size.

The base station shall set this field to the value in the range 0 to 7, three less than the maximum number of Access Channel frames in an Access Channel message capsule.
PAM_SZ - Access Channel preamble length.

The base station shall set this field to one less than the number of Access Channel frames that mobile stations are to transmit in each Access Channel preamble.

PSIST(0-9) - Persistence value for access overload classes 0 through 9.

If mobile stations in access overload classes 0 through 9 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111111’.

PSIST(10) - Persistence value for access overload class 10 (test mobile stations).

If mobile stations in access overload class 10 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

PSIST(11) - Persistence value for access overload class 11 (emergency mobile stations).

If mobile stations in access overload class 11 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

PSIST(12) - Persistence value for access overload class 12.

If mobile stations in access overload class 12 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

PSIST(13) - Persistence value for access overload class 13.

If mobile stations in access overload class 13 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

PSIST(14) - Persistence value for access overload class 14.

If mobile stations in access overload class 14 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

PSIST(15) - Persistence value for access overload class 15.
If mobile stations in access overload class 15 are permitted to transmit requests on the Access Channel, the base station shall set this field to the persistence value to be used. If such mobile stations are not permitted to transmit requests on the Access Channel, the base station shall set this field to ‘111’.

**MSG_PSIST** - Persistence modifier for Access Channel attempts for message transmissions.

A mobile station multiplies its transmission probability by $2^{-\text{MSG_PSIST}}$ for such attempts.

The base station shall set this field to the persistence modifier for Access Channel attempts for message transmissions.

**REG_PSIST** - Persistence modifier for Access Channel attempts for registrations which are not responses to the Registration Request Order.

A mobile station multiplies its transmission probability by $2^{-\text{REG_PSIST}}$ for such attempts.

The base station shall set this field to the persistence modifier for Access Channel attempts for registrations which are not responses to the Registration Request Order.

**PROBE_PN_RAN** - Time randomization for Access Channel probes.

A mobile station delays its transmission from System Time by RN PN chips, where RN is a number determined by hashing between 0 and $2^{\text{PROBE_PN_RAN}} - 1$ PN chips.

The base station shall set this field to the value in the range 0 to 9 inclusive such that the time randomization range is $2^{\text{PROBE_PN_RAN}} - 1$ PN chips.

**ACC_TMO** - Acknowledgment timeout.

The base station shall set this field to two less than the length of time mobile stations are to wait after the end of an Access Channel transmission before determining that the base station did not receive the transmission, in units of 80 ms.

**PROBE_BKOFF** - Access Channel probe backoff range.

The base station shall set this field to one less than the maximum number of slots mobile stations are to delay due to random backoff between consecutive access probes.

**BKOFF** - Access Channel probe sequence backoff range.

The base station shall set this field to one less than the maximum number of slots mobile stations are to delay due to random backoff between successive access probe sequences and before the first access probe sequence of a response access.

**MAX_REQ_SEQ** - Maximum number of access probe sequences for an Access Channel request.
The base station shall set this field to the maximum number of access probe sequences mobile stations are to transmit for an Access Channel request. The base station shall set this field to a value greater than 0.

MAX_RSP_SEQ - Maximum number of access probe sequences for an Access Channel response.

The base station shall set this field to the maximum number of access probe sequences mobile stations are to transmit for an Access Channel response. The base station shall set this field to a value greater than 0.

AUTH - Authentication mode.

If mobile stations are to include standard authentication data in Access Channel messages, the base station shall set this field to ‘01’. If mobile stations are not to include authentication data in Access Channel messages, the base station shall set this field to ‘00’. All other values are reserved.

RAND - Random challenge value.

If the AUTH field is set to ‘01’, the base station shall set this field to the random challenge value to be used by mobile stations for authentication. If the AUTH field is set to any other value, the base station shall omit this field.

NOM_PWR_EXT - Extended nominal transmit power.

If the base station is operating in Band Class 0 or Band Class 3, it shall set this field to ‘0’; otherwise, it shall set this field as follows:

If the base station is operating in a band class other than Band Class 0 or Band Class 3, then otherwise, it shall set this field to ‘1’.

If the correction factor to be used by mobile stations in the open loop power estimate is between -24 dB and -9 dB inclusive, the base station shall set this field to ‘1’; otherwise (the correction factor is in the range -8 dB to 7 dB inclusive), the base station shall set this field to ‘0’.
3GPP2 C.S0005-0

3.7.2.3.2.3 Neighbor List Message

**MSG_TAG:** NLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>PILOT_INC</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBR_CONFIG</td>
<td>3</td>
</tr>
<tr>
<td>NGHBR_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

**PILOT_PN** - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

**CONFIG_MSG_SEQ** - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

**PILOT_INC** - Pilot PN sequence offset index increment.

A mobile station searches for Remaining Set pilots at pilot PN sequence index values that are multiples of this value.

The base station shall set this field to the pilot PN sequence increment, in units of 64 PN chips, that mobile stations are to use for searching the Remaining Set. The base station should set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

The base station shall set this field to a value in the range 1 to 15 inclusive.

The base station shall include one occurrence of the following two-field record for each member mobile stations are to place in their Neighbor Sets. The base station may include zero or more occurrences of the following record.

**NGHBR_CONFIG** - Neighbor configuration.

The base station shall set this field to the value shown in Table 3.7.2.3.2.3-1 corresponding to the configuration of this neighbor.
Table 3.7.2.3.2.3-1. Neighbor Configuration Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Neighbor Configuration</th>
</tr>
</thead>
</table>
| 000            | The neighbor base station has the same number of frequencies having Paging Channels as the current base station.  
The neighbor base station has a CDMA frequency assignment that is same as this current CDMA frequency assignment and with the same number of Paging Channels.  
The position of the neighbor CDMA frequency assignment in the *CDMA Channel List Message* or the *Extended CDMA Channel List Message* transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the *CDMA Channel List Message* or the *Extended CDMA Channel List Message* transmitted by the current base station. |
| 001            | The neighbor base station has the same number of frequencies having Paging Channels as the current base station.  
The neighbor base station has a CDMA frequency assignment that is same as this current CDMA frequency assignment but possibly with a different number of Paging Channels.  
The position of the neighbor CDMA frequency assignment in the *CDMA Channel List Message* or the *Extended CDMA Channel List Message* transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the *CDMA Channel List Message* or the *Extended CDMA Channel List Message* transmitted by the current base station.  
This corresponding neighbor CDMA frequency assignment does have a Primary Paging Channel. |
| 010            | The neighbor base station may have a different number of frequencies having Paging Channels as the current base station.  
The neighbor base station has a Primary Paging Channel on the first CDMA Channel listed in the *CDMA Channel List Message* or the *Extended CDMA Channel List Message* transmitted by the current base station. |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>011</td>
<td>The neighbor base station configuration is unknown but the neighbor base station has a Pilot Channel on the CDMA frequency assignment that is the same as this current CDMA frequency assignment.</td>
</tr>
<tr>
<td>100-111</td>
<td>Reserved.</td>
</tr>
</tbody>
</table>

NGHBR_PN - Neighbor pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this neighbor, in units of 64 PN chips.
3.7.2.3.2.4 CDMA Channel List Message

MSG_TAG: CCLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA_FREQ</td>
<td>11</td>
</tr>
</tbody>
</table>

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

CDMA_FREQ - CDMA Channel frequency assignment.

The order in which occurrences of this field are included gives the designations of the supported CDMA Channels as CDMA Channel 1 through CDMA Channel N.

The base station shall include one occurrence of this field for each CDMA Channel containing a Paging Channel that is supported by this base station. If the supported CDMA Channels are in the preferred set of CDMA frequency assignments (see [2]), the base station shall include their occurrences of this field first.

The base station shall set each occurrence of this field to the CDMA channel number corresponding to the CDMA frequency assignment for that CDMA Channel (see [2]).
3.7.2.3.2.5 Reserved
No text.
3.7.2.3.2.6 Reserved

No text.
3.7.2.3.2.7 Order Message

MSG_TAG: ORDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDER</td>
<td>6</td>
</tr>
<tr>
<td>ADD_RECORD_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Order-specific fields (if used)</td>
<td>8 ( \times \text{ADD_RECORD_LEN} )</td>
</tr>
</tbody>
</table>

ORDER - Order code.

The base station shall set this field to the ORDER code (see 3.7.4) for this type of order.

ADD_RECORD_LEN - Additional record length.

The base station shall set this field to the number of octets in the order-specific fields included in this order record.

Order-specific fields - Order-specific fields.

The base station shall include order-specific fields as specified in 3.7.4 for this type of order.
3.7.2.3.2.8 Channel Assignment Message

MSG_TAG: CAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGN_MODE</td>
<td>3</td>
</tr>
<tr>
<td>ADD_RECORD_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Additional record fields</td>
<td>8 x ADD_RECORD_LEN</td>
</tr>
</tbody>
</table>

If ASSIGN_MODE = '000', the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN</td>
<td>8</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>4</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

If ASSIGN_MODE = '001', the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPOND</td>
<td>1</td>
</tr>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

If ASSIGN_MODE = '010', the additional record fields shall be:
If `ASSIGN_MODE = '011'`, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>VMAC</td>
<td>3</td>
</tr>
<tr>
<td>ANALOG_CHAN</td>
<td>11</td>
</tr>
<tr>
<td>SCC</td>
<td>2</td>
</tr>
<tr>
<td>MEM</td>
<td>1</td>
</tr>
<tr>
<td>AN_CHAN_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>DSCC_MSB</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
</tbody>
</table>
If ASSIGN_MODE = ‘100’, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
<tr>
<td>BYPASS_ALERT_ANSWER</td>
<td>1</td>
</tr>
<tr>
<td>DEFAULT_CONFIG</td>
<td>3</td>
</tr>
<tr>
<td>GRANTED_MODE</td>
<td>2</td>
</tr>
<tr>
<td>CODE_CHAN</td>
<td>8</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>4</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>2</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

If ASSIGN_MODE = ‘101’, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPOND</td>
<td>1</td>
</tr>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

ASSIGN_MODE - Assignment mode.

The base station shall set this field to the value shown in Table 3.7.2.3.2.8-1 corresponding to the assignment mode for this assignment.
Table 3.7.2.3.2.8-1. Assignment Mode

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Assignment Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Traffic Channel Assignment (Band Class 0 only)</td>
</tr>
<tr>
<td>001</td>
<td>Paging Channel Assignment (Band Class 0 only)</td>
</tr>
<tr>
<td>010</td>
<td>Acquire Analog System</td>
</tr>
<tr>
<td>011</td>
<td>Analog Voice Channel Assignment</td>
</tr>
<tr>
<td>100</td>
<td>Extended Traffic Channel Assignment</td>
</tr>
<tr>
<td>101</td>
<td>Extended Paging Channel Assignment</td>
</tr>
</tbody>
</table>

All other values are reserved.

ADD_RECORD_LEN - Additional record length.
The base station shall set this field to the number of octets in the additional record fields included in this assignment record.

Additional record fields - Additional record fields.
The additional record fields are determined by the value of ASSIGN_MODE, as described below.

If the ASSIGN_MODE field is set to '000', the base station shall include the following fields:

FREQ_INCL - Frequency included indicator.
If the CDMA_FREQ field is included in this assignment record, the base station shall set this bit to '1'. If the CDMA_FREQ field is not included in this assignment record, the base station shall set this bit to '0'.

CODE_CHAN - Code channel.
The base station shall set this field to the code channel index (see [2]) in the range 1 to 63 inclusive that the mobile station is to use on the Fundamental Channel of the Forward Traffic Channel.

CDMA_FREQ - Frequency assignment.
If the FREQ_INCL bit is set to '1', the base station shall set this field to the CDMA Channel number corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel the mobile station is to use. If the FREQ_INCL bit is set to '0', the base station shall omit this field.
FRAME_OFFSET - Frame offset.

The Forward and Reverse Traffic Channel frames are delayed by FRAME_OFFSET × 1.25 ms relative to system timing (see [2]).

The base station shall set this field to the Forward and Reverse Traffic Channel frame offset.

ENCRYPT_MODE - Message encryption mode.

The base station shall set this field to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8-2 corresponding to the encrypting mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2.

Table 3.7.2.3.2.8-2. Message Encryption Modes

<table>
<thead>
<tr>
<th>ENCRYPT_MODE Field (binary)</th>
<th>Encryption Mode Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Encryption disabled</td>
</tr>
<tr>
<td>01</td>
<td>Basic encryption of call control messages</td>
</tr>
<tr>
<td>10</td>
<td>Enhanced encryption of call control messages</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding ADD_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to '0'.

If the ASSIGN_MODE field is set to ‘001’, the base station shall include the following fields:

RESPOND - Respond on new Access Channel indicator.

If the mobile station is to retransmit an Origination Message or Page Response Message after processing this channel assignment, the base station shall set this field to ‘1’. The base station may set this field to ‘0’ only in response to a Page Response Message.

FREQ_INCL - Frequency included indicator.

If the CDMA_FREQ field is included in this assignment record, the base station shall set this bit to ‘1’. If the CDMA_FREQ field is not included in this assignment record, the base station shall set this bit to ‘0’.
CDMA_FREQ - Frequency assignment.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

PILOT_PN - Pilot PN sequence offset index.

The base station shall include one occurrence of this field for each base station whose Paging Channel may be monitored by the mobile station. For each occurrence, the base station shall set this field to the pilot PN sequence offset for a base station, in units of 64 PN chips. The base station having this pilot PN sequence offset should support a Primary Paging Channel with the same Paging Channel rate as the current base station.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields, after the preceding ADD_RECORD_LEN field through this RESERVED field, equal to an integer number of octets. The base station shall set these bits to ‘0’.

If the ASSIGN_MODE field is set to ‘010’, the base station shall include the following fields:

RESPOND - Respond on analog control channel indicator.

If the mobile station is to retransmit an Origination Message or Page Response Message on the analog control channel (see [6]) after processing this channel assignment, the base station shall set this field to ‘1’. The base station may set this field to ‘0’ only in response to a Page Response Message.

ANALOG_SYS - System indicator.

If USE_ANALOG_SYS is equal to ‘0’, the base station shall set this field to ‘0’. Otherwise, the base station shall set this field to ‘0’ if the mobile station is to use analog system A, or to ‘1’ if the mobile station is to use analog system B.

USE_ANALOG_SYS - Use analog system indicator.

The base station shall set this field to ‘1’ to direct the mobile station to the analog system specified by ANALOG_SYS; otherwise, the base station shall set this field to ‘0’.

BAND_CLASS - Band class.

The base station shall set this field according to values defined in [38].

If the ASSIGN_MODE field is set to ‘011’, the base station shall include the following fields:
SID - System identification of the analog system.

The base station shall set this field to the system identification of the analog system supporting the assigned voice channel for this assignment (see [6]).

VMAC - Voice mobile station attenuation code.

The base station shall set this field to the mobile station power level associated with the assigned voice channel for this assignment (see [6]).

ANALOG_CHAN - Voice channel number.

The base station shall set this field to the voice channel number for this assignment (see [6]).

SCC - SAT color code.

The base station shall set this field to the supervisory audio tone color code associated with the assigned voice channel. If the assignment is to a narrow analog channel, the base station shall set this field to the two least significant bits of the DSCC.

MEM - Message encryption mode indicator.

If analog control message encryption is to be enabled on the assigned forward and reverse analog voice channels, the base station shall set this bit to ‘1’; otherwise, the base station shall set this bit to ‘0’.

AN_CHAN_TYPE - Analog voice channel type.

The base station shall set this field to the analog channel type as specified in Table 3.7.3.3.2.6-1. If the mobile station does not have narrow analog capability, the base station shall set this field to ‘00’.

DSCC_MSB - Digital supervisory audio tone color code most significant bit.

The base station shall set this field to ‘0’ when directing handoff to a wide analog channel. The base station shall set this field to the most significant bit of the DSCC when directing handoff to a narrow analog channel.

BAND_CLASS - Band class.

The base station shall set this field according to values defined in [38].

If the ASSIGN_MODE field is set to ‘100’, the base station shall include the following fields:

FREQ_INCL - Frequency included indicator.

If the BAND_CLASS and CDMA_FREQ fields are included in this assignment record, the base station shall set this bit to ‘1’. If the BAND_CLASS and CDMA_FREQ fields are not included in this assignment record, the base station shall set this bit to ‘0’.
RESERVED - Reserved bits.

The base station shall set this field to ‘000’.

BYPASS_ALERT-ANSWER - Bypass alert indicator.

If the MOB_P_REV of the current band class of the mobile station is less than or equal to three, the base station shall set this field to ‘0’; otherwise, the base station shall set this field as follows.

If the base station has received a Page Response Message that specifies a packet data service option or other non-voice service option, and the mobile station is to bypass the Waiting for Order Substate and the Waiting for Mobile Station Answer Substate, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

DEFAULT_CONFIG - Default Configuration.

If the GRANTED_MODE field is set to ‘00’, the base station shall set this field as specified in Table 3.7.2.3.2.8-3 to indicate an initial multiplex option and Radio Configuration for the Forward and Reverse Traffic Channels.

Table 3.7.2.3.2.8-3. Default Configuration

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Default Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Multiplex Option 1 and Radio Configuration 1 for both the Forward Traffic Channel and the Reverse Traffic Channel</td>
</tr>
<tr>
<td>001</td>
<td>Multiplex Option 2 and Radio Configuration 2 for both the Forward Traffic Channel and the Reverse Traffic Channel</td>
</tr>
<tr>
<td>010</td>
<td>Multiplex Option 1 and Radio Configuration 1 for the Forward Traffic channel; Multiplex Option 2 and Radio Configuration 2 for the Reverse Traffic channel</td>
</tr>
<tr>
<td>011</td>
<td>Multiplex Option 2 and Radio Configuration 2 for the Forward Traffic channel; Multiplex Option 1 and Radio Configuration 1 for the Reverse Traffic channel</td>
</tr>
</tbody>
</table>

All other values are reserved.
GRANTED_MODE - Granted mode.

The base station shall set this field to '00' to indicate that the mobile station is to use an initial service configuration consisting of the multiplex option and Radio Configuration defined by the DEFAULT_CONFIG field for the Forward and Reverse Traffic Channels, and to indicate that service negotiation is to take place before the base station sends the first Service Connect Message.

The base station shall set this field to '01' to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the Origination Message or Page Response Message, and to indicate that service negotiation is to take place before the base station sends the first Service Connect Message.

The base station shall set this field to '10' to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the Origination Message or Page Response Message, and to indicate that service negotiation is not to take place before the base station sends the first Service Connect Message.

CODE_CHAN - Code channel.

The base station shall set this field to the code channel index (see [2]) in the range 1 to 63 inclusive that the mobile station is to use on the Fundamental Channel of the Forward Traffic Channel.

FRAME_OFFSET - Frame offset.

The Forward and Reverse Traffic Channel frames are delayed FRAME_OFFSET × 1.25 ms relative to system timing (see [2]).

The base station shall set this field to the Forward and Reverse Traffic Channel frame offset.

ENCRYPT_MODE - Message encryption mode.

The base station shall set this field to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8-2 corresponding to the encrypting mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2.

BAND_CLASS - Band class.

If the FREQ_INCL bit is set to '1', the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel the mobile station is to use. If the FREQ_INCL bit is set to '0', the base station shall omit this field.
CDMA_FREQ - Frequency assignment.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding ADD_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to ‘0’.

If the ASSIGN_MODE field is set to ‘101’, the base station shall include the following fields:

RESPOND - Respond on new Access Channel indicator.

If the mobile station is to retransmit an Origination Message or Page Response Message after processing this channel assignment, the base station shall set this field to ‘1’. The base station may set this field to ‘0’ only in response to a Page Response Message.

FREQ_INCL - Frequency included indicator.

If the BAND_CLASS and CDMA_FREQ fields are included in this assignment record, the base station shall set this bit to ‘1’. If the BAND_CLASS and CDMA_FREQ fields are not included in this assignment record, the base station shall set this bit to ‘0’.

BAND_CLASS - Band class.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

CDMA_FREQ - Frequency assignment.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

PILOT_PN - Pilot PN sequence offset index.
The base station shall include one occurrence of this field for each base station whose Paging Channel may be monitored by the mobile station. For each occurrence, the base station shall set this field to the pilot PN sequence offset for a base station, in units of 64 PN chips. The base station having this pilot PN sequence offset should support a Primary Paging Channel with the same Paging Channel rate as the current base station.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding ADD_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.2.3.2.9 Data Burst Message

MSG_TAG: DBM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSG_NUMBER</td>
<td>8</td>
</tr>
<tr>
<td>BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>NUM_MSGS</td>
<td>8</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

| CHARi         | 8             |

- **MSG_NUMBER** - Message number.
  The base station shall set this field to the number of this message within the data burst stream.

- **BURST_TYPE** - Data burst type.
  The base station shall set the value of this field for the type of this data burst as defined in [38]. If the mobile station sets this field equal to ‘111110’, it shall set the first two CHARi fields of this message equal to EXTENDED_BURST_TYPE_INTERNATIONAL as described in the definition of CHARi below. If the base station sets this field equal to ‘111111’, it shall set the first two CHARi fields of this message equal to the EXTENDED_BURST_TYPE as described in the definition of CHARi below.

- **NUM_MSGS** - Number of messages in the data burst stream.
  The base station shall set this field to the number of messages in this data burst stream.

- **NUM_FIELDS** - Number of characters in this message.
  The base station shall set this field to the number of occurrences of the CHARi field included in this message.

- **CHARi** - Character.
  The base station shall include NUM_FIELDS occurrences of this field. The base station shall set these fields to the corresponding octet of the data burst stream.
If the BURST_TYPE field of this message is equal to ‘111110’, the first two CHARi octets shall represent a 16 bit EXTENDED_BURST_TYPE_INTERNATIONAL field, which is encoded as shown below. The first ten bits of this field contain a binary mapping of the Mobile Country Code (MCC) associated with the national standards organization administering the use of the remaining octets of the message. Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the EXTENDED_BURST_TYPE_INTERNATIONAL field shall specify the COUNTRY_BURST_TYPE. The mobile station shall set the value of the COUNTRY_BURST_TYPE according to the type of this data burst as defined in standards governed by the country where this data burst type is to be used.

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Country Code</td>
<td>10</td>
</tr>
<tr>
<td>COUNTRY_BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>$8 \times (\text{NUM}_\text{FIELDS} - 2)$</td>
</tr>
</tbody>
</table>

If the BURST_TYPE field of this message is equal to ‘111111’, the first two CHARi octets shall represent a single, 16 bit EXTENDED_BURST_TYPE field, as shown below. The base station shall set the value of the EXTENDED_BURST_TYPE according to the type of this data burst as defined in [38].

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED_BURST_TYPE</td>
<td>16</td>
</tr>
<tr>
<td>(first two CHARi fields)</td>
<td></td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>$8 \times (\text{NUM}_\text{FIELDS} - 2)$</td>
</tr>
</tbody>
</table>
3.7.2.3.2.10 Authentication Challenge Message

MSG_TAG: AUCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANDU</td>
<td>24</td>
</tr>
</tbody>
</table>

RANDU - Random challenge data.

The base station shall set this field to the random challenge data (see 2.3.12.1.4).
3.7.2.3.2.11 SSD Update Message

MSG_TAG: SSDUM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANDSSD</td>
<td>56</td>
</tr>
</tbody>
</table>

RANDSSD - Random data for the computation of SSD.
The base station shall set this field as specified in 2.3.12.1.5.
3.7.2.3.2.12 Feature Notification Message

MSG_TAG: FNM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELEASE</td>
<td>1</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

RELEASE - Origination completion indicator.

The base station shall set this field to ‘1’ if this message is used to complete an origination request from the mobile station (see 2.6.3.5); otherwise, the base station shall set this field to ‘0’.

The base station shall include occurrences of the following three-field record as specified in 3.7.5.

RECORD_TYPE - Information record type.

The base station shall set this field as specified in 3.7.5.

RECORD_LEN - Information record length.

The base station shall set this field to the number of octets in the type-specific fields included in this record.

Type-specific fields - Type-specific fields.

The base station shall include type-specific fields as specified in 3.7.5.
3.7.2.3.2.13 Extended System Parameters Message

MSG_TAG: ESPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>DELETE_FOR_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>USE_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>PREF_MSID_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>MCC</td>
<td>10</td>
</tr>
<tr>
<td>IMSI_11_12</td>
<td>7</td>
</tr>
<tr>
<td>TMSI_ZONE_LEN</td>
<td>4</td>
</tr>
<tr>
<td>TMSI_ZONE</td>
<td>$8 \times$ TMSI_ZONE_LEN</td>
</tr>
<tr>
<td>BCAST_INDEX</td>
<td>3</td>
</tr>
<tr>
<td>IMSI_T_SUPPORTED</td>
<td>1</td>
</tr>
<tr>
<td>P_REV</td>
<td>8</td>
</tr>
<tr>
<td>MIN_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SOFT_SLOPE</td>
<td>6</td>
</tr>
<tr>
<td>ADD_INTERCEPT</td>
<td>6</td>
</tr>
<tr>
<td>DROP_INTERCEPT</td>
<td>6</td>
</tr>
<tr>
<td>PACKET_ZONE_ID</td>
<td>8</td>
</tr>
<tr>
<td>MAX_NUM_ALT_SO</td>
<td>3</td>
</tr>
<tr>
<td>RESELECT_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>EC_THRESH</td>
<td>0 or 5</td>
</tr>
<tr>
<td>EC_IO_THRESH</td>
<td>0 or 5</td>
</tr>
<tr>
<td>PILOT_REPORT</td>
<td>1</td>
</tr>
<tr>
<td>NGHBR_SET_ENTRY_INFO</td>
<td>1</td>
</tr>
<tr>
<td>ACC_ENT_HO_ORDER</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NGHBR_SET_ACCESS_INFO</td>
<td>1</td>
</tr>
<tr>
<td>ACCESS_HO</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ACCESS_HO_MSG_RSP</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

(continues on next page)
### Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS_PROBE_HO</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ACC_HO_LIST_UPD</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ACC_PROBE_HO_OTHER_MSG</td>
<td>0 or 1</td>
</tr>
<tr>
<td>MAX_NUM_PROBE_HO</td>
<td>0 or 3</td>
</tr>
<tr>
<td>NGHBR_SET_SIZE</td>
<td>0 or 6</td>
</tr>
</tbody>
</table>

If NGHBR_SET_ENTRY_INFO = 1, NGHBR_SET_SIZE occurrences of the following field; otherwise, no occurrence of the following field:

| ACCESS_ENTRY_HO               | 1             |

If NGHBR_SET_ACCESS_INFO = 1, NGHBR_SET_SIZE occurrences of the following field; otherwise, no occurrence of the following field:

| ACCESS_HO_ALLOWED            | 1             |

| BROADCAST_GPS_ASST           | 1             |
| QPCH_SUPPORTED               | 1             |
| NUM_QPCH                     | 0 or 2        |
| QPCH_RATE                    | 0 or 1        |
| QPCH_POWER_LEVEL_PAGE        | 0 or 3        |
| QPCH_CCI_SUPPORTED           | 0 or 1        |
| QPCH_POWER_LEVEL_CONFIG      | 0 or 3        |
| SDB_SUPPORTED                | 1             |
| RLGAIN_TRAFFIC_PILOT         | 6             |
| REV_PWR_CNTL_DELAY_INCL      | 1             |
| REV_PWR_CNTL_DELAY           | 0 or 2        |

- **PILOT_PN** - Pilot PN sequence offset index.
  The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

- **CONFIG_MSG_SEQ** - Configuration message sequence number.
  The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

- **DELETE_FOR_TMSI** - Delete foreign TMSI.
The base station shall set this field to ‘1’ to cause the mobile station to delete its TMSI if the TMSI was assigned in a different TMSI zone from that specified by the TMSI_ZONE field of this message; otherwise, the base station shall set this field to ‘0’.

**USE_TMSI** - Use TMSI indicator.

The base station shall set this field to the value shown in Table 3.7.2.3.2.13-1 corresponding to the type of MSID that the mobile station is to use on the Access Channel.

**PREF_MSID_TYPE** - Preferred Access Channel Mobile Station Identifier Type.

The base station shall set this field to the value shown in Table 3.7.2.3.2.13-1 corresponding to the type of MSID that the mobile station is to use on the Access Channel.

**Table 3.7.2.3.2.13-1. Preferred MSID Types**

<table>
<thead>
<tr>
<th>USE_TMSI (binary)</th>
<th>PREF_MSID_TYPE (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>00</td>
<td>IMSI_S and ESN</td>
</tr>
<tr>
<td>0</td>
<td>10</td>
<td>IMSI</td>
</tr>
<tr>
<td>0</td>
<td>11</td>
<td>IMSI_S and ESN</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>TMSI (valid TMSI is assigned); IMSI (TMSI not assigned)</td>
</tr>
<tr>
<td>1</td>
<td>11</td>
<td>TMSI (valid TMSI is assigned); IMSI_S and ESN (TMSI not assigned)</td>
</tr>
</tbody>
</table>

All other values are reserved.

**MCC** - Mobile Country Code.

The base station shall set this field to the MCC (see 2.3.1).

**IMSI_11_12** - 11th and 12th digits of the IMSI.

The base station shall set this field to the IMSI_11_12 (see 2.3.1).

**TMSI_ZONE_LEN** - TMSI zone length.

The base station shall set this field to the number of octets included in the TMSI_ZONE. The base station shall set this field to a value in the range 1 to 8 inclusive.

**TMSI_ZONE** - TMSI zone.

The base station shall set this field to the TMSI zone number as specified in [33].
BCAST_INDEX  -  Broadcast slot cycle index.

To enable periodic broadcast paging, the base station shall set this field to an unsigned 3-bit number in the range 1-7, equal to the broadcast slot cycle index as defined in 2.6.2.1.1.3.3. To disable periodic broadcast paging, the base station shall set this field to ‘000’.

IMSI_T_SUPPORTED  -  IMSI_T support indicator.

The base station shall set this field to ‘1’ to indicate support for a 15-digit IMSI_T addressing according to the CCITT recommendation E.212[21].

P_REV  -  Protocol revision level.

The base station shall set this field to ‘00000110’.

MIN_P_REV  -  Minimum protocol revision level.

The base station sets this field to prevent mobile stations which cannot be supported by the base station from accessing the system.

The base station shall set this field to the minimum protocol revision level that it supports. For Band Class 0 operation, the base station should set this field to a value of ‘00000010’ or greater. For Band Class 1 or Band Class 4 operation, the base station should set this field to a value of ‘00000011’ or greater. For Band Class 3 operation, the base station should set this field to a value of ‘00000001’ or greater. For Band Class 2 or Band Class 5 operation, the base station should set this field to a value of ‘00000101’ or greater. For Band Class 6, Band Class 7, Band Class 8, or Band Class 10 operation, the base station should set this field to ‘00000110’.

SOFT_SLOPE  -  The slope in the inequality criterion for adding a pilot to the Active Set, or dropping a pilot from the Active Set (see 2.6.6.2.3 and 2.6.6.2.5.2).

The base station shall set this field as an unsigned binary number.

ADD_INTERCEPT  -  The intercept in the inequality criterion for adding a pilot to the Active Set (see 2.6.6.2.5.2).

The base station shall set this field as a two’s complement signed binary number, in units of dB.

DROP_INTERCEPT  -  The intercept in the inequality criterion for dropping a pilot from the Active Set (see 2.6.6.2.3).

The base station shall set this field as a two’s complement signed binary number, in units of dB.

PACKET_ZONE_ID  -  Packet data services zone identifier.

If the base station supports a packet data service zone, the base station shall set this field to its non-zero packet data services zone identifier.
If the base station does not support a packet data service zone, the base station shall set this field to ‘00000000’.

**MAX_NUM_ALT_SO** - Maximum number of alternative service options.

The base station shall set this field to the maximum number of alternative service option numbers that the mobile station is allowed to include in the *Origination Message* or the *Page Response Message*.

**RESELECT_INCLUDED** - System reselection parameters included.

If the base station is including system reselection parameters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**EC_THRESH** - Pilot power threshold.

If **RESELECT_INCLUDED** is set to ‘1’, the base station shall include the field **EC_THRESH** and set this field to:

\[
\left\lceil \frac{\text{pilot_power_threshold} + 115}{100} \right\rceil
\]

where \( \text{pilot_power_threshold} \) is the pilot power, \( E_c \), in dBm/1.23 MHz, below which the mobile station is to perform system reselection; otherwise, the base station shall omit this field.

**EC_IO_THRESH** - Pilot \( E_c/I_o \) threshold.

If **RESELECT_INCLUDED** is set to ‘1’, the base station shall include the field **EC_IO_THRESH** and set this field to:

\[
\left\lfloor \frac{-20 \times \log_{10}(\text{pilot_threshold})}{10} \right\rfloor
\]

where \( \text{pilot_threshold} \) is the pilot \( E_c/I_o \) below which the mobile station is to perform system reselection; otherwise, the base station shall omit this field.

**PILOT_REPORT** - Pilot reporting indicator.

The base station shall set this field to ‘1’ if the mobile station is to report the additional pilots which have pilot strengths exceeding \( T_{ADD} \) in all Access Channel messages. The base station shall set this field to ‘0’ if the mobile station is to report the additional pilots which have pilot strengths exceeding \( T_{ADD} \) only in the *Origination Message* and the *Page Response Message*.

**NGHBR_SET_ENTRY_INFO** - Neighbor Set access entry handoff information included indicator.

If the base station is including information on the Neighbor Set access entry handoff, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**ACC_ENT_HO_ORDER** - Access entry handoff permitted indicator.

If **NGHBR_SET_ENTRY_INFO** is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.
The base station shall set this field to ‘1’ if the mobile station is permitted to perform an access entry handoff after receiving a message while performing the Mobile Station Order and Message Processing Operation in the Mobile Station Idle State (see 2.6.2.4); otherwise, the base station shall set this field to ‘0’.

NGHBR_SET_ACCESS_INFO - Neighbor Set access handoff included indicator.

If the base station is including information on the Neighbor Set access handoff or access probe handoff, the base station shall set this field to ‘1’, otherwise, the base station shall set this field to ‘0’.

ACCESS_HO - Access handoff permitted indicator.

If NGHBR_SET_ACCESS_INFO is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if the mobile station is permitted to perform an access handoff (see 2.6.3.1.3.2); otherwise, the base station shall set this field to ‘0’.

ACCESS_HO_MSG_RSP - Access handoff permitted for message response indicator.

If ACCESS_HO is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if the mobile station is permitted to perform an access handoff after receiving a message and before responding to that message in the System Access State; otherwise, the base station shall set this field to ‘0’.

ACCESS_PROBE_HO - Access probe handoff permitted indicator.

If NGHBR_SET_ACCESS_INFO is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if the mobile station is permitted to perform an access probe handoff (see 2.6.3.1.3.3); otherwise, the base station shall set this field to ‘0’.

ACC_HO_LIST_UPD - Access handoff list update permitted indicator.

If ACCESS_PROBE_HO is included and is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if the mobile station is permitted to update the access handoff list during an access attempt (see 2.6.3.1.7.2); otherwise, the base station shall set this field to ‘0’.

ACC_PROBE_HO-
_OTHER_MSG - Access probe handoff permitted for messages other than the 
Origination Message and the Page Response Message.

If ACCESS_PROBE_HO is set to ‘1’, the base station shall 
include this field and set it as described below; otherwise, the 
base station shall omit this field.

The base station shall set this field to ‘1’ if the mobile station 
is permitted to perform an access probe handoff for messages 
other than the Origination Message and the Page Response 
Message. The base station shall set this field to ‘0’ if the 
mobile station is permitted to perform an access probe 
handoff only for the Origination Message and the Page 
Response Message. See 2.6.3.1.3.3.

MAX_NUM_PROBE_HO - Maximum number of times that the mobile station is 
permitted to perform an access probe handoff.

If ACCESS_PROBE_HO is set to ‘1’, the base station shall 
include this field and set it as described below; otherwise, the 
base station shall omit this field.

The base station shall set this field to the maximum number 
of times the mobile station is allowed to perform an access 
probe handoff within an access attempt minus one.

NGHBR_SET_SIZE - Size of the Neighbor Set.

If NGHBR_SET_ENTRY_INFO or NGHBR_SET_ACCESS_INFO 
is equal to ‘1’, the base station shall set this field to the 
number of pilots included in the Neighbor List Message, 
Extended Neighbor List Message, or General Neighbor List 
Message; otherwise, the base station shall omit this field.

If NGHBR_SET_ENTRY_INFO is equal to ‘1’, the base station shall include 
NGHBR_SET_SIZE occurrences of the following field:

ACCESS_ENTRY_HO - Access entry handoff permitted when entering the System 
Access State.

The base station shall set this field to ‘1’ if the mobile station 
is permitted to perform an access entry handoff to the base 
station associated with the corresponding pilot between the 
time it receives a message on the Paging Channel when in the 
Mobile Station Idle State and it enters the System Access State 
to respond to the message; otherwise, the base station shall 
set this field to ‘0’. The base station shall use the same order 
for the ACCESS_ENTRY_HO fields in this message as is used 
for pilots which are listed in the Neighbor List Message, 
Extended Neighbor List Message, or General Neighbor List 
Message. Specifically, the \(i^{th}\) occurrence of the 
ACCESS_ENTRY_HO field shall correspond the \(i^{th}\) pilot in the 
Neighbor List Message, Extended Neighbor List Message, or 
General Neighbor List Message.

If NGHBR_SET_ACCESS_INFO is equal to ‘1’, the base station shall include 
NGHBR_SET_SIZE occurrences of the following field:
ACCESS_HO_ALLOWED - Access handoff and access probe handoff permitted for the corresponding pilot while in the System Access State. The base station shall set this field to ‘1’ if the mobile station is permitted to perform an access handoff or access probe handoff to the base station associated with the corresponding pilot when the mobile station is in the System Access State (see 2.6.3.1.8 and 2.6.3.1.9); otherwise, the base station shall set this field to ‘0’. The base station shall use the same order for the ACCESS_HO_ALLOWED fields in this message as is used for pilots which are listed in the Neighbor List Message, Extended Neighbor List Message, or General Neighbor List Message. Specifically, the $i$th occurrence of the ACCESS_HO_ALLOWED field shall correspond the $i$th pilot in the Neighbor List Message, Extended Neighbor List Message, or General Neighbor List Message.

BROADCAST_GPS_ASST - Broadcast GPS Assist Indicator. The base station shall set this field to ‘1’ if it supports Broadcast GPS Assist capability; otherwise, the base station shall set this field to ‘0’.

QPCH_SUPPORTED - Quick Paging Channel Supported Indication. If the base station supports Quick Paging Channel operation, the base station shall set this field to ‘1’; otherwise the base station shall set this field to ‘0’.

NUM_QPCH - Number of Quick Paging Channels. If the base station sets QPCH_SUPPORTED to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field. The base station shall set this field to the number of Quick Paging Channels on this CDMA Channel. The base station shall not set this field to ‘00’.

QPCH_RATE - Quick Paging Channel indicator rate. If the base station sets QPCH_SUPPORTED to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field. The base station shall set this field to the QPCH_RATE field value shown in Table 3.7.2.3.2.13-2 corresponding to the indicator rate used by the Quick Paging Channel in the system.
Table 3.7.2.3.2.13-2. QPCH Indicator Data Rate

<table>
<thead>
<tr>
<th>QPCH_RATE Field (binary)</th>
<th>QPCH indicator data rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4800 bps</td>
</tr>
<tr>
<td>1</td>
<td>9600 bps</td>
</tr>
</tbody>
</table>

QPCH_POWER_LEVEL_PAGE - Quick Paging Channel paging indicator transmit power level.

If the base station sets QPCH_SUPPORTED to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to the Quick Paging Channel paging indicator transmit power level relative to that of the Pilot Channel as specified in Table 3.7.2.3.2.13-3.

Table 3.7.2.3.2.13-3 Quick Paging Channel Transmit Power Level

<table>
<thead>
<tr>
<th>QPCH_POWER_LEVEL_PAGE</th>
<th>Transmit Power Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>QPCH_POWER_LEVEL_CONFIG (binary)</td>
<td></td>
</tr>
<tr>
<td>000</td>
<td>5 dB below the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>001</td>
<td>4 dB below the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>010</td>
<td>3 dB below the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>011</td>
<td>2 dB below the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>100</td>
<td>1 dB below the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>101</td>
<td>Same as the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>110</td>
<td>1 dB above the Pilot Channel Transmit Power</td>
</tr>
<tr>
<td>111</td>
<td>2 dB above the Pilot Channel Transmit Power</td>
</tr>
</tbody>
</table>
QPCH_CCI_SUPPORTED - Quick Paging Channel configuration change indicator supported.

If QPCH_SUPPORTED is set to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

If the base station supports configuration change indicators on the Quick Paging Channel, the base station shall set this field to ‘1’; otherwise the base station shall set this field to ‘0’.

QPCH_POWER_LEVEL_CONFIG - Quick Paging Channel configuration change indicator transmit power level.

If the base station includes the QPCH_CCI_SUPPORTED field and sets it to ‘1’, the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

The base station shall set this field to the Quick Paging Channel configuration change indicator transmit power level relative to that of the Pilot Channel as specified in Table 3.7.2.3.2.13-3.

SDB_SUPPORTED - Short Data Burst supported indicator.

The base station shall set this field to ‘1’ if the mobile station is permitted to send a Short Data Burst; otherwise, the base station shall set this field to ‘0’.

RLGAIN_TRAFFIC_PILOT - Gain adjustment of the Reverse Traffic Channel relative to the Reverse Pilot Channel for Radio Configurations greater than 2.

The base station shall set this field to the correction factor to be used by mobile stations in setting the power of a reverse traffic channel, expressed as a two’s complement value in units of 0.125 dB (see [2]).

REV_PWR_CNTL_DELAY_INCL - Reverse Power Control Delay included indicator.

The base station shall set this field to ‘1’ if the base station includes the REV_PWR_CNTL_DELAY field in this message; otherwise, the base station shall set this field to ‘0’.

REV_PWR_CNTL_DELAY - The reverse power control delay.

If REV_PWR_CNTL_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to the closed-loop reverse power control delay minus one (the closed-loop reverse power control delay is the time between the end of a gated-on reverse PCG and the beginning of the reverse PCG where the corresponding feedback is sent on the Forward Power Control Subchannel, see [2]), in units of 1.25 ms.
3.7.2.3.2.14 Extended Neighbor List Message

MSG_TAG: ENLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>PILOT_INC</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBR_CONFIG</td>
<td>3</td>
</tr>
<tr>
<td>NGHBR_PN</td>
<td>9</td>
</tr>
<tr>
<td>SEARCH_PRIORITY</td>
<td>2</td>
</tr>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NGHBR_BAND</td>
<td>0 or 5</td>
</tr>
<tr>
<td>NGHBR_FREQ</td>
<td>0 or 11</td>
</tr>
</tbody>
</table>

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

PILOT_INC - Pilot PN sequence offset index increment.

A mobile station searches for Remaining Set pilots at pilot PN sequence index values that are multiples of this value.

The base station shall set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

The base station shall set this field to a value in the range 1 to 15 inclusive.
The base station shall include one occurrence of the following record for each pilot that a mobile station is to place in its Neighbor Set.

   NGHBR_CONFIG - Neighbor configuration.

   The base station shall set this field to the value shown in Table 3.7.2.3.2.14-1 corresponding to the configuration of this neighbor.

Table 3.7.2.3.2.14-1. Neighbor Configuration Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Neighbor Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>The neighbor base station has the same number of frequencies having Paging Channels as the current base station. The neighbor base station has a CDMA frequency assignment corresponding to this CDMA frequency assignment with the same number of Paging Channels, and the neighbor CDMA frequency is given as follows:</td>
</tr>
<tr>
<td></td>
<td>• If FREQ_INCL equals ‘0’ for this record, this corresponding CDMA frequency assignment is the current CDMA frequency assignment.</td>
</tr>
<tr>
<td></td>
<td>• If FREQ_INCL equals ‘1’ for this record, this corresponding CDMA frequency assignment is given by NGHBR_BAND and NGHBR_FREQ.</td>
</tr>
<tr>
<td></td>
<td>The position of the neighbor CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station.</td>
</tr>
</tbody>
</table>
001 The neighbor base station has the same number of frequencies having Paging Channels as the current base station.

The neighbor base station has a CDMA frequency assignment corresponding to this CDMA frequency assignment with a different number of Paging Channels, and the neighbor CDMA frequency is given as follows:

- If FREQ_INCL equals ‘0’ for this record, this corresponding CDMA frequency assignment is the current CDMA frequency assignment.

- If FREQ_INCL equals ‘1’ for this record, this corresponding CDMA frequency assignment is given by NGHBR_BAND and NGHBR_FREQ.

The position of the neighbor CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station.

This corresponding neighbor CDMA frequency assignment does have a Primary Paging Channel.

010 The neighbor base station may have a different number of frequencies having Paging Channels as the current base station.

The neighbor base station has a Primary Paging Channel on the following CDMA frequency:

- If FREQ_INCL equals ‘0’ for this record, the neighbor base station has a Primary Paging Channel on the first CDMA Channel listed in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station.

- If FREQ_INCL equals ‘1’ for this record, the neighbor base station has a Primary Paging Channel on the CDMA frequency assignment given by NGHBR_BAND and NGHBR_FREQ.

011 The neighbor base station configuration is unknown but the neighbor base station has a Pilot Channel on the following frequency:

- If FREQ_INCL equals ‘0’ for this record, the neighbor CDMA frequency assignment is the same as the current CDMA frequency assignment and has a Pilot Channel.

- If FREQ_INCL equals ‘1’ for this record, the CDMA frequency assignment given by NGHBR_BAND and NGHBR_FREQ has a Pilot Channel.

100-111 Reserved.
NGHBR_PN - Neighbor pilot PN sequence offset index.
The base station shall set this field to the pilot PN sequence offset for this neighbor, in units of 64 PN chips.

SEARCH_PRIORITY - Pilot Channel search priority.
The base station shall set this field to the search priority for the Pilot Channel corresponding to NGHBR_PN. The base station shall set the search priority as shown in Table 3.7.2.3.2.14-2.

Table 3.7.2.3.2.14-2. Search Priority Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Search Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Low</td>
</tr>
<tr>
<td>01</td>
<td>Medium</td>
</tr>
<tr>
<td>10</td>
<td>High</td>
</tr>
<tr>
<td>11</td>
<td>Very high</td>
</tr>
</tbody>
</table>

FREQ_INCL - Frequency included indicator.
If the NGHBR_BAND and NGHBR_FREQ fields are included for this neighbor base station, the base station shall set this bit to ‘1’. If the NGHBR_BAND and NGHBR_FREQ fields are not included for this neighbor base station, the base station shall set this bit to ‘0’.

NGHBR_BAND - Neighbor band class.
If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to search. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

NGHBR_FREQ - Neighbor frequency assignment.
If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to search. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.
3.7.2.3.2.15 Status Request Message

MSG_TAG: STRQM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>QUAL_INFO_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>QUAL_INFO_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ QUAL_INFO_LEN</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

| RECORD_TYPE | 8 |

1. **RESERVED** - Reserved bits.
   - The base station shall set this field to ‘0000’.

2. **QUAL_INFO_TYPE** - Qualification information type.
   - The base station shall set this field to the value shown in Table 3.7.2.3.2.15-1 to show the inclusion of qualification information in the type-specific fields. The base station shall include the required qualification information in this message.

3. **Table 3.7.2.3.2.15-1. Qualification Information Type**

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Included Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000000</td>
<td>None</td>
</tr>
<tr>
<td>00000001</td>
<td>BAND_CLASS</td>
</tr>
<tr>
<td>00000010</td>
<td>BAND_CLASS and OP_MODE</td>
</tr>
</tbody>
</table>

4. All other values are reserved.
### Table 3.7.2.3.2.15-2. Status Information Record Types

<table>
<thead>
<tr>
<th>Information Record Requested</th>
<th>Record Type (see Table 2.7.4-1)</th>
<th>QUAL_INFO_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved for obsolete Identification</td>
<td>00000110</td>
<td>-</td>
</tr>
<tr>
<td>Call Mode</td>
<td>00000111</td>
<td>00000000</td>
</tr>
<tr>
<td>Terminal Information</td>
<td>00001000</td>
<td>00000010</td>
</tr>
<tr>
<td>Roaming Information</td>
<td>00001001</td>
<td>00000010</td>
</tr>
<tr>
<td>Security Status</td>
<td>00001010</td>
<td>00000000</td>
</tr>
<tr>
<td>IMSI</td>
<td>00001100</td>
<td>00000000</td>
</tr>
<tr>
<td>ESN</td>
<td>00001101</td>
<td>00000000</td>
</tr>
<tr>
<td>Band Class Information</td>
<td>00001110</td>
<td>00000000</td>
</tr>
<tr>
<td>Power Class Information</td>
<td>00001111</td>
<td>00000010</td>
</tr>
<tr>
<td>Operating Mode Information</td>
<td>00010000</td>
<td>00000001</td>
</tr>
<tr>
<td>Service Option Information</td>
<td>00010001</td>
<td>00000010</td>
</tr>
<tr>
<td>Multiplex Option Information</td>
<td>00010010</td>
<td>00000010</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>00010011</td>
<td>00000000</td>
</tr>
<tr>
<td>Power Control Information</td>
<td>00010111</td>
<td>00000000</td>
</tr>
<tr>
<td>IMSI_M</td>
<td>00011000</td>
<td>00000000</td>
</tr>
<tr>
<td>IMSI_T</td>
<td>00011001</td>
<td>00000000</td>
</tr>
<tr>
<td>Capability Information</td>
<td>00011010</td>
<td>00000000</td>
</tr>
<tr>
<td>Channel Configuration Capability Information</td>
<td>00011011</td>
<td>00000000</td>
</tr>
<tr>
<td>Extended Multiplex Option Information</td>
<td>00011100</td>
<td>00000000</td>
</tr>
<tr>
<td>Geo-location Information</td>
<td>00011110</td>
<td>00000000</td>
</tr>
<tr>
<td>Band Subclass Information</td>
<td>00011111</td>
<td>00000001</td>
</tr>
</tbody>
</table>

All other record type values are reserved.

- **QUAL_INFO_LEN**: Qualification information length. The base station shall set this field to the number of octets included in the type-specific fields of the qualification information.

- **Type-specific fields**: Type-specific fields. The base station shall set these fields to the qualification information according to the QUAL_INFO_TYPE field.
If QUAL_INFO_TYPE is equal to '00000000', the type-specific fields are omitted.

If QUAL_INFO_TYPE is equal to '00000001', the base station shall use the following fixed-length format for the type-specific fields:

<table>
<thead>
<tr>
<th>Type-specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

If QUAL_INFO_TYPE is equal to '00000010', the base station shall use the following fixed-length format for the type-specific fields:

<table>
<thead>
<tr>
<th>Type-specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>OP_MODE</td>
<td>8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

**BAND_CLASS** - Band class.

The base station shall set this field as defined in [38] to specify the band class qualification information.

**OP_MODE** - Operating mode.

The base station shall set this field as shown in Table 3.7.2.3.2.15-3 to specify the operating mode qualification information if MOB_P_REV of the current band class is less than or equal to three. The base station shall set this field as shown in Table 3.7.2.3.2.15-4 to specify the operating mode qualification information if MOB_P_REV of the current band class is greater than three.
### Table 3.7.2.3.2.15-3. Operating Mode for MOB_P_REV

<table>
<thead>
<tr>
<th>Description</th>
<th>Value (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA mode in Band Class 1 and Band Class 4</td>
<td>00000000</td>
</tr>
<tr>
<td>CDMA mode in Band Class 0 and Band Class 3</td>
<td>00000001</td>
</tr>
<tr>
<td>analog mode[6]</td>
<td>00000010</td>
</tr>
<tr>
<td>wide-Wide analog mode[28]</td>
<td>00000011</td>
</tr>
<tr>
<td>narrow-Narrow analog mode[28]</td>
<td>00000100</td>
</tr>
</tbody>
</table>

All other values are reserved.

### Table 3.7.2.3.2.15-4. Operating Mode for MOB_P_REV

<table>
<thead>
<tr>
<th>Description</th>
<th>Standards</th>
<th>Value (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA mode</td>
<td></td>
<td>00000000 or 00000001</td>
</tr>
<tr>
<td>Wide analog mode[28]</td>
<td>[28]</td>
<td>00000011</td>
</tr>
<tr>
<td>Narrow analog mode[28]</td>
<td>[28]</td>
<td>00000100</td>
</tr>
</tbody>
</table>

All other values are reserved.

**NUM_FIELDS** - Number of requested fields in this message.

The base station shall set this field to the number of occurrences of RECORD_TYPE in this message.

The base station shall only request the status information records qualified by the included qualification information in this message. The base station shall include one occurrence of the following field for each information record that is requested:

**RECORD_TYPE** - Information record type.

The base station shall set this field to the record type value shown in Table 3.7.2.3.2.15-2 corresponding to the information record requested.
3.7.2.3.2.16 Service Redirection Message

MSG_TAG: SRDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETURN_IF_FAIL</td>
<td>1</td>
</tr>
<tr>
<td>DELETE_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>REDIRECT_TYPE</td>
<td>1</td>
</tr>
</tbody>
</table>

One occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

**RETURN_IF_FAIL** - Return if fail indicator.

The base station shall set this field to ‘1’ if the mobile station is required to return to the system from which it is being redirected upon failure to obtain service using the redirection criteria specified in this message; otherwise, the base station shall set this field to ‘0’.

**DELETE_TMSI** - Delete TMSI indicator.

The base station shall set this field to ‘1’ if the mobile station is required to delete the TMSI assigned to the mobile station; otherwise, the base station shall set this field to ‘0’.

**REDIRECT_TYPE** - Redirect indicator.

The base station shall set this field to the REDIRECT_TYPE value shown in Table 3.7.2.3.2.16-2 corresponding to the redirection type.

<table>
<thead>
<tr>
<th>Description</th>
<th>REDIRECT_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal redirection</td>
<td>0</td>
</tr>
<tr>
<td>NDSS redirection</td>
<td>1</td>
</tr>
</tbody>
</table>

The base station shall include one occurrence of the following record:

**RECORD_TYPE** - Redirection record type.

The base station shall set this field to the RECORD_TYPE value shown in Table 3.7.2.3.2.16-2 corresponding to the type of redirection specified by this record.
### Table 3.7.2.3.2.16-2. Redirection Record Types

<table>
<thead>
<tr>
<th>Description</th>
<th>RECORD_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDSS off indication</td>
<td>00000000</td>
</tr>
<tr>
<td>Redirection to an analog system as defined in [15], [25], [28], [31], [30], and [6]</td>
<td>00000001</td>
</tr>
<tr>
<td>Redirection to a CDMA system as defined in [30] and [2]</td>
<td>00000010</td>
</tr>
<tr>
<td>Redirection to a TACS analog system as defined in Department of Trade and Industry's TACS Mobile Station-Land Station Compatibility Specification, Issue 4, Amendment 1.</td>
<td>00000011</td>
</tr>
<tr>
<td>Redirection to a JTACS analog system as defined in ARIB's RCR STD-36[43].</td>
<td>00000100</td>
</tr>
</tbody>
</table>

All other RECORD_TYPE values are reserved

**RECORD_LEN** - Redirection record length.

- If RECORD_TYPE equals to '00000000', the base station shall set this field to '00000000'; otherwise, the base station shall set this field to the number of octets in the type-specific fields of this redirection record.

**Type-specific fields** - Redirection record type-specific fields.

- The base station shall include type-specific fields based on the RECORD_TYPE of this redirection record.

If RECORD_TYPE is equal to '00000000', the base station shall not include the type-specific fields.

If RECORD_TYPE is equal to '00000001', the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>IGNORE_CDMA</td>
<td>1</td>
</tr>
<tr>
<td>SYS_ORDERING</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

**EXPECTED_SID** - Expected SID.
If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

**IGNORE_CDMA** - Ignore CDMA Available indicator.

The base station shall set this field to ‘1’ to indicate that the mobile station is to ignore the CDMA Capability Message on the analog system to which it is being redirected. The base station shall set this field to ‘0’ to indicate that the mobile station may discontinue service on the system to which it is being redirected if the mobile station receives a CDMA Capability Message with CDMA_AVAIL equal to ‘1’, and the preferred mode of the mobile station is CDMA.

**SYS_ORDERING** - System ordering.

The base station shall set this field to the SYS_ORDERING value shown in Table 3.7.2.3.2.16-3 corresponding to the order in which the mobile station is to attempt to obtain service on an analog system.
Table 3.7.2.3.2.16-3. SYS_ORDERING

<table>
<thead>
<tr>
<th>Description</th>
<th>SYS_ORDERING (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempt to obtain service on either System A or B in accordance with the</td>
<td>000</td>
</tr>
<tr>
<td>custom system selection process (see 2.6.1.1.1).</td>
<td></td>
</tr>
<tr>
<td>Attempt to obtain service on System A only.</td>
<td>001</td>
</tr>
<tr>
<td>Attempt to obtain service on System B only.</td>
<td>010</td>
</tr>
<tr>
<td>Attempt to obtain service on System A first. If unsuccessful, attempt to</td>
<td>011</td>
</tr>
<tr>
<td>obtain service on System B.</td>
<td></td>
</tr>
<tr>
<td>Attempt to obtain service on System B first. If unsuccessful, attempt to</td>
<td>100</td>
</tr>
<tr>
<td>obtain service on System A.</td>
<td></td>
</tr>
<tr>
<td>Attempt to obtain service on either System A or System B. If unsuccessful,</td>
<td></td>
</tr>
<tr>
<td>attempt to obtain service on the alternate system (System A or System B).</td>
<td>101</td>
</tr>
<tr>
<td>All other SYS_ORDERING values are reserved</td>
<td></td>
</tr>
</tbody>
</table>

2

3 RESERVED - Reserved bits.

4 The base station shall set this field to ‘00000’.

5 If RECORD_TYPE is equal to ‘00000010’, the base station shall include the following fields:
<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>EXPECTED_NID</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>NUM_CHANS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_CHANS occurrences of the following field:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA_CHAN</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0-7 (as needed)</td>
</tr>
</tbody>
</table>

**BAND_CLASS** - Band class.

The base station shall set this field to the CDMA band class, as specified in [38].

**EXPECTED_SID** - Expected SID.

If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

**EXPECTED_NID** - Expected NID.

If the base station is redirecting the mobile station to a specific network, the base station shall set this field to the NID of that network; otherwise, the base station shall set this field to 65535.

**RESERVED** - Reserved bits.

The base station shall set this field to ‘0000’.

**NUM_CHANS** - Number of CDMA Channels.

The base station shall set this field to the number of occurrences of the CDMA_CHAN field in this record.

**CDMA_CHAN** - CDMA Channel number.

For each CDMA Channel on which the mobile station is to attempt to acquire a CDMA system, the base station shall include one occurrence of this field specifying the associated CDMA Channel number.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the record equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.2.3.2.17 General Page Message

MSG_TAG: GPM

When Layer 3 at the base station sends a PDU corresponding to the General Page Message to Layer 2, it also sends the GPM Common fields to Layer 2. These GPM Common fields and PDUs are used by Layer 2 to assemble a Layer 2 PDU corresponding to the General Page Message (see [4]).

GPM Common Fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>ACC_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>CLASS_0_DONE</td>
<td>1</td>
</tr>
<tr>
<td>CLASS_1_DONE</td>
<td>1</td>
</tr>
<tr>
<td>TMSI_DONE</td>
<td>1</td>
</tr>
<tr>
<td>ORDERED_TMSIS</td>
<td>1</td>
</tr>
<tr>
<td>BROADCAST_DONE</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>ADD_LENGTH</td>
<td>3</td>
</tr>
<tr>
<td>ADD_PFIELD</td>
<td>$8 \times \text{ADD_LENGTH}$</td>
</tr>
</tbody>
</table>

PDU Format for a mobile station-addressed page:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE_OPTION</td>
<td>0 or 16</td>
</tr>
</tbody>
</table>

PDU Format for a broadcast page:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>-</td>
</tr>
</tbody>
</table>

- Configuration message sequence number.
The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

ACC_MSG_SEQ - Access parameters message sequence number.

The base station shall set this field to ACC_CONFIG_SEQ (see 3.6.2.2).

CLASS_0_DONE - Class 0 pages are done.

If all messages and records directed to mobile stations operating in the slotted mode, active in this slot, and having an assigned class 0 IMSI have been sent by the end of this General Page Message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

CLASS_1_DONE - Class 1 pages are done.

If all messages and records directed to mobile stations operating in the slotted mode, active in this slot, and having an assigned class 1 IMSI have been sent by the end of this General Page Message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

TMSI_DONE - TMSI pages are done.

If all the page records having PAGE_CLASS equal to ‘10’ or other directed messages for mobile stations operating in the slotted mode, active in this slot, and having an assigned TMSI have been sent by the end of this General Page Message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

ORDERED_TMSIS - TMSIs sent in numerical order.

If all the page records of PAGE_CLASS equal to ‘10’ are sent such that the TMSI code values of the TMSI_CODE_ADDR fields for the mobile stations operating in the slotted mode are in ascending numerical order in all the General Page Messages sent within this slot, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

BROADCAST_DONE - Broadcast pages are done.

If all broadcast page records (PAGE_CLASS equal to ‘11’) have been sent by the end of this General Page Message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

RESERVED - Reserved bits.

The base station shall set this field to ‘0000’.

ADD_LENGTH - Number of octets in the page message specific fields.

If there are no additional page message specific fields, the base station shall set this field to ‘000’.

ADD_PFIELD - Additional page message specific fields.

The base station shall not include any additional page message specific fields, if ADD_LENGTH is ‘000’.
SERVICE_OPTION - Service option.

If base station requests a special service option in the page type-specific fields (i.e., the SDU_INCLUDED field, see [4], is set to ’1’), the base station shall set this field to the service option code shown in [38], corresponding to the requested service option; otherwise, the base station shall omit this field.
3.7.2.3.2.18 Global Service Redirection Message

MSG_TAG: GSRDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>REDIRECT_ACCOLC</td>
<td>16</td>
</tr>
<tr>
<td>RETURN_IF_FAIL</td>
<td>1</td>
</tr>
<tr>
<td>DELETE_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>EXCL_P_REV_MS</td>
<td>1</td>
</tr>
</tbody>
</table>

One occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
</tbody>
</table>

Type-specific fields: $8 \times \text{RECORD\_LEN}$

PILOT_PN - Pilot PN sequence offset index.
The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.
The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).
REDIRECT_ACCOLC - Redirected access overload classes.

This field consists of the following subfields:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
<th>Subfield Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCOLC_0</td>
<td>1</td>
<td>Access overload class 0</td>
</tr>
<tr>
<td>ACCOLC_1</td>
<td>1</td>
<td>Access overload class 1</td>
</tr>
<tr>
<td>ACCOLC_2</td>
<td>1</td>
<td>Access overload class 2</td>
</tr>
<tr>
<td>ACCOLC_3</td>
<td>1</td>
<td>Access overload class 3</td>
</tr>
<tr>
<td>ACCOLC_4</td>
<td>1</td>
<td>Access overload class 4</td>
</tr>
<tr>
<td>ACCOLC_5</td>
<td>1</td>
<td>Access overload class 5</td>
</tr>
<tr>
<td>ACCOLC_6</td>
<td>1</td>
<td>Access overload class 6</td>
</tr>
<tr>
<td>ACCOLC_7</td>
<td>1</td>
<td>Access overload class 7</td>
</tr>
<tr>
<td>ACCOLC_8</td>
<td>1</td>
<td>Access overload class 8</td>
</tr>
<tr>
<td>ACCOLC_9</td>
<td>1</td>
<td>Access overload class 9</td>
</tr>
<tr>
<td>ACCOLC_10</td>
<td>1</td>
<td>Access overload class 10</td>
</tr>
<tr>
<td>ACCOLC_11</td>
<td>1</td>
<td>Access overload class 11</td>
</tr>
<tr>
<td>ACCOLC_12</td>
<td>1</td>
<td>Access overload class 12</td>
</tr>
<tr>
<td>ACCOLC_13</td>
<td>1</td>
<td>Access overload class 13</td>
</tr>
<tr>
<td>ACCOLC_14</td>
<td>1</td>
<td>Access overload class 14</td>
</tr>
<tr>
<td>ACCOLC_15</td>
<td>1</td>
<td>Access overload class 15</td>
</tr>
</tbody>
</table>

The base station shall set the subfields corresponding to the access overload classes of mobile stations which are to be redirected to ‘1’, and shall set the remaining subfields to ‘0’.

RETURN_IF_FAIL - Return if fail indicator.

The base station shall set this field to ‘1’ if the mobile station is required to return to the system from which it is being redirected upon failure to obtain service using the redirection criteria specified in this message; otherwise, the base station shall set this field to ‘0’.

DELETE_TMSI - Delete TMSI indicator.

The base station shall set this field to ‘1’ if the mobile station, which the corresponding REDIRECT_ACCOLC subfield is set to ‘1’, is required to delete the TMSI assigned to the mobile station; otherwise, the base station shall set this field to ‘0’.

EXCL_P_REV_MS - Exclude redirection indicator.
If this message does not apply to mobile stations with MOB_P_REV greater than or equal to six, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

The base station shall include one occurrence of the following three-field record:

**RECORD_TYPE** - Redirection record type.

The base station shall set this field to the RECORD_TYPE value shown in Table 3.7.2.3.2.16-2 corresponding to the type of redirection specified by this record.

**RECORD_LEN** - Redirection record length.

The base station shall set this field to the number of octets in the type-specific fields of this redirection record.

**Type-specific fields** - Redirection record type-specific fields.

The base station shall include type-specific fields based on the RECORD_TYPE of this redirection record.

If RECORD_TYPE is equal to ‘00000001’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>IGNORE_CDMA</td>
<td>1</td>
</tr>
<tr>
<td>SYS_ORDERING</td>
<td>3</td>
</tr>
<tr>
<td>MAX_REDIRECT_DELAY</td>
<td>5</td>
</tr>
</tbody>
</table>

**EXPECTED_SID** - Expected SID.

If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

**IGNORE_CDMA** - Ignore CDMA Available indicator.

The base station shall set this field to ‘1’ to indicate that the mobile station is to ignore the CDMA Capability Message on the analog system to which it is being redirected. The base station shall set this field to ‘0’ to indicate that the mobile station may discontinue service on the system to which it is being redirected if the mobile station receives a CDMA Capability Message with CDMA_AVAIL equal to ‘1’, and the preferred mode of the mobile station is CDMA.

**SYS_ORDERING** - System ordering.
The base station shall set this field to the SYS_ORDERING value shown in Table 3.7.2.3.2.16-3 corresponding to the order in which the mobile station is to attempt to obtain service on an analog system.

**MAX_REDIRECT_DELAY** - Maximum delay upon redirection.

The base station shall set this field to the maximum delay time, in units of 8 second increments, to be used by mobile stations in the event of a global redirection to analog mode. This operation can be invoked to avoid overloading an underlying analog cell’s reverse control channel.

If **RECORD_TYPE** is equal to ‘00000010’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>EXPECTED_NID</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>NUM_CHANS</td>
<td>4</td>
</tr>
</tbody>
</table>

**NUM_CHANS** occurrences of the following field:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA_CHAN</td>
<td>11</td>
</tr>
</tbody>
</table>

**BAND_CLASS** - Band class.

The base station shall set this field to the CDMA band class, as specified in [38].

**EXPECTED_SID** - Expected SID.

If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

**EXPECTED_NID** - Expected NID.

If the base station is redirecting the mobile station to a specific network, the base station shall set this field to the NID of that network; otherwise, the base station shall set this field to 65535.

**RESERVED** - Reserved bits.

The base station shall set this field to ‘0000’.

**NUM_CHANS** - Number of CDMA Channels.
The base station shall set this field to the number of occurrences of the CDMA_CHAN field in this record.

**CDMA_CHAN** - CDMA Channel number.

For each CDMA Channel on which the mobile station is to attempt to acquire a CDMA system, the base station shall include one occurrence of this field specifying the associated CDMA Channel number.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the record equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.2.3.2.19 TMSI Assignment Message

MSG_TAG: TASM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
<tr>
<td>TMSI_ZONE_LEN</td>
<td>4</td>
</tr>
<tr>
<td>TMSI_ZONE</td>
<td>$8 \times \text{TMSI_ZONE_LEN}$</td>
</tr>
<tr>
<td>TMSI_CODE</td>
<td>32</td>
</tr>
<tr>
<td>TMSI_EXP_TIME</td>
<td>24</td>
</tr>
</tbody>
</table>

- **RESERVED** - Reserved bits. The base station shall set this field to '00000'.

- **TMSI\_ZONE\_LEN** - TMSI zone length. The base station shall set this field to the number of octets included in the TMSI\_ZONE. The base station shall set this field to a value in the range 1 to 8 inclusive.

- **TMSI\_ZONE** - TMSI zone. The base station shall set this field to the TMSI zone number, as specified in [33].

- **TMSI\_CODE** - Temporary mobile station identity code. The base station shall set this field to the 32-bit TMSI code assigned to the mobile station. If the base station is to deassign the TMSI, the base station shall set all the bits in this field to '1'.

- **TMSI\_EXP\_TIME** - TMSI expiration time. The base station shall set this field to the System Time in the units of $80\,\text{ms} \times 2^{12}$ when the TMSI is to expire.
3.7.2.3.2.20 PACA Message

MSG_TAG: PACAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>7</td>
</tr>
<tr>
<td>PURPOSE</td>
<td>4</td>
</tr>
<tr>
<td>Q_POS</td>
<td>8</td>
</tr>
<tr>
<td>PACA_TIMEOUT</td>
<td>3</td>
</tr>
</tbody>
</table>

RESERVED - Reserved bits.

The base station shall set this field to ‘0000000’.

PURPOSE - Purpose of the PACA Message.

The base station shall set this field to the appropriate PURPOSE code from Table 3.7.2.3.2.20-1 to indicate the purpose of the message.

Table 3.7.2.3.2.20-1. Purpose of PACA Message

<table>
<thead>
<tr>
<th>PURPOSE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Indicates that the purpose of the message is to respond to an Origination Message.</td>
</tr>
<tr>
<td>0001</td>
<td>Indicates that the purpose of the message is to provide the queue position of the PACA call.</td>
</tr>
<tr>
<td>0010</td>
<td>Indicates that the purpose of the message is to instruct the mobile station to re-originate the PACA call.</td>
</tr>
<tr>
<td>0011</td>
<td>Indicates that the purpose of the message is to cancel the PACA call.</td>
</tr>
<tr>
<td>0100 – 1111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

Q_POS - PACA queue position.

If the PURPOSE field of this message is set to ‘0000’ or ‘0001’, the base station shall set this field to the queue position of the PACA call. If the queue position exceeds 255, the base station shall set this field to ‘11111111’. If the queue position is unknown or the PURPOSE field of this message is set to ‘0010’ or ‘0011’, the base station shall set this field to ‘00000000’.
PACA_TIMEOUT - PACA state timer duration.

The base station shall set this field to the PACA_TIMEOUT value shown in Table 3.7.2.3.2.20-2 corresponding to the length of the PACA state timer to be used by the mobile stations.

<table>
<thead>
<tr>
<th>PACA_TIMEOUT Value (binary)</th>
<th>Timer Length (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>1</td>
</tr>
<tr>
<td>001</td>
<td>2</td>
</tr>
<tr>
<td>010</td>
<td>5</td>
</tr>
<tr>
<td>011</td>
<td>10</td>
</tr>
<tr>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>101</td>
<td>30</td>
</tr>
<tr>
<td>110</td>
<td>45</td>
</tr>
<tr>
<td>111</td>
<td>60</td>
</tr>
</tbody>
</table>
### Extended Channel Assignment Message

**MSG_TAG**: ECAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGN_MODE</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED_2</td>
<td>5</td>
</tr>
<tr>
<td>Additional record fields</td>
<td>8 × (ADD_RECORD_LEN − 1) See [4]</td>
</tr>
</tbody>
</table>

1. 3.7.2.3.2.21 Extended Channel Assignment Message
2. **MSG_TAG**: ECAM
If ASSIGN_MODE = ‘000’, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>DEFAULT_CONFIG</td>
<td>3</td>
</tr>
<tr>
<td>BYPASS_ALERT_ANSWER</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>3</td>
</tr>
<tr>
<td>GRANTED_MODE</td>
<td>2</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>4</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>2</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
</tbody>
</table>

NUM_PILOTS plus one occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_FCH_RC</td>
<td>5</td>
</tr>
<tr>
<td>REV_FCH_RC</td>
<td>5</td>
</tr>
<tr>
<td>FPC_FCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_SUBCHAN_GAIN</td>
<td>5</td>
</tr>
<tr>
<td>RLGAIN_ADJ</td>
<td>4</td>
</tr>
<tr>
<td>FPC_FCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_FCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_FCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>REV_FCH_GATING_MODE</td>
<td>1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 – 7 (as needed)</td>
</tr>
</tbody>
</table>
If `ASSIGN_MODE = '001'`, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPOND</td>
<td>1</td>
</tr>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>6</td>
</tr>
</tbody>
</table>

NUM_PILOTS plus one occurrence of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0 – 7 (as needed)</td>
</tr>
</tbody>
</table>

If `ASSIGN_MODE = '010'`, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPOND</td>
<td>1</td>
</tr>
<tr>
<td>ANALOG_SYS</td>
<td>1</td>
</tr>
<tr>
<td>USE_ANALOG_SYS</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
</tbody>
</table>

If `ASSIGN_MODE = '011'`, the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>VMAC</td>
<td>3</td>
</tr>
<tr>
<td>ANALOG_CHAN</td>
<td>11</td>
</tr>
<tr>
<td>SCC</td>
<td>2</td>
</tr>
<tr>
<td>MEM</td>
<td>1</td>
</tr>
<tr>
<td>AN_CHAN_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>DSCC_MSB</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
</tbody>
</table>
If ASSIGN_MODE = '100', the additional record fields shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>BYPASS_ALERT_ANSWER</td>
<td>1</td>
</tr>
<tr>
<td>GRANTED_MODE</td>
<td>2</td>
</tr>
<tr>
<td>DEFAULT_CONFIG</td>
<td>3</td>
</tr>
<tr>
<td>FOR_RC</td>
<td>5</td>
</tr>
<tr>
<td>REV_RC</td>
<td>5</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>4</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>2</td>
</tr>
<tr>
<td>FPC_SUBCHAN_GAIN</td>
<td>5</td>
</tr>
<tr>
<td>RLGAIN_ADJ</td>
<td>4</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>3</td>
</tr>
<tr>
<td>CH_IND</td>
<td>2</td>
</tr>
<tr>
<td>CH_RECORD_LEN</td>
<td>5</td>
</tr>
<tr>
<td>CH_RECORD_FIELDS</td>
<td>8 × CH_RECORD_LEN</td>
</tr>
<tr>
<td>REV_FCH_GATING_MODE</td>
<td>1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 – 7 (as needed)</td>
</tr>
</tbody>
</table>
If \( CH_{IND} = '01' \), the \( CH\_RECORD\_FIELDS \) shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_FCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_FCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_FCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_FCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td></td>
</tr>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or ((8 \times \text{RECORD_LEN}))</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_FCH</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_FCH</td>
<td>2</td>
</tr>
</tbody>
</table>

RESERVED 0 – 7 (as needed)
If CH_IND = ‘10’, the CH_RECORD_FIELDS shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_DCCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_DCCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_DCCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_DCCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td></td>
</tr>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or (8 × RECORD_LEN)</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_DCCH</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_DCCH</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

If CH_IND = ‘11’, the CH_RECORD_FIELDS shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_FCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_DCCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>1</td>
</tr>
<tr>
<td>FPC_FCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_FCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_FCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_DCCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_DCCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_DCCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td></td>
</tr>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or (8 × RECORD_LEN)</td>
</tr>
</tbody>
</table>
ASSIGN_MODE - Assignment mode.

The base station shall set this field to the value shown in Table 3.7.2.3.2.21-1 corresponding to the assignment mode for this assignment.

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Assignment Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Traffic Channel Assignment</td>
</tr>
<tr>
<td>001</td>
<td>Paging Channel Assignment</td>
</tr>
<tr>
<td>010</td>
<td>Acquire Analog System</td>
</tr>
<tr>
<td>011</td>
<td>Analog Voice Channel Assignment</td>
</tr>
<tr>
<td>100</td>
<td>Enhanced Traffic Channel Assignment</td>
</tr>
</tbody>
</table>

All other values are reserved.

RESERVED_2 - Reserved bits.

The base station shall set this field to '00000'.

Additional record fields - Additional record fields.

The additional record fields are determined by the value of ASSIGN_MODE, as described below.

If the ASSIGN_MODE field is set to '000', the base station shall include the following fields:

FREQ_INCL - Frequency included indicator.

If the BAND_CLASS and CDMA_FREQ fields are included in this assignment record, the base station shall set this bit to '1'. If the BAND_CLASS and CDMA_FREQ fields are not included in this assignment record, the base station shall set this bit to '0'.

DEFAULT_CONFIG - Default Configuration.
If the GRANTED_MODE field is set to ‘00’, the base station shall set this field as specified in Table 3.7.2.3.2.21-2 to indicate an initial multiplex option and Radio Configuration for the Forward and Reverse Traffic Channels.

If MOB_P_REV is less than six, the base station shall not set this field to ‘100’.

Table 3.7.2.3.2.21-2. Default Configuration

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Default Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Multiplex Option 1 and Radio Configuration 1 for both the Forward Traffic Channel and the Reverse Traffic Channel</td>
</tr>
<tr>
<td>001</td>
<td>Multiplex Option 2 and Radio Configuration 2 for both the Forward Traffic Channel and the Reverse Traffic Channel</td>
</tr>
<tr>
<td>010</td>
<td>Multiplex Option 1 and Radio Configuration 1 for the Forward Traffic channel; Multiplex Option 2 and Radio Configuration 2 for the Reverse Traffic channel</td>
</tr>
<tr>
<td>011</td>
<td>Multiplex Option 2 and Radio Configuration 2 for the Forward Traffic channel; Multiplex Option 1 and Radio Configuration 1 for the Reverse Traffic channel</td>
</tr>
<tr>
<td>100</td>
<td>FOR_FCH_RC or FOR_RC included in this message for the Forward Fundamental Channel or the Forward Dedicated Control Channel and REV_FCH_RC or REV_RC included in this message for the Reverse Fundamental or the Reverse Dedicated Control Channel. Use 20ms frames. Use Multiplex Option 1 for radio configurations that include the bit rate of 9600 bps; Use Multiplex Option 2 for radio configurations that include the bit rate of 14400 bps.</td>
</tr>
</tbody>
</table>

All other values are reserved.

BYPASS_ALERT_ANSWER - Bypass alert indicator.
If the base station has received a Page Response Message that specifies a packet data service option or other non-voice service option, and the mobile station is to bypass the Waiting for Order Substate and the Waiting for Mobile Station Answer Substate, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **RESERVED** - Reserved bit.
  The base station shall set this field to ‘0’.

- **NUM_PILOTS** - Number of pilots in the Active Set.
  The base station shall set this field to number of pilots that are to be in the mobile station’s Active Set on the Traffic Channel minus one. The base station shall set this field to the value in the range 0 to $N_{6m-1}$ inclusive.

- **GRANTED_MODE** - Granted mode.
  The base station shall set this field to ‘00’ to indicate that the mobile station is to use an initial service configuration consisting of the multiplex option and Radio Configuration defined by the DEFAULT_CONFIG field for the Forward and Reverse Traffic Channels, and to indicate that service negotiation may take place before the base station sends the first Service Connect Message.

  The base station shall set this field to ‘01’ to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the Origination Message or Page Response Message, and to indicate that service negotiation may take place before the base station sends the first Service Connect Message.

  The base station shall set this field to ‘10’ to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the Origination Message or Page Response Message, and to indicate that service negotiation is not to take place before the base station sends the first Service Connect Message.

- **FRAME_OFFSET** - Frame offset.
  The Forward and Reverse Traffic Channel frames are delayed $\text{FRAME\_OFFSET} \times 1.25$ ms relative to system timing (see [2]).
  The base station shall set this field to the Forward and Reverse Traffic Channel frame offset.

- **ENCRYPT_MODE** - Message encryption mode.
The base station shall set this field to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8.2 corresponding to the encrypting mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2.

**BAND_CLASS**  -  Band class.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

**CDMA_FREQ**  -  Frequency assignment.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

The base station shall include NUM_PILOTS plus one occurrence of the following three-field record, one for each member of the mobile station’s Active Set on the Traffic Channel.

**PILOT_PN**  -  Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

**PWR_COMB_IND**  -  Power control symbol combining indicator.

If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. For the first occurrence of this record in the message, the base station shall set this field to ‘0’.

**CODE_CHAN**  -  Code channel index.

The base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Forward Traffic Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

**FOR_FCH_RC**  -  Forward Fundamental Channel radio configuration

The base station shall set this field to the radio configuration (see Table 3.7.2.3.2.21-3) to be used by the mobile station on the Forward Fundamental Channel before the first Service Connect Message is sent to the mobile station.
If GRANTED_MODE is set to ‘00’, and DEFAULT_CONFIG is not set to ‘100’ (see Table 3.7.2.3.2.21-2), the base station shall set this field to either ‘00001’ or ‘00010’ (see Table 3.7.2.3.2.21-3).

**REV_FCH_RC** - Reverse Fundamental Channel radio configuration

The base station shall set this field to the radio configuration (see Table 3.7.2.3.2.21-3) to be used by the mobile station on the Reverse Fundamental Channel before the first Service Connect Message is sent to the mobile station.

If GRANTED_MODE is set to ‘00’, and DEFAULT_CONFIG is not set to ‘100’ (see Table 3.7.2.3.2.21-2), the base station shall set this field to either ‘00001’ or ‘00010’ (see Table 3.7.2.3.2.21-3).

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Radio Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>00001</td>
<td>RC 1</td>
</tr>
<tr>
<td>00010</td>
<td>RC 2</td>
</tr>
<tr>
<td>00011</td>
<td>RC 3</td>
</tr>
<tr>
<td>00100</td>
<td>RC 4</td>
</tr>
<tr>
<td>00101</td>
<td>RC 5</td>
</tr>
<tr>
<td>00110</td>
<td>RC 6</td>
</tr>
<tr>
<td>00111</td>
<td>RC 7</td>
</tr>
<tr>
<td>01000</td>
<td>RC 8</td>
</tr>
<tr>
<td>01001</td>
<td>RC 9</td>
</tr>
</tbody>
</table>

All other values are reserved.

**FPC_FCH_INIT_SETPT** - Initial Fundamental Channel outer loop Eb/Nt setpoint.

The base station shall set this field to initial Fundamental Channel outer loop Eb/Nt setpoint, in units of 0.125 dB.

**FPC_SUBCHAN_GAIN** - Forward power control subchannel relative gain.

The base station shall set FPC_SUBCHAN_GAIN equal to the power level of the forward link power control subchannel relative to the power level of 20 ms frames at a 9600 bps or 14400 bps rate of the Forward Fundamental Traffic Channel that the Forward Power Control Subchannel is punctured on. The base station shall set the value in units of 0.25 dB.

**RLGAIN_ADJ** - Reverse Traffic Channel power relative to access power.
The base station shall set this field to adjust the initial Traffic Channel transmission power relative to the Access Channel transmission power. The base station shall set this field as a two’s complement signed binary number, in units of 1 dB.

**FPC_FCH_FER** - Fundamental Channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Forward Fundamental Channel, as specified in Table 3.7.3.3.2.25-2.

**FPC_FCH_MIN_SETPT** - Minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_FCH_MAX_SETPT** - Maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**REV_FCH_GATING_MODE** - Reverse eighth gating mode indicator.

The base station shall set this field to ‘1’ if the mobile station is allowed to perform the reverse eighth gating mode where the 1/8th rate frames on the Reverse Fundamental Channel are gated off for 10 ms per frame (see [2]); otherwise, the base station shall set this field to ‘0’.

The base station shall not set this field to ‘1’ if REV_FCH_GATING_REQ included in the **Origination Message** or **Page Response Message** is set to ‘0’.

**REV_PWR_CNTL_DELAY_INCL** - Reverse power control delay included indicator.

If REV_FCH_GATING_MODE is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows.

The base station shall set this field to ‘1’ if REV_PWR_CNTL_DELAY is included in this message; otherwise, the base station shall set this field to ‘0’.

If the REV_FCH_GATING_MODE field in this message is set to ‘1’ and the REV_PWR_CNTL_INCL field in the **Extended System Parameters Message** is set to ‘0’, the base station shall set this field to ‘1’.

**REV_PWR_CNTL_DELAY** - The reverse power control delay.

If REV_PWR_CNTL_DELAY_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:
The base station shall set this field to the closed-loop reverse power control delay minus one (the closed-loop reverse power control delay is the time between the end of a gated-on reverse PCG and the beginning of the reverse PCG where the corresponding feedback is sent on the Forward Power Control Subchannel, see [2]) used by the mobile station, in units of 1.25 ms.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding ADD_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to '0'.

If the ASSIGN_MODE field is set to '001', the base station shall include the following fields:

RESPOND - Respond on new Access Channel indicator.

If the mobile station is to retransmit an Origination Message or Page Response Message after processing this channel assignment, the base station shall set this field to '1'. The base station may set this field to '0' only in response to a Page Response Message.

FREQ_INCL - Frequency included indicator.

If the BAND_CLASS and CDMA_FREQ fields are included in this assignment record, the base station shall set this bit to '1'. If the BAND_CLASS and CDMA_FREQ fields are not included in this assignment record, the base station shall set this bit to '0'.

BAND_CLASS - Band class.

If the FREQ_INCL bit is set to '1', the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to use. If the FREQ_INCL bit is set to '0', the base station shall omit this field.

CDMA_FREQ - Frequency assignment.

If the FREQ_INCL bit is set to '1', the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to use. If the FREQ_INCL bit is set to '0', the base station shall omit this field.
NUM_PILOTS - Number of pilots whose Paging Channel may be monitored.

The base station shall set this field to the number of pilots whose Paging Channel may be monitored by the mobile station minus one. The base station shall set this field to the value in the range 0 to N8m – 1 inclusive.

The base station shall include NUM_PILOTS plus one occurrence of the following field record for each pilot whose Paging Channel may be monitored by the mobile station.

PILOT_PN - Pilot PN sequence offset index.

The base station shall include one occurrence of this field for each base station whose Paging Channel may be monitored by the mobile station. For each occurrence, the base station shall set this field to the pilot PN sequence offset for a base station, in units of 64 PN chips. The base station having this pilot PN sequence offset should support a Primary Paging Channel with the same Paging Channel rate as the current base station.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding ADD_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to ‘0’.

If the ASSIGN_MODE field is set to ‘010’, the base station shall include the following fields:

RESPOND - Respond on analog control channel indicator.

If the mobile station is to retransmit an Origination Message or Page Response Message on the analog control channel (see [6]) after processing this channel assignment, the base station shall set this field to ‘1’. The base station may set this field to ‘0’ only in response to a Page Response Message.

ANALOG_SYS - System indicator.

If USE_ANALOG_SYS is equal to ‘0’, the base station shall set this field to ‘0’; otherwise, the base station shall set this field to ‘0’ if the mobile station is to use analog system A, or to ‘1’ if the mobile station is to use analog system B.

USE_ANALOG_SYS - Use analog system indicator.

The base station shall set this field to ‘1’ to direct the mobile station to the analog system specified by ANALOG_SYS; otherwise, the base station shall set this field to ‘0’.

BAND_CLASS - Band class.

The base station shall set this field according to values defined in [38].
If the ASSIGN_MODE field is set to ‘011’, the base station shall include the following fields:

- **SID** - System identification of the analog system. The base station shall set this field to the system identification of the analog system supporting the assigned voice channel for this assignment (see [6]).

- **VMAC** - Voice mobile station attenuation code. The base station shall set this field to the mobile station power level associated with the assigned voice channel for this assignment (see [6]).

- **ANALOG_CHAN** - Voice channel number. The base station shall set this field to the voice channel number for this assignment (see [6]).

- **SCC** - SAT color code. The base station shall set this field to the supervisory audio tone color code associated with the assigned voice channel. If the assignment is to a narrow analog channel, the base station shall set this field to the two least significant bits of the DSCC.

- **MEM** - Message encryption mode indicator. If analog control message encryption is to be enabled on the assigned forward and reverse analog voice channels, the base station shall set this bit to ‘1’; otherwise, the base station shall set this bit to ‘0’.

- **AN_CHAN_TYPE** - Analog voice channel type. The base station shall set this field to the analog channel type as specified in Table 3.7.3.3.2.6-1. If the mobile station does not have narrow analog capability, the base station shall set this field to ‘00’.

- **DSCC_MSB** - Digital supervisory audio tone color code most significant bit. The base station shall set this field to ‘0’ when directing handoff to a wide analog channel. The base station shall set this field to the most significant bit of the DSCC when directing handoff to a narrow analog channel.

If the ASSIGN_MODE field is set to ‘100’, the base station shall include the following fields:

- **FREQ_INCL** - Frequency included indicator. If the BAND_CLASS and CDMA_FREQ fields are included in this assignment record, the base station shall set this bit to ‘1’. If the BAND_CLASS and CDMA_FREQ fields are not included in this assignment record, the base station shall set this bit to ‘0’.
BAND_CLASS - Band class.

If the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel(s) the mobile station is to use. If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field.

CDMA_FREQ - Frequency assignment.

If the FREQ_INCL bit is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the FREQ_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Forward Traffic Channel(s) the mobile station is to use.

BYPASS_ALERT_ANSWER - Bypass alert indicator.

If the base station has received a Page Response Message that specifies a packet data service option or other non-voice service option, and the mobile station is to bypass the Waiting for Order Substate and the Waiting for Mobile Station Answer Substate, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

GRANTED_MODE - Granted mode.

The base station shall set this field to ‘00’ to indicate that the mobile station is to use an initial service configuration consisting of the multiplex option and Radio Configuration defined by the DEFAULT_CONFIG field for the Forward and Reverse Traffic channels, and to indicate that service negotiation may take place before the base station sends the first Service Connect Message.

The base station shall set this field to ‘01’ to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the Origination Message or Page Response Message, and to indicate that service negotiation may take place before the base station sends the first Service Connect Message.
The base station shall set this field to '10' to indicate that the mobile station is to use an initial service configuration consisting of the default multiplex option and transmission rates corresponding to the service option requested by the mobile station either in the *Origination Message* or *Page Response Message*, and to indicate that service negotiation is not to take place before the base station sends the first *Service Connect Message*.

**DEFAULT_CONFIG** - Default Configuration.

If the **GRANTED_MODE** field is set to '00', the base station shall set this field as specified in Table 3.7.2.3.2.21-2 to indicate an initial multiplex option and Radio Configuration for the Forward and Reverse Traffic Channels.

**FOR_RC** - Forward Traffic Channel radio configuration.

The base station shall set this field to the radio configuration (see Table 3.7.2.3.2.21-3) to be used by the mobile station on the Forward Traffic (Fundamental and Dedicated Control) Channel before the first *Service Connect Message* is sent to the mobile station.

If **GRANTED_MODE** is set to '00', and **DEFAULT_CONFIG** is not set to '100' (see Table 3.7.2.3.2.21-2), the base station shall set this field to either '00001' or '00010' (see Table 3.7.2.3.2.21-3).

**REV_RC** - Reverse Traffic Channel radio configuration.

The base station shall set this field to the radio configuration (see Table 3.7.2.3.2.21-3) to be used by the mobile station on the Reverse Traffic (Fundamental and Dedicated Control) Channel before the first *Service Connect Message* is sent to the mobile station.

If **GRANTED_MODE** is set to '00', and **DEFAULT_CONFIG** is not set to '100' (see Table 3.7.2.3.2.21-2), the base station shall set this field to either '0001' or '0010' (see Table 3.7.2.3.21-3).

**FRAME_OFFSET** - Frame offset.

The Forward and Reverse Traffic Channel frames are delayed \( \text{FRAME OFFSET} \times 1.25 \text{ ms} \) relative to system timing (see [2]).

The base station shall set this field to the Forward and Reverse Traffic Channel frame offset.

**ENCRYPT_MODE** - Message encryption mode.

The base station shall set this field to the **ENCRYPT_MODE** value shown in Table 3.7.2.3.2.8-2 corresponding to the encrypting mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2.

**FPC_SUBCHAN_GAIN** - Forward Power Control Subchannel relative gain.
The base station shall set FPC_SUBCHAN_GAIN equal to the power level of the forward link power control subchannel relative to the power level of of 20 ms frames at a 9600 bps or 14400 bps rate on the Forward Fundamental Channel or the Forward Dedicated Control Channel that the Forward Power Control Subchannel is punctured on. The base station shall set the value in units of 0.25 dB.

RLGAIN_ADJ - Reverse Traffic Channel power relative to access power.

The base station shall set this field to adjust the initial Traffic Channel transmission power relative to the Access Channel transmission power. The base station shall set this field as a two’s complement signed binary number, in units of 1 dB.

NUM_PILOTS - Number of pilots in the Active Set.

The base station shall set this field to number of pilots that are to be in the mobile station’s Active Set on the Traffic Channel minus one. The base station shall set this field to the value in the range 0 to N6m-1 inclusive.

CH_IND - Channel indicator.

The base station shall set this field as shown in Table 3.7.2.3.2.21-4.

<table>
<thead>
<tr>
<th>Value (Binary)</th>
<th>Channels Being Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Reserved</td>
</tr>
<tr>
<td>01</td>
<td>Fundamental Channel only</td>
</tr>
<tr>
<td>10</td>
<td>Dedicated Control Channel only</td>
</tr>
<tr>
<td>11</td>
<td>Both Fundamental Channel and Dedicated Control Channel</td>
</tr>
</tbody>
</table>

CH_RECORD_LEN - Channel record length.

The base station shall set this field to the number of octets in the CH_RECORD_FIELDS included in this channel record.

CH_RECORD_FIELDS - Channel record fields.

The channel record fields are determined by the value of CH_IND, as described below.

REV_FCH-_GATING_MODE - Reverse eighth gating mode indicator.

The base station shall set this field to ‘1’ if the mobile station is allowed to perform the reverse eighth gating mode where the 1/8th rate frames on the Reverse Fundamental Channel are gated off for 10 ms per frame (see [2]); otherwise, the base station shall set this field to ‘0’.

Table 3.7.2.3.2.21-4. Channel Indicator
The base station shall not set this field to ‘1’ if REV_FCH_GATING_REQ included in the *Origination Message* or *Page Response Message* is set to ‘0’.

**REV_PWR_CNTL_DELAY_INCL** - Reverse power control delay included indicator.

If REV_FCH_GATING_MODE is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows.

The base station shall set this field to ‘1’ if REV_PWR_CNTL_DELAY is included in this message; otherwise, the base station shall set this field to ‘0’.

If the REV_FCH_GATING_MODE field in this message is set to ‘1’ and the REV_PWR_CNTL_INCL field in the *Extended System Parameters Message* is set to ‘0’, the base station shall set this field to ‘1’.

**REV_PWR_CNTL_DELAY** - The reverse power control delay.

If REV_PWR_CNTL_DELAY_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to the closed-loop reverse power control delay minus one (the closed-loop reverse power control delay is the time between the end of a gated-on reverse PCG and the beginning of the reverse PCG where the corresponding feedback is sent on the Forward Power Control Subchannel, see [2]) used by the mobile station, in units of 1.25 ms.

**RESERVED** - Reserved bits.

The base station shall set all the bits of this field to ‘0’ to make the entire record octet-aligned.

If the CH_IND field is set to ‘01’, the base station shall include the following fields:

**FPC_FCH_INIT_SETPT** - Initial Fundamental Channel outer loop $E_b/N_t$ setpoint.

The base station shall set this field to initial Fundamental Channel outer loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_FCH_FER** - Fundamental channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Forward Fundamental Channel, as specified in Table 3.7.3.3.2.25-2.

**FPC_FCH_MIN_SETPT** - Minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_FCH_MAX_SETPT** - Maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.
The base station shall set this field to maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

The base station shall include NUM_PILOTS plus one occurrence of the following record, one for each member of the mobile station’s Active Set on the Traffic Channel.

**PILOT_PN** - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

**ADD_PILOT_REC_INCL** - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

**PILOT_REC_TYPE** - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**Table 3.7.2.3.2.21-5. Pilot Record Types**

<table>
<thead>
<tr>
<th>Description</th>
<th>PILOT_REC_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmit Diversity Pilot</td>
<td>000</td>
</tr>
</tbody>
</table>

All other PILOT_REC_TYPE values are reserved

**RECORD_LEN** - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**Type-specific fields** - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.
If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD transmit power level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel, as specified in Table 3.7.2.3.2.21-6.

Table 3.7.2.3.2.21-6. OTD Transmit Power Level

<table>
<thead>
<tr>
<th>OTD_POWER_LEVEL</th>
<th>Transmit Power Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9 dB below the Forward Pilot Channel transmit power</td>
</tr>
<tr>
<td>01</td>
<td>6 dB below the Forward Pilot Channel transmit power</td>
</tr>
<tr>
<td>10</td>
<td>3 dB below the Forward Pilot Channel transmit power</td>
</tr>
<tr>
<td>11</td>
<td>Same as the Forward Pilot Channel transmit power</td>
</tr>
</tbody>
</table>

RESERVED - Reserved bits.

The base station shall set this field to ‘000000’.

PWR_COMB_IND - Power control symbol combining indicator.

If the Forward Fundamental Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ’1’; otherwise, the base station shall set this field to ‘0’. For the first occurrence of this record in the message, the base station shall set this field to ‘0’.

CODE_CHAN_FCH - Code channel index for the Fundamental Channel.
If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Forward Fundamental Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

QOF_MASK_ID_FCH - Quasi-Orthogonal Function Mask Identifier for the Fundamental Channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the quasi-orthogonal function mask identifier (see [2]) that the mobile station is to use on the Forward Fundamental Channel associated with this pilot.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding CH_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to '0'.

If the CH_IND field is set to ‘10’, the base station shall include the following fields:

FPC_DCCH_INIT_SETPT - Initial Dedicated Control Channel outer loop Eb/Nt setpoint.

The base station shall set this field to initial Dedicated Control Channel outer loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_DCCH_FER - Dedicated Control Channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Dedicated Control Channel, as specified in Table 3.7.3.3.2.25-2.

FPC_DCCH_MIN_SETPT - Minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint.

The base station shall set this field to minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_DCCH_MAX_SETPT - Maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint.

The base station shall set this field to maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.

The base station shall include NUM_PILOTS plus one occurrence of the following three-field record for each member of the mobile station’s Active Set on the Traffic Channel.

PILOT_PN - Pilot PN sequence offset index.
The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

**ADD_PILOT_REC_INCL** - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

**PILOT_REC_TYPE** - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**RECORD_LEN** - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**Type-specific fields** - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

**OTD_POWER_LEVEL** - OTD transmit power level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

** RESERVED** - Reserved bits.

The base station shall set this field to ‘000000’.
PWR_COMB_IND - Power control symbol combining indicator.

If the Forward Dedicated Control Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. For the first occurrence of this record in the message, the base station shall set this field to ‘0’.

CODE_CHAN_DCCH - Code channel index for the Dedicated Control Channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Forward Dedicated Control Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

QOF_MASK_ID_DCCH - Quasi-Orthogonal Function Mask Identifier for the Dedicated Control Channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the quasi-orthogonal function mask identifier (see [2]) that the mobile station is to use on the Forward Dedicated Control Channel associated with this pilot.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding CH_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to ‘0’.

If the CH_IND field is set to ‘11’, the base station shall include the following fields:

FPC_FCH_INIT_SETPT - Initial Fundamental Channel outer loop Eb/Nt setpoint.

The base station shall set this field to initial Fundamental Channel outer loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_DCCH_INIT_SETPT - Initial Dedicated Control Channel outer loop Eb/Nt setpoint.

The base station shall set this field to initial Dedicated Control Channel outer loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_PRI_CHAN - Power Control Subchannel indicator.
The base station shall set this field to ‘0’ if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on the Forward Fundamental Channel. The base station shall set this field to ‘1’ if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on the Forward Dedicated Control Channel.

**FPC_FCH_FER** - Fundamental channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Forward Fundamental Channel.

**FPC_FCH_MIN_SETPT** - Minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to minimum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_FCH_MAX_SETPT** - Maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to maximum Fundamental Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_DCCH_FER** - Dedicated Control Channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Dedicated Control Channel.

**FPC_DCCH_MIN_SETPT** - Minimum Dedicated Control Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to minimum Dedicated Control Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

**FPC_DCCH_MAX_SETPT** - Maximum Dedicated Control Channel Outer Loop $E_b/N_t$ setpoint.

The base station shall set this field to maximum Dedicated Control Channel Outer Loop $E_b/N_t$ setpoint, in units of 0.125 dB.

The base station shall include NUM_PILOTS plus one occurrence of the following three-field record, one for each member of the mobile station’s Active Set on the Traffic Channel.

**PILOT_PN** - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

**ADD_PILOT_REC_INCL** - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.
PILOT_REC_TYPE - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

RESERVED - Reserved bits.

The base station shall set this field to ‘000000’.

PWR_COMB_IND - Power control symbol combining indicator.

If the Forward Fundamental Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. For the first occurrence of this record in the message, the base station shall set this field to ‘0’.

CODE_CHAN_FCH - Code channel index for the Fundamental Channel.
If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Forward Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

QOF_MASK_ID_FCH - Quasi-Orthogonal Function Mask Identifier for the Fundamental Channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the quasi-orthogonal function mask identifier (see [2]) that the mobile station is to use on the Forward Fundamental Channel associated with this pilot.

CODE_CHAN_DCCH - Code channel index for the Dedicated Control channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the code channel index (see [2]), in the range of 1 to 255 inclusive, that the mobile station is to use on the Dedicated Control Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

QOF_MASK_ID_DCCH - Quasi-Orthogonal Function Mask Identifier for the Dedicated Control Channel.

If FOR_RC is set to a Radio Configuration associated with Spreading Rate 1, the base station shall set this field to the quasi-orthogonal function mask identifier (see [2]) that the mobile station is to use on the Forward Dedicated Control Channel associated with this pilot.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the total length of the fields after the preceding CH_RECORD_LEN field through this RESERVED field equal to an integer number of octets. The base station shall set these bits to '0'.
### 3.7.2.3.2.22 General Neighbor List Message

MSG_TAG: GNLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>PILOT_INC</td>
<td>4</td>
</tr>
<tr>
<td>NGHBRR_SRCH_MODE</td>
<td>2</td>
</tr>
<tr>
<td>NGHBRR_CONFIG_PN_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FREQ_FIELDS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>USE_TIMING</td>
<td>1</td>
</tr>
<tr>
<td>GLOBAL_TIMING_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>GLOBAL_TX_DURATION</td>
<td>0 or 4</td>
</tr>
<tr>
<td>GLOBAL_TX_PERIOD</td>
<td>0 or 7</td>
</tr>
<tr>
<td>NUM_NGHBR</td>
<td>6</td>
</tr>
</tbody>
</table>

NUM_NGHBR occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBRR_CONFIG</td>
<td>0 or 3</td>
</tr>
<tr>
<td>NGHBRR_PN</td>
<td>0 or 9</td>
</tr>
<tr>
<td>SEARCH_PRIORITY</td>
<td>0 or 2</td>
</tr>
<tr>
<td>SRCH_WIN_NGHBR</td>
<td>0 or 4</td>
</tr>
<tr>
<td>FREQ_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NGHBRR_BAND</td>
<td>0 or 5</td>
</tr>
<tr>
<td>NGHBRR_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>TIMING_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NGHBRR_TX_OFFSET</td>
<td>0 or 7</td>
</tr>
<tr>
<td>NGHBRR_TX_DURATION</td>
<td>0 or 4</td>
</tr>
<tr>
<td>NGHBRR_TX_PERIOD</td>
<td>0 or 7</td>
</tr>
</tbody>
</table>

(continues on next page)
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_ANALOG_NGHBR</td>
<td>3</td>
</tr>
<tr>
<td>NUM_ANALOG_NGHBR occurrences of the following record:</td>
<td></td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>SYS_A_B</td>
<td>2</td>
</tr>
<tr>
<td>SRCH_OFFSET_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_NGHBR occurrences of the following record:</td>
<td></td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NGHBR_PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or $8 \times$ RECORD_LEN</td>
</tr>
<tr>
<td>SRCH_OFFSET_NGHBR</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

PILOT_INC - Pilot PN sequence offset index increment.

A mobile station searches for Remaining Set pilots at pilot PN sequence index values that are multiples of this value.

The base station shall set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

The base station shall set this field to a value in the range 1 to 15 inclusive.

NGHBR_SRCH_MODE - Search mode.

The base station shall set this field to the value shown in Table 3.7.2.3.2.22-1 corresponding to the search mode.
Table 3.7.2.3.22-1. Search Mode Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No search priorities or search windows</td>
</tr>
<tr>
<td>01</td>
<td>Search priorities</td>
</tr>
<tr>
<td>10</td>
<td>Search windows</td>
</tr>
<tr>
<td>11</td>
<td>Search windows and search priorities</td>
</tr>
</tbody>
</table>

NGHBR_CONFIG-PN_INCL - Neighbor configuration and PN offset included.
If neighbor configuration and PN offset fields are included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

FREQ_FIELDS_INCL - Frequency fields included.
If frequency fields are included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

USE_TIMING - Use timing indicator.
If base station timing information is included for neighbor base stations, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

GLOBAL_TIMING-INCL - Global timing included.
If USE_TIMING is set to ‘1’, the base station shall include the field GLOBAL_TIMING_INCL and set this field as described below; otherwise, the base station shall omit this field.
If base station timing information is included globally for all neighbor base stations with TIMING_INCL equal to ‘1’, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

GLOBAL_TX-DURATION - Global neighbor transmit time duration.
If GLOBAL_TIMING_INCL is included and is set to ‘1’, the base station shall include the field GLOBAL_TX_DURATION and shall set this field as described below; otherwise, the base station shall omit this field.
The base station shall set this field to the duration of the base station transmit window, during each period, in units of 80 ms. The base station should set this field to a value of 3 or greater.
GLOBAL_TX_PERIOD - Global neighbor transmit time period.
If GLOBAL_TIMING_INCL is included and is set to '1', the base station shall include the field GLOBAL_TX_PERIOD and shall set this field as described below; otherwise, the base station shall omit this field.
The base station shall set this field to duration of the period, in units of 80 ms.

NUM_NGHBR - Number of neighbor pilot PN sequences.
The base station shall set this field to the number of neighbors included in the message.

The base station shall include one occurrence of the following record for each pilot that a mobile station is to place in its Neighbor Set. The base station shall use the same order for the following record in this message as is used for pilots which are listed in the Neighbor List Message or Extended Neighbor List Message. Specifically, the $i^{th}$ occurrence of the following record shall correspond the $i^{th}$ pilot in the Neighbor List Message or in the Extended Neighbor List Message.

NGHBR_CONFIG - Neighbor configuration.
If NGHBR_CONFIG_PN_INCL = '1', the base station shall set this field to the value shown in Table 3.7.2.3.2.22-2 corresponding to the configuration of this neighbor; otherwise, the base station shall omit this field.
Table 3.7.2.3.2.22-2. Neighbor Configuration Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Neighbor Configuration</th>
</tr>
</thead>
</table>
| 000            | The neighbor base station has the same number of frequencies having Paging Channels as the current base station. The neighbor base station has a CDMA frequency assignment corresponding to this current CDMA frequency assignment with the same number of Paging Channels, and the neighbor CDMA frequency is given as follows:  
  - If FREQ_INCL equals '0' for this record, this corresponding CDMA frequency assignment is the current CDMA frequency assignment.  
  - If FREQ_INCL equals ‘1’ for this record, this corresponding CDMA frequency assignment is given by NGHBR_BAND and NGHBR_FREQ.  
  The position of the neighbor CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station. |
| 001            | The neighbor base station has the same number of frequencies having Paging Channels as the current base station. The neighbor base station has a CDMA frequency assignment corresponding to this current CDMA frequency assignment but possibly with a different number of Paging Channels, and the neighbor CDMA frequency is given as follows:  
  - If FREQ_INCL equals '0' for this record, this corresponding CDMA frequency assignment is the current CDMA frequency assignment.  
  - If FREQ_INCL equals ‘1’ for this record, this corresponding CDMA frequency assignment is given by NGHBR_BAND and NGHBR_FREQ.  
  The position of the neighbor CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the neighbor base station is the same as the position of this current CDMA frequency assignment in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station.  
  This corresponding neighbor CDMA frequency assignment does have a Primary Paging Channel. |
The neighbor base station may have a different number of frequencies having Paging Channels as the current base station. The neighbor base station has a Primary Paging Channel on the following CDMA frequency:

- If FREQ_INCL equals ‘0’ for this record, the neighbor base station has a Primary Paging Channel on the first CDMA Channel listed in the CDMA Channel List Message or the Extended CDMA Channel List Message transmitted by the current base station.
- If FREQ_INCL equals ‘1’ for this record, the neighbor base station has a Primary Paging Channel on the CDMA frequency assignment given by NGHBR_BAND and NGHBR_FREQ.

The neighbor base station configuration is unknown but the neighbor base station has a Pilot Channel on the following frequency:

- If FREQ_INCL equals ‘0’ for this record, the neighbor CDMA frequency assignment is the same as the current CDMA frequency assignment and has a Pilot Channel.
- If FREQ_INCL equals ‘1’ for this record, the CDMA frequency assignment given by NGHBR_BAND and NGHBR_FREQ has a Pilot Channel.

Reserved.

<table>
<thead>
<tr>
<th>NGHBR_PN</th>
<th>Neighbor pilot PN sequence offset index.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If NGHBR_CONFIG_PN_INCL = ‘1’, the base station shall set this field to the pilot PN sequence offset for this neighbor, in units of 64 PN chips; otherwise, the base station shall omit this field.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEARCH_PRIORITY</th>
<th>Pilot Channel search priority.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If NGHBR_SRCH_MODE = ‘01’ or NGHBR_SRCH_MODE = ‘11’, then the base station shall set this field to the search priority for the Pilot Channel corresponding to NGHBR_PN. The base station shall set the search priority as shown in Table 3.7.2.3.2.22-3. If NGHBR_SRCH_MODE is set to any other value, the base station shall omit this field.</td>
</tr>
</tbody>
</table>
Table 3.7.2.3.22-3. Search Priority Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Search Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Low</td>
</tr>
<tr>
<td>01</td>
<td>Medium</td>
</tr>
<tr>
<td>10</td>
<td>High</td>
</tr>
<tr>
<td>11</td>
<td>Very High</td>
</tr>
</tbody>
</table>

SRCH_WIN_NGHBR - Neighbor pilot channel search window size.

If NGHBR_SRCH_MODE = ‘10’ or ‘11’, then the base station shall set this field to the value shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for this neighbor. If NGHBR_SRCH_MODE is set to any other value, the base station shall omit this field.

FREQ_INCL - Frequency included indicator.

If FREQ_FIELDS_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

If the NGHBR_BAND and NGHBR_FREQ fields are included for this neighbor base station, the base station shall set this bit to ‘1’. If the NGHBR_BAND and NGHBR_FREQ fields are not included in this assignment record, the base station shall set this bit to ‘0’.

NGHBR_BAND - Neighbor band class.

If the FREQ_INCL bit is included and is set to ‘1’, the base station shall set this field to the CDMA band class, as specified in [38], corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to search. If the FREQ_INCL bit is omitted or is set to ‘0’, the base station shall omit this field.

NGHBR_FREQ - Neighbor frequency assignment.

If the FREQ_INCL bit is included and is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel the mobile station is to search. If the FREQ_INCL bit is omitted or is set to ‘0’, the base station shall omit this field.

TIMING_INCL - Timing included indicator.

If USE_TIMING is set to ‘1’, the base station shall include the field TIMING_INCL and set this field as described below; otherwise, the base station shall omit this field.
If base station timing information is included for this neighbor base station, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

**NGHBR_TX_OFFSET** - Neighbor transmit time offset.

If TIMING_INCL is included and is set to '1', the base station shall include the field NGHBR_TX_OFFSET and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to the time offset, in units of 80 ms, from the beginning of the neighbor timing period to the beginning of the first base station transmit window within the period. The beginning of the neighbor timing period occurs when $\lfloor t/4 \rfloor \mod (16384) = 0$.

**NGHBR_TX_DURATION** - Neighbor transmit time duration.

If TIMING_INCL is included and is set to '1' and GLOBAL_TIMING_INCL is set to '0', the base station shall include the field NGHBR_TX_DURATION and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to duration of the base station transmit window, during each period, in units of 80 ms. The base station should set this field to a value of 3 or greater.

**NGHBR_TX_PERIOD** - Neighbor transmit time period.

If TIMING_INCL is included and is set to '1' and GLOBAL_TIMING_INCL is set to '0', the base station shall include the field NGHBR_TX_PERIOD and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to duration of the period, in units of 80 ms.

**NUM_ANALOG_NGHBR** - Number of neighboring analog systems.

The base station shall set this field to the number of neighboring analog systems included in the message.

The base station shall include one occurrence of the following record for each neighboring analog system included in the message:

**BAND_CLASS** - Band class.

The base station shall set this field to the CDMA band class, as specified in [38].

**SYS_A_B** - System A/B.
If BAND_CLASS is set to '00000' or to '00011', the base station shall set this field to the value shown in Table 3.7.2.3.2.22-4 corresponding to the availability of neighboring analog systems; otherwise, the base station shall set this field to '00'.

Table 3.7.2.3.2.22-4. Cellular System A/B

<table>
<thead>
<tr>
<th>Cellular System A/B</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>00</td>
</tr>
<tr>
<td>System A</td>
<td>01</td>
</tr>
<tr>
<td>System B</td>
<td>10</td>
</tr>
<tr>
<td>System A and B</td>
<td>11</td>
</tr>
</tbody>
</table>

SRCH_OFFSET_INCL - Neighbor pilot channel search window offset included. If the SRCH_OFFSET_NGHBR field is included in the following records, the base station shall set this bit to '1'; otherwise, the base station shall set this bit to '0'.

The base station shall include one occurrence of the following record for each pilot that a mobile station is to place in its Neighbor Set. The base station shall use the same order for the following record in this message as is used for pilots which are listed in the Neighbor List Message or Extended Neighbor List Message. Specifically, the \( i \)th occurrence of the following record shall correspond the \( i \)th pilot in the Neighbor List Message or in the Extended Neighbor List Message.

ADD_PILOT_REC_INCL - Additional pilot information included indicator. The base station shall set this field to '1' if additional pilot information listed in the NGHBR_PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to '0' if the corresponding pilot is the common pilot and there is no additional pilot information included.

NGHBR_PILOT_REC_TYPE - Neighbor Pilot record type. If ADD_PILOT_REC_INCL is set to '1', the base station shall set this field to the NGHBR_PILOT_REC_TYPE value shown in Table 3.7.2.3.2.22-5 corresponding to the type of Pilot Record specified by this record.

Table 3.7.2.3.2.22-5. Neighbor Pilot Record Types

<table>
<thead>
<tr>
<th>Description</th>
<th>NGHBR_PILOT_REC_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Pilot with Transmit Diversity</td>
<td>000</td>
</tr>
</tbody>
</table>

All other NGHBR_PILOT_REC_TYPE values are reserved.

3-192
If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**RECORD_LEN** - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**Type-specific fields** - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the NGHBR_PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If NGHBR_PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

**OTD_POWER_LEVEL** - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

**RESERVED** - Reserved bits.

The base station shall set this field to ‘000000’.

**SRCH_OFFSET_NGHB** - Neighbor pilot channel search window size offset.

If NGHBR_SRCH_MODE = ‘10’ or ‘11’ and SRCH_OFFSET_INCL equals to ‘1’, then the base station shall set this field to the value shown in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by mobile stations for this neighbor. If NGHBR_SRCH_MODE is set to any other value or if SRCH_OFFSET_INCL equals to ‘0’, the base station shall omit this field.
3.7.2.3.2.23 User Zone Identification Message

MSG_TAG: UZIM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>UZ_EXIT</td>
<td>4</td>
</tr>
<tr>
<td>NUM_UZID</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_UZID occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UZID</td>
<td>16</td>
</tr>
<tr>
<td>UZ_REV</td>
<td>4</td>
</tr>
<tr>
<td>TEMP_SUB</td>
<td>1</td>
</tr>
</tbody>
</table>

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

UZ_EXIT - User Zone Exit parameter.

The base station shall set this field to the User Zone exit parameter (see 2.6.9.2.1). The base station shall set this field to a value (in dB) in the range 0 to 15.

NUM_UZID - Number of User Zone identifiers.

The base station shall set this field to the number of user zone identifiers included in this message.

The base station shall include NUM_UZID occurrences of the following record.

UZID - User Zone identifier.

The base station shall set this field to the User Zone identifier (see 3.6.7) supported by the base station.

UZ_REV - User Zone update revision number.

The base station shall set this field to the User Zone update revision number.

TEMP_SUB - Temporary subscription flag.

If the corresponding User Zone allows for temporary subscription, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.
3.7.2.3.2.24 Private Neighbor List Message

**MSG_TAG:** PNLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>NUM_RADIO_INTERFACE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_RADIO_INTERFACE occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADIO_INTERFACE_TYPE</td>
<td>4</td>
</tr>
<tr>
<td>RADIO_INTERFACE_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Radio Interface Type-specific fields</td>
<td>$8 \times$ RADIO_INTERFACE_LEN</td>
</tr>
</tbody>
</table>

- **PILOT_PN** - Pilot PN sequence offset index.
  - The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

- **CONFIG_MSG_SEQ** - Configuration message sequence number.
  - The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

- **NUM_RADIO_INTERFACE** - Number of interface types.
  - The base station shall set this field to the number of radio interface types for which private neighbors are included in this message.

The base station shall include NUM_RADIO_INTERFACE occurrences of the following record, one occurrence for each radio interface for which private neighbors are included in this message.

- **RADIO_INTERFACE_TYPE** - The radio interface type.
  - The base station shall set this field to the radio interface type of this record as specified in Table 3.7.2.3.2.24-1.
Table 3.7.2.3.2.24-1. Radio Interface Type

<table>
<thead>
<tr>
<th>RADIO_INTERFACE_TYPE (binary)</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>MC system</td>
</tr>
<tr>
<td>0001-1111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

RADIO_INTERFACE_LEN - The length of the Radio Interface Type-specific fields. The base station shall set this field to the number of octets in the Radio Interface Type-specific fields of this record.

If RADIO_INTERFACE_TYPE is equal to ‘0000’, the base station shall set the radio interface type-specific fields as follows:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMON_INCL</td>
<td>1</td>
</tr>
<tr>
<td>COMMON_BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>COMMON_NGHBR_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>SRCH_WIN_PN</td>
<td>4</td>
</tr>
<tr>
<td>NUM_PRI_NGHBR</td>
<td>6</td>
</tr>
</tbody>
</table>

NUM_PRI_NGHBR occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
<tr>
<td>PRI_NGHBR_PN</td>
<td>9</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NGHBR_PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8× RECORD_LEN</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>NGHBR_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>UZID_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_UZID</td>
<td>0 or 4</td>
</tr>
</tbody>
</table>

If UZID_INCL = 1, NUM_UZID occurrences of the following subrecord; otherwise, no occurrence of the following subrecord:
COMMON_INCL - Common configuration included indicator.

If all private neighbor base stations included in this message are on the same CDMA band class and CDMA Channel number as specified in the COMMON_BAND_CLASS and COMMON_NGHBFR_FREQ fields, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

COMMON_BAND_CLASS - Neighbor band class.

If COMMON_INCL is set to ‘1’, the base station shall set this field to the CDMA band class as specified in [38] corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel for all private neighbors; otherwise, the base station shall omit this field.

COMMON_NGHBFR_FREQ - Neighbor frequency assignment.

If the COMMON_INCL bit is set to ‘1’, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel for all private neighbor base station; otherwise, the base station shall omit this field.

SRCH_WIN_N - Search window size for the Private Neighbor Set.

The base station shall set this field to the value shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Private Neighbor Set.

NUM_PRI_NGHBFR - Number of private neighbor pilot PN sequences.

The base station shall set this field to the number of private neighbors included in the message.

The base station shall include NUM_PRI_NGHBFR occurrences of the following record.

SID - System Identification.

The base station shall set this field to the system identification number for this private neighbor system (see 2.6.5.2).

NID - Network Identification.

This field serves as a sub-identifier of a system as defined by the owner of the SID.
The base station shall set this field to the system identification number for this private neighbor network (see 2.6.5.2).

PRI_NGHBR_PN - Private neighbor pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this private neighbor, in units of 64 PN chips.

ADD_PILOT_REC_INCL - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in the NGHBR_PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

NGHBR_PILOT_REC_TYPE - Neighbor Pilot record type

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the NGHBR_PILOT_REC_TYPE value shown in Table 3.7.2.3.2.22-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the NGHBR_PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If NGHBR_PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

RESERVED - Reserved bits.
The base station shall set this field to ‘000000’.

**BAND_CLASS** - Neighbor band class.

If COMMON_INCL is set to ‘0’, the base station shall set this field to the CDMA band class as specified in [38] corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel for the private neighbor; otherwise, the base station shall omit this field.

**NGHBR_FREQ** - Neighbor frequency assignment.

If the COMMON_INCL bit is set to ‘0’, the base station shall set this field to the CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel containing the Paging Channel for the private neighbor base station; otherwise, the base station shall omit this field.

**UZID_INCL** - User Zone identifier included indicator.

If the UZID information is included, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**NUM_UZID** - Number of User Zone identifiers.

If UZID_INCL is set to ‘1’, the base station shall set this field to the number of occurrences of UZID supported by the private neighbor base station; otherwise, the base station shall omit this field.

If UZID_INCL is set to ‘1’, the base station shall include NUM_UZID occurrences of the following three-field subrecord; otherwise, the base station shall omit this subrecord.

**UZID** - User Zone identifiers.

The base station shall set this field to the User Zone identifier supported by the private neighbor base station.

**UZ_REV** - User Zone update revision number.

The base station shall set this field to the User Zone update revision number.

**TEMP_SUB** - Temporary subscription flag.

If the corresponding User Zone allows for temporary subscription, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire record equal to an integer number of octets. The base station shall set these bits to ‘0’.

3.7.3.2.25 Reserved
3.7.2.3.2.26 Sync Channel Message

MSG_TAG: SCHM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_REV</td>
<td>8</td>
</tr>
<tr>
<td>MIN_P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>LC_STATE</td>
<td>42</td>
</tr>
<tr>
<td>SYS_TIME</td>
<td>36</td>
</tr>
<tr>
<td>LP_SEC</td>
<td>8</td>
</tr>
<tr>
<td>LTM_OFF</td>
<td>6</td>
</tr>
<tr>
<td>DAYLT</td>
<td>1</td>
</tr>
<tr>
<td>PRAT</td>
<td>2</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>11</td>
</tr>
<tr>
<td>EXT_CDMA_FREQ</td>
<td>11</td>
</tr>
</tbody>
</table>

P_REV - Protocol revision level.

The base station shall set this field to ‘00000110’.

MIN_P_REV - Minimum protocol revision level.

The base station sets this field to prevent mobile stations which cannot be supported by the base station from accessing the system.

The base station shall set this field to the minimum protocol revision level that it supports. For Band Class 0 operation, the base station should set this field to a value of ‘00000001’ or greater. For Band Class 1 or Band Class 4 operation, the base station should set this field to a value of ‘000000001’ or greater. For Band Class 3 operation, the base station should set this field to a value of ‘00000011’ or greater. For Band Class 2 or Band Class 5 operation, the base station should set this field to a value of ‘00000101’ or greater. For Band Class 6, Band Class 7, Band Class 8, Band Class 9, or Band Class 10 operation, the base station should set this field to ‘00000110’.

SID - System identification.

The base station shall set this field to the system identification number for this system (see 2.6.5.2).
NID - Network identification.
This field serves as a sub-identifier of a system as defined by
the owner of the SID.
The base station shall set this field to the network
identification number for this network (see 2.6.5.2).

PILOT_PN - Pilot PN sequence offset index.
The base station shall set this field to the pilot PN sequence
offset for this base station, in units of 64 PN chips.

LC_STATE - Long code state.
The base station shall set this field to the long code state at
the time given by the SYS_TIME field of this message.

SYS_TIME - System time.
The base station shall set this field to the System Time as of
four Sync Channel superframes (320 ms) after the end of the
last superframe containing any part of this Sync Channel
Message, minus the pilot PN sequence offset, in units of 80
ms (see [2]).

LP_SEC - The number of leap seconds that have occurred since the start
of System Time.
The base station shall set this field to the number of leap
seconds that have occurred since the start of System Time, as
of the time given by the SYS_TIME field of this message.

LTM_OFF - Offset of local time from System Time.
The base station shall set this field to the two's complement
offset of local time from System Time, in units of 30 minutes.
The local time of day, in units of 80 ms, as of four Sync
Channel superframes (320 ms) after the end of the last
superframe containing any part of this Sync Channel Message,
minus the pilot PN sequence offset, is equal to SYS_TIME -
(LP_SEC × 12.5) + (LTM_OFF × 22500).

DAYLT - Daylight savings time indicator.
If daylight savings time is in effect, the base station shall set
this field to ‘1’; otherwise, the base station shall set this field
to ‘0’.

PRAT - Paging Channel data rate.
The base station shall set this field to the PRAT field value
shown in Table 3.7.2.3.2.26-1 corresponding to the data rate
used by the Paging Channels in the system.
Table 3.7.2.3.2.26-1. Paging Channel Data Rate

<table>
<thead>
<tr>
<th>PRAT Field (binary)</th>
<th>Paging Channel data rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9600 bps</td>
</tr>
<tr>
<td>01</td>
<td>4800 bps</td>
</tr>
<tr>
<td>10</td>
<td>Reserved</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

CDMA_FREQ - Frequency assignment.

The base station shall set this field to the CDMA Channel number corresponding to the CDMA frequency assignment for the CDMA Channel containing a Primary Paging Channel.4

EXT_CDMA_FREQ - Extended frequency assignment.

The base station shall set this field to the CDMA Channel number corresponding to the CDMA frequency assignment for the CDMA Channel containing a Primary Paging Channel that a mobile station capable of Radio Configurations greater than 2 or capable of supporting Quick Paging Channel will use.

---

4 If compatibility with IS-95-A mobile stations is desired in a Band Class 0 system, the CDMA_FREQ field is set to the CDMA frequency assignment containing this Sync Channel.
3.7.2.3.2.27 Extended Global Service Redirection Message

MSG_TAG: EGSRDm

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>REDIRECT_ACCOLC</td>
<td>16</td>
</tr>
<tr>
<td>RETURN_IF_FAIL</td>
<td>1</td>
</tr>
<tr>
<td>DELETE_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>REDIRECT_P_REV_INCL</td>
<td>1</td>
</tr>
<tr>
<td>EXCL_P_REV_IND</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REDIRECT_P_MIN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>REDIRECT_P_MAX</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

One occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>8 RECORD_LEN</td>
</tr>
</tbody>
</table>

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

CONFIG_MSG_SEQ - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

REDIRECT_ACCOLC - Redirected access overload classes.

See REDIRECT_ACCOLC field defined in 3.7.2.3.2.18.

The base station shall set the subfields corresponding to the access overload classes of mobile stations which are to be redirected to ‘1’, and shall set the remaining subfields to ‘0’.
RETURN_IF_FAIL - Return if fail indicator.

The base station shall set this field to ‘1’ if the mobile station is required to return to the system from which it is being redirected upon failure to obtain service using the redirection criteria specified in this message; otherwise, the base station shall set this field to ‘0’.

DELETE_TMSI - Delete TMSI indicator.

The base station shall set this field to ‘1’ if the mobile station is required to delete the TMSI assigned to the mobile station; otherwise, the base station shall set this field to ‘0’.

REDIRECT_P_REV_INCL - Redirection mobile protocol revision included.

If the redirection specified in this message applies to the mobile stations of some specific protocol revisions, the base station shall set this field to ‘1’; otherwise, if this redirection applies to all mobile stations, the base station shall set this field to ‘0’.

EXCL_P_REV_IND - Excluding mobile protocol revision indicator.

If the REDIRECT_P_REV_INCL is set to ‘1’, the base station shall include this field and set this field as described below; otherwise, the base station shall omit this field.

If mobile stations with MOB_P_REV in the range between REDIRECT_P_MIN and REDIRECT_P_MAX are excluded from this Global Service Redirection, the base station shall set this field to ‘1’. Otherwise, if the mobile stations with MOB_P_REV in the protocol revision range specified in DIRECT_P_MIN and DIRECT_P_MAX are subjected to the redirection, the base station shall set this field to ‘0’.

REDIRECT_P_MIN - Minimum redirection protocol revision.

If REDIRECT_P_REV_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows.

The base station shall set this field to the minimum protocol revision of which mobile stations are subjected to as specified by the action contained in EXCL_P_REV_IND (i.e., to be redirected or excluded from redirection). The base station shall set this field to a protocol revision equal to or greater than six.

REDIRECT_P_MAX - Maximum redirection protocol revision.

If REDIRECT_P_REV_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows.

The base station shall set this field to the maximum protocol revision of which mobile stations are subjected to as specified by the action contained in EXCL_P_REV_IND (i.e., to be redirected or excluded from redirection). The base station shall set this field to a protocol revision equal to or greater than six.
The base station shall include one occurrence of the following three-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td></td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td></td>
</tr>
<tr>
<td>Type-specific fields</td>
<td></td>
</tr>
</tbody>
</table>

- **RECORD_TYPE** - Redirection record type.
  The base station shall set this field to the RECORD_TYPE value shown in Table 3.7.2.3.2.16-2 corresponding to the type of redirection specified by this record.

- **RECORD_LEN** - Redirection record length.
  The base station shall set this field to the number of octets in the type-specific fields of this redirection record.

- **Type-specific fields** - Redirection record type-specific fields.
  The base station shall include type-specific fields based on the RECORD_TYPE of this redirection record.

If RECORD_TYPE is equal to ‘00000001’, the base station shall include the following fields:

- **EXPECTED_SID** - Expected SID.
  If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

- **IGNORE_CDMA** - Ignore CDMA Available indicator.
  The base station shall set this field to ‘1’ to indicate that the mobile station is to ignore the CDMA Capability Message on the analog system to which it is being redirected. The base station shall set this field to ‘0’ to indicate that the mobile station may discontinue service on the system to which it is being redirected if the mobile station receives a CDMA Capability Message with CDMA_AVAIL equal to ‘1’, and the preferred mode of the mobile station is CDMA.

- **SYS_ORDERING** - System ordering.
  The base station shall set this field to the SYS_ORDERING value shown in Table 3.7.2.3.2.16-3 corresponding to the order in which the mobile station is to attempt to obtain service on an analog system.

- **MAX_REDIRECT_DELAY** - Maximum delay upon redirection.
The base station shall set this field to the maximum delay time, in units of 8 second increments, to be used by mobile stations in the event of a global redirection to analog mode. This operation can be invoked to avoid overloading an underlying analog cell’s reverse control channel.

If RECORD_TYPE is equal to '00000010', the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>EXPECTED_NID</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>NUM_CHANS</td>
<td>4</td>
</tr>
<tr>
<td>NUM_CHANS occurrences of the following field:</td>
<td></td>
</tr>
<tr>
<td>CDMA_CHAN</td>
<td>11</td>
</tr>
</tbody>
</table>

- **BAND_CLASS** - Band class. The base station shall set this field to the CDMA band class, as specified in [38].
- **EXPECTED_SID** - Expected SID. If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to ‘0’.
- **EXPECTED_NID** - Expected NID. If the base station is redirecting the mobile station to a specific network, the base station shall set this field to the NID of that network; otherwise, the base station shall set this field to 65535.
- **RESERVED** - Reserved bits. The base station shall set this field to ‘0’
- **NUM_CHANS** - Number of CDMA Channels. The base station shall set this field to the number of occurrences of the CDMA_CHAN field in this record.
- **CDMA_CHAN** - CDMA Channel number.
For each CDMA Channel on which the mobile station is to attempt to acquire a CDMA system, the base station shall include one occurrence of this field specifying the associated CDMA Channel number.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire record equal to an integer number of octets. The base station shall set these bits to ‘0’.

### 3.7.2.3.2.28 Extended CDMA Channel List Message

**MSG_TAG**: ECCLM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>CONFIG_MSG_SEQ</td>
<td>6</td>
</tr>
<tr>
<td>NUM_FREQ</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_FREQ occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMA_FREQ</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_QPCH_SEL_INCL</td>
<td>1</td>
</tr>
</tbody>
</table>

If RC_QPCH_SEL_INCL is equal to ‘1’, include NUM_FREQ occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_QPCH_HASH_IND</td>
<td>1</td>
</tr>
</tbody>
</table>

**PILOT_PN** - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this base station, in units of 64 PN chips.

**CONFIG_MSG_SEQ** - Configuration message sequence number.

The base station shall set this field to CONFIG_SEQ (see 3.6.2.2).

**NUM_FREQ** - Number of CDMA Frequencies

The base station shall set this field to the number of supported CDMA frequencies included in this message.

**CDMA_FREQ** - CDMA Channel frequency assignment.

The base station shall include one occurrence of this field for each CDMA Channel, containing a Paging Channel.

The base station shall set each occurrence of this field to the CDMA channel number corresponding to the CDMA frequency assignment for that CDMA Channel (see [2]).
RC_QPCH_SEL_INCL - RC and QPCH Selection included indicator

The base station shall set this field to ‘1’, if NUM_FREQ occurrences of RC_QPCH_HASH_IND are included; otherwise, it shall set this field to ‘0’.

If the base station sets RC_QPCH_SEL_INCL to ‘1’, the base station shall set the RC_QPCH_HASH_IND field to ‘1’ in at least one of the following one-field records:

RC_QPCH_HASH_IND - RC_QPCH channel hashing indicator.

If RC_QPCH_SEL_INCL is set to ‘1’, the base station shall include this field and set this field as follow; otherwise, the base station shall omit this field.

If the associated CDMA_FREQ is to be selected for CDMA channel hashing by mobile stations capable of RC greater than two or capable of supporting Quick Paging Channel, the base station shall set the field to ‘1’; otherwise, the base station shall set this field to ‘0’.

3.7.2.3.2.29 User Zone Reject Message

MSG_TAG: UZRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECT_UZID</td>
<td>16</td>
</tr>
<tr>
<td>REJECT_ACTION_INDI</td>
<td>3</td>
</tr>
<tr>
<td>UZID_ASSIGN_INCL</td>
<td>1</td>
</tr>
<tr>
<td>ASSIGN_UZID</td>
<td>0 or 16</td>
</tr>
</tbody>
</table>

REJECT_UZID - Rejected User Zone identifier.

The base station shall set this field to the User Zone identifier of the User Zone rejected by the base station.

REJECT_ACTION_INDI - Rejection action indicator.

The base station shall set this field to the value shown in Table 3.7.2.3.2.29-1 corresponding to the User Zone rejection action field to identify the mobile station action.
Table 3.7.2.3.2.29-1. Rejection Action Indicators

<table>
<thead>
<tr>
<th>Description</th>
<th>REJECT_ACTION_INDI (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable UZID until Next Update</td>
<td>000</td>
</tr>
<tr>
<td>Disable UZID until next power cycle</td>
<td>001</td>
</tr>
<tr>
<td>Disable UZID until new SID</td>
<td>010</td>
</tr>
<tr>
<td>Disable UZID until new SID/NID</td>
<td>011</td>
</tr>
<tr>
<td>Disable UZID until next BASE_ID</td>
<td>100</td>
</tr>
<tr>
<td>All other REJECT_ACTION_INDI values are reserved</td>
<td></td>
</tr>
</tbody>
</table>

UZID_ASSIGN_INCL - User Zone identifier assignment included indicator.

If assigned UZID information is included, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

ASSIGN_UZID - Assigned User Zone identifiers.

The base station shall set this field to the User Zone identifier of the User Zone assigned to the mobile station.
During Traffic Channel operation, the base station sends signaling messages to the mobile station using the f-dsch.

3.7.3.1 Reserved

3.7.3.2 Reserved
### 3.7.3.3 PDU Formats on the f-dsch

The signaling messages sent over the f-dsch are summarized in Table 3.7.3.3-1.

#### Table 3.7.3.3-1. f-dsch Messages (Part 1 of 2)

<table>
<thead>
<tr>
<th>Message Name</th>
<th>MSG_TAG</th>
<th>Section Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Message</td>
<td>ORDRM</td>
<td>3.7.3.3.2.1</td>
</tr>
<tr>
<td>Authentication Challenge Message</td>
<td>AUCM</td>
<td>3.7.3.3.2.2</td>
</tr>
<tr>
<td>Alert With Information Message</td>
<td>AWIM</td>
<td>3.7.3.3.2.3</td>
</tr>
<tr>
<td>Data Burst Message</td>
<td>DBM</td>
<td>3.7.3.3.2.4</td>
</tr>
<tr>
<td>Analog Handoff Direction Message</td>
<td>AHDM</td>
<td>3.7.3.3.2.6</td>
</tr>
<tr>
<td>In-Traffic System Parameters Message</td>
<td>ITSPM</td>
<td>3.7.3.3.2.7</td>
</tr>
<tr>
<td>Neighbor List Update Message</td>
<td>NLUM</td>
<td>3.7.3.3.2.8</td>
</tr>
<tr>
<td>Send Burst DTMF Message</td>
<td>BDTMF</td>
<td>3.7.3.3.2.9</td>
</tr>
<tr>
<td>Power Control Parameters Message</td>
<td>PCNP</td>
<td>3.7.3.3.2.10</td>
</tr>
<tr>
<td>Retrieve Parameters Message</td>
<td>RTPM</td>
<td>3.7.3.3.2.11</td>
</tr>
<tr>
<td>Set Parameters Message</td>
<td>STPM</td>
<td>3.7.3.3.2.12</td>
</tr>
<tr>
<td>SSD Update Message</td>
<td>SSDUM</td>
<td>3.7.3.3.2.13</td>
</tr>
<tr>
<td>Flash With Information Message</td>
<td>FWIM</td>
<td>3.7.3.3.2.14</td>
</tr>
<tr>
<td>Mobile Station Registered Message</td>
<td>MSRM</td>
<td>3.7.3.3.2.15</td>
</tr>
<tr>
<td>Status Request Message</td>
<td>STRQM</td>
<td>3.7.3.3.2.16</td>
</tr>
<tr>
<td>Extended Handoff Direction Message</td>
<td>EHDM</td>
<td>3.7.3.3.2.17</td>
</tr>
<tr>
<td>Service Request Message</td>
<td>SRQM</td>
<td>3.7.3.3.2.18</td>
</tr>
<tr>
<td>Service Response Message</td>
<td>SRPM</td>
<td>3.7.3.3.2.19</td>
</tr>
<tr>
<td>Service Connect Message</td>
<td>SCM</td>
<td>3.7.3.3.2.20</td>
</tr>
<tr>
<td>Service Option Control Message</td>
<td>SOCM</td>
<td>3.7.3.3.2.21</td>
</tr>
<tr>
<td>TMSI Assignment Message</td>
<td>TASM</td>
<td>3.7.3.3.2.22</td>
</tr>
<tr>
<td>Service Redirection Message</td>
<td>SRDM</td>
<td>3.7.3.3.2.23</td>
</tr>
<tr>
<td>Supplemental Channel Assignment Message</td>
<td>SCAM</td>
<td>3.7.3.3.2.24</td>
</tr>
<tr>
<td>Power Control Message</td>
<td>PCNM</td>
<td>3.7.3.3.2.25</td>
</tr>
</tbody>
</table>
### Table 3.7.3.3-1. f-dsch Messages (Part 2 of 2)

<table>
<thead>
<tr>
<th>Message Name</th>
<th>MSG_TAG</th>
<th>Section Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended Neighbor List Update Message</td>
<td>ENLUM</td>
<td>3.7.3.3.2.26</td>
</tr>
<tr>
<td>Candidate Frequency Search Request Message</td>
<td>CFSRQM</td>
<td>3.7.3.3.2.27</td>
</tr>
<tr>
<td>Candidate Frequency Search Control Message</td>
<td>CFSCNM</td>
<td>3.7.3.3.2.28</td>
</tr>
<tr>
<td>Power Up Function Message</td>
<td>PUFM</td>
<td>3.7.3.3.2.29</td>
</tr>
<tr>
<td>Power Up Function Completion Message</td>
<td>PUFCM</td>
<td>3.7.3.3.2.30</td>
</tr>
<tr>
<td>General Handoff Direction Message</td>
<td>GHDM</td>
<td>3.7.3.3.2.31</td>
</tr>
<tr>
<td>Resource Allocation Message</td>
<td>RAM</td>
<td>3.7.3.3.2.32</td>
</tr>
<tr>
<td>Resource Allocation Mini Message</td>
<td>RAMM</td>
<td>3.7.3.3.2.33</td>
</tr>
<tr>
<td>Extended Release Message</td>
<td>ERM</td>
<td>3.7.3.3.2.34</td>
</tr>
<tr>
<td>Extended Release Mini Message</td>
<td>ERMM</td>
<td>3.7.3.3.2.35</td>
</tr>
<tr>
<td>Universal Handoff Direction Message</td>
<td>UHDM</td>
<td>3.7.3.3.2.36</td>
</tr>
<tr>
<td>Extended Supplemental Channel Assignment Message</td>
<td>ESCAM</td>
<td>3.7.3.3.2.37</td>
</tr>
<tr>
<td>Forward Supplemental Channel Assignment Mini Message</td>
<td>FSCAMM</td>
<td>3.7.3.3.2.38</td>
</tr>
<tr>
<td>Reverse Supplemental Channel Assignment Mini Message</td>
<td>RSCAMM</td>
<td>3.7.3.3.2.39</td>
</tr>
<tr>
<td>Mobile Assisted Burst Operation Parameters Message</td>
<td>MABOPM</td>
<td>3.7.3.3.2.40</td>
</tr>
<tr>
<td>User Zone Reject Message</td>
<td>UZRM</td>
<td>3.7.3.3.2.41</td>
</tr>
<tr>
<td>User Zone Update Message</td>
<td>UZUM</td>
<td>3.7.3.3.2.42</td>
</tr>
</tbody>
</table>

3.7.3.3.1 Reserved

3.7.3.3.2 Message Body Contents

The following sections specify the contents of the message body for each message that may be sent on the f-dsch.
3.7.3.3.2.1 Order Message

MSG_TAG: ORDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>ORDER</td>
<td>6</td>
</tr>
<tr>
<td>ADD_RECORD_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Order-specific fields</td>
<td>$8 \times \text{ADD_RECORD_LEN}$</td>
</tr>
</tbody>
</table>

USE_TIME - Use action time indicator.

This field indicates whether an explicit action time is specified in this order.

If an explicit action time can be specified for this order code, as shown in Table 3.7.4-1, the base station may set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

ACTION_TIME - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the order is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.

ORDER - Order code.

The base station shall set this field to the ORDER code for this type of Order Message (see 3.7.4).

ADD_RECORD_LEN - Additional record length.

The base station shall set this field to the number of octets in the order-specific fields included in this message.

Order-specific fields - Order-specific fields.

The base station shall include order-specific fields as specified in 3.7.4.
3.7.3.3.2.2 Authentication Challenge Message

MSG_TAG: AUCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANDU</td>
<td>24</td>
</tr>
</tbody>
</table>

RANDU - Random challenge data.

The base station shall set this field as specified in 2.3.12.1.4.
3.7.3.3.2.3 Alert With Information Message

MSG_TAG: AWIM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following record:

The base station shall include occurrences of the following three-field record as specified in 3.7.5.

- RECORD_TYPE: Information record type.
  The base station shall set this field as specified in 3.7.5.

- RECORD_LEN: Information record length.
  The base station shall set this field to the number of octets in the type-specific fields included in this record.

- Type-specific fields: Type-specific fields.
  The base station shall include type-specific fields as specified in 3.7.5.
3.7.3.3.2.4 Data Burst Message

MSG_TAG: DBM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSG_NUMBER</td>
<td>8</td>
</tr>
<tr>
<td>BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>NUM_MSGS</td>
<td>8</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

| CHARi        | 8             |

MSG_NUMBER - Message number.

The base station shall set this field to the number of this message within the data burst stream.

BURST_TYPE - Data burst type.

The base station shall set the value of this field for the type of this data burst as defined in [38]. If the base station sets this field equal to ‘111110’, it shall set the first two CHARi fields of this message equal to the EXTENDED_BURST_TYPE_INTERNATIONAL field as described in the definition of CHARi below. If the base station sets this field equal to ‘111111’, it shall set the first two CHARi fields of this message equal to the EXTENDED_BURST_TYPE as described in the definition of CHARi below.

NUM_MSGS - Number of messages in the data burst stream.

The base station shall set this field to the number of messages in this data burst stream.

NUM_FIELDS - Number of characters in this message.

The base station shall set this field to the number of occurrences of the CHARi field included in this message.

CHARi - Character.

The base station shall include NUM_FIELDS occurrences of this field. The base station shall set these fields to the corresponding octet of the data burst stream.
If the BURST_TYPE field of this message is equal to ‘111110’, the first two CHARi octets shall represent a 16 bit EXTENDED_BURST_TYPE_INTERNATIONAL field, which is encoded as shown below. The first ten bits of this field contain a binary mapping of the Mobile Country Code (MCC) associated with the national standards organization administering the use of the remaining octets of the message. Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the EXTENDED_BURST_TYPE_INTERNATIONAL field shall specify the COUNTRY_BURST_TYPE. The base station shall set the value of the COUNTRY_BURST_TYPE according to the type of this data burst as defined in standards governed by the country where this data burst type is to be used.

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Country Code</td>
<td>10</td>
</tr>
<tr>
<td>COUNTRY_BURST_TYPE</td>
<td>6</td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>$8 \times (\text{NUM_FIELDS} - 2)$</td>
</tr>
</tbody>
</table>

If the BURST_TYPE field of this message is equal to ‘111111’, the first two CHARi octets shall represent a single, 16 bit EXTENDED_BURST_TYPE field, as shown below. The base station shall set the value of the EXTENDED_BURST_TYPE field according to the type of this data burst as defined in [38].

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED_BURST_TYPE (first two CHARi fields)</td>
<td>16</td>
</tr>
<tr>
<td>Remaining CHARi fields</td>
<td>$8 \times (\text{NUM_FIELDS} - 2)$</td>
</tr>
</tbody>
</table>
3.7.3.3.2.5 Reserved

No text.
3.7.3.3.2.6 Analog Handoff Direction Message

**MSG_TAG:** AHDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>VMAC</td>
<td>3</td>
</tr>
<tr>
<td>ANALOG_CHAN</td>
<td>11</td>
</tr>
<tr>
<td>SCC</td>
<td>2</td>
</tr>
<tr>
<td>MEM</td>
<td>1</td>
</tr>
<tr>
<td>AN_CHAN_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>DSCC_MSB</td>
<td>1</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
</tbody>
</table>

**USE_TIME** - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**ACTION_TIME** - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the handoff is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ’000000’.

**SID** - System identification of the analog system.

The base station shall set this field to the system identification number for the analog system (see [6]).

**VMAC** - Voice mobile station attenuation code.

This field indicates the mobile station’s power level associated with the designated voice channel.

The base station shall set this field to the MAC value shown in [15] corresponding to the nominal power for this mobile station.

**ANALOG_CHAN** - Analog voice channel number.

The base station shall set this field to the channel number of the analog voice channel, as specified in [15].
SCC - SAT color code.
This indicates the supervisory audio tone associated with the designated analog voice channel.
The base station shall set this field to the SAT value shown in [15] if the assignment is to a narrow analog channel, the base station shall set this field to the two least significant bits of the DSCC.

MEM - Message encryption mode indicator.
To enable analog control message encryption on the assigned forward and reverse analog voice channels, the base station shall set this bit to ‘1’. To disable analog control message encryption, the base station shall set this bit to ‘0’.

AN_CHAN_TYPE - Analog voice channel type.
The base station shall set this field to the analog channel type as specified in Table 3.7.3.3.2.6-1. If the mobile station does not have narrow analog capability, the base station shall set this field to ‘00’.

<table>
<thead>
<tr>
<th>Description</th>
<th>Analog Ch</th>
<th>AN_CHAN_TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide channel on ANALOG_CHAN</td>
<td>N</td>
<td>00</td>
</tr>
<tr>
<td>Narrow channel 10 kHz below ANALOG_CHAN</td>
<td>NL</td>
<td>01</td>
</tr>
<tr>
<td>Narrow channel 10 kHz above ANALOG_CHAN</td>
<td>NU</td>
<td>10</td>
</tr>
<tr>
<td>Narrow channel centered on ANALOG_CHAN</td>
<td>NM</td>
<td>11</td>
</tr>
</tbody>
</table>

DSCC_MSB - Digital supervisory audio tone color code most significant bit.
The base station shall set this field to ‘0’ when directing handoff to a wide analog channel. The base station shall set this field to the most significant bit of the DSCC when directing handoff to a narrow analog channel.

BAND_CLASS - Band class.
The base station shall set this field according to values defined in [38].
3.7.3.3.2.7 In-Traffic System Parameters Message

MSG_TAG: ITSPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
<tr>
<td>SRCH_WIN_A</td>
<td>4</td>
</tr>
<tr>
<td>SRCH_WIN_N</td>
<td>4</td>
</tr>
<tr>
<td>SRCH_WIN_R</td>
<td>4</td>
</tr>
<tr>
<td>T_ADD</td>
<td>6</td>
</tr>
<tr>
<td>T_DROP</td>
<td>6</td>
</tr>
<tr>
<td>T_COMP</td>
<td>4</td>
</tr>
<tr>
<td>T_TDROP</td>
<td>4</td>
</tr>
<tr>
<td>NGHBR_MAX_AGE</td>
<td>4</td>
</tr>
<tr>
<td>P_REV</td>
<td>8</td>
</tr>
<tr>
<td>SOFT_SLOPE</td>
<td>6</td>
</tr>
<tr>
<td>ADD_INTERCEPT</td>
<td>6</td>
</tr>
<tr>
<td>DROP_INTERCEPT</td>
<td>6</td>
</tr>
<tr>
<td>PACKET_ZONE_ID</td>
<td>8</td>
</tr>
<tr>
<td>EXTENSION</td>
<td>1</td>
</tr>
<tr>
<td>T_MULCHAN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BEGIN_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RESUME_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>T_SLOTTED_INCL</td>
<td>1</td>
</tr>
<tr>
<td>T_SLOTTED</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

SID - System identification.

The base station shall set this field to the system identification number for this cellular system (see 2.6.5.2).

NID - Network identification.

This field serves as a sub-identifier of a system as defined by the owner of the SID.

The base station shall set this field to the network identification number for this network (see 2.6.5.2).
SRCH_WIN_A - Search window size for the Active Set and Candidate Set.

The base station shall set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Active Set and Candidate Set.

SRCH_WIN_N - Search window size for the Neighbor Set.

The base station shall set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Neighbor Set.

SRCH_WIN_R - Search window size for the Remaining Set.

The base station shall set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Remaining Set.

T_ADD - Pilot detection threshold.

This value is used by the mobile station to trigger the transfer of a pilot from the Neighbor Set or Remaining Set to the Candidate Set (see 2.6.6.2.6) and to trigger the sending of the Pilot Strength Measurement Message initiating the handoff process (see 2.6.6.2.5.2).

The base station shall set this field to the pilot detection threshold, expressed as an unsigned binary number equal to \(-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\).

T_DROP - Pilot drop threshold.

This value is used by the mobile station to start a handoff drop timer for pilots in the Active Set and the Candidate Set (see 2.6.6.2.3).

The base station shall set this field to the pilot drop threshold, expressed as an unsigned binary number equal to \(-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\).

T_COMP - Active Set versus Candidate Set comparison threshold.

The mobile station transmits a Pilot Strength Measurement Message when the strength of a pilot in the Candidate Set exceeds that of a pilot in the Active Set by this margin (see 2.6.6.2.5.2).

The base station shall set this field to the threshold Candidate Set pilot to Active Set pilot ratio, in units of 0.5 dB.

T_TDROP - Drop timer value.
Timer value after which an action is taken by the mobile station for a pilot that is a member of the Active Set or Candidate Set, and whose strength has not become greater than T_DROP. If the pilot is a member of the Active Set, a Pilot Strength Measurement Message is issued. If the pilot is a member of the Candidate Set, it will be moved to the Neighbor Set.

The base station shall set this field to the T_TDROP value shown in Table 2.6.6.2.3-1 corresponding to the drop timer value to be used by the mobile station.

NGHBR_MAX_AGE - Maximum age for retention of Neighbor Set members.

The mobile station drops neighbor set members whose AGE count exceeds this field.

The base station shall set this field to the Neighbor Set maximum age retention value (see 2.6.6.2.6.3).

P_REV - Protocol revision level.

The base station shall set this field to the base station protocol revision level.

SOFT_SLOPE - The slope in the inequality criterion for adding a pilot to the Active Set, or dropping a pilot from the Active Set (see 2.6.6.2.3 and 2.6.6.2.5.2).

The base station shall set this field as an unsigned binary number.

ADD_INTERCEPT - The intercept in the inequality criterion for adding a pilot to the Active Set (see 2.6.6.2.5.2).

The base station shall set this field as a two's complement signed binary number, in units of dB.

DROP_INTERCEPT - The intercept in the inequality criterion for dropping a pilot from the Active Set (see 2.6.6.2.3).

The base station shall set this field as a two's complement signed binary number, in units of dB.

PACKET_ZONE_ID - Packet data services zone identifier.

If the base station supports a packet data service zone, the base station shall set this field to its non-zero packet data services zone identifier.

If the base station does not support a packet data service zone, the base station shall set this field to '00000000'.

EXTENSION - Indicator that extension fields are present.

If Reverse Supplemental Code Channel or Reverse Supplemental Channel system parameters are included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

T_MULCHAN - Supplemental Channel Request Message pilot strength reporting offset.
If EXTENSION is set to ‘1’, the base station shall include this field and set this field to the threshold offset that the mobile station is to use when reporting neighbor pilot strength measurements in a Supplemental Channel Request Message. The mobile station is to interpret this field as an offset to T_ADD ranging from 0.5 dB (corresponding to T_MULCHAN = ‘000’) to 4.0 dB (corresponding to T_MULCHAN = ‘111’) in 0.5 dB increments.

BEGIN_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the beginning of transmission on Reverse Supplemental Code Channel.

If EXTENSION is set to ‘1’, the base station shall include this field and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when beginning transmission on Reverse Supplemental Code Channels.

RESUME_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the resumption of transmission.

If EXTENSION is set to ‘1’, the base station shall include this field and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when resuming transmission on a Reverse Supplemental Code Channel following an autonomous suspension of transmission on an allocated Supplemental Code Channel.

T_SLOTTED_INCL - Slotted timer value included indicator.

The base station shall set this field to ‘1’ if the slotted timer value is included; otherwise, the base station shall set this field to ‘0’.

T_SLOTTED - Slotted timer value

If T_SLOTTED_INCL is set to ‘1’, the base station shall include this field and set this field to the value of the TMS_Slotted timer to be used by the mobile station in units of 80 ms.
3.7.3.3.2.8 Neighbor List Update Message

MSG_TAG: NLUM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_INC</td>
<td>4</td>
</tr>
</tbody>
</table>

One to 20 occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBR_PN</td>
<td>9</td>
</tr>
</tbody>
</table>

**PILOT_INC** - Pilot PN sequence offset index increment.

The mobile station searches for Remaining Set pilots at pilot PN sequence offset index values that are multiples of this value.

The base station shall set this field to the pilot PN sequence increment, in units of 64 PN chips, that the mobile station is to use for searching the Remaining Set. The base station should set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

**NGHBR_PN** - Neighbor pilot PN sequence offset index.

The base station shall include one occurrence of this field for each pilot in its neighbor list. The base station shall set this field to the pilot’s PN sequence offset, in units of 64 PN chips. The base station shall include no more than 20 occurrences of this field.
3.7.3.3.2.9 Send Burst DTMF Message

MSG_TAG: BDTMFM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_DIGITS</td>
<td>8</td>
</tr>
<tr>
<td>DTMF_ON_LENGTH</td>
<td>3</td>
</tr>
<tr>
<td>DTMF_OFF_LENGTH</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_DIGITS occurrences of the following field:

| DIGITi | 4 |

NUM_DIGITS - Number of DTMF digits.

The base station shall set this field to the number of DTMF digits included in this message.

DTMF_ON_LENGTH - DTMF pulse width code.

The base station shall set this field to the DTMF_ON_LENGTH value shown in Table 2.7.2.3.2.7-1 corresponding to the requested pulse width of the DTMF pulse to be generated by the mobile station.

DTMF_OFF_LENGTH - DTMF interdigit interval code.

The base station shall set this field to the DTMF_OFF_LENGTH value shown in Table 2.7.2.3.2.7-2 corresponding to the requested minimum interdigit interval between DTMF pulses to be generated by the mobile station.

DIGITi - DTMF digit.

The base station shall include one occurrence of this field for each DTMF digit to be generated by the mobile station. The base station shall set each occurrence of this field to the code value shown in Table 2.7.1.3.2.4-4 corresponding to the dialed digit.
3.7.3.3.2.10 Power Control Parameters Message

MSG_TAG: PCPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR_REP_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>PWR_REP_FRAMES</td>
<td>4</td>
</tr>
<tr>
<td>PWR_THRESH_ENABLE</td>
<td>1</td>
</tr>
<tr>
<td>PWR_PERIOD_ENABLE</td>
<td>1</td>
</tr>
<tr>
<td>PWR_REP_DELAY</td>
<td>5</td>
</tr>
</tbody>
</table>

**Field Descriptions**

**PWR_REP_THRESH** - Power control reporting threshold.

The base station shall set this field to the number of bad frames (see [2]) to be received in a measurement period on the channel which carries the Power Control Subchannel before the mobile station is to generate a *Power Measurement Report Message* (see 2.6.4.1.1). If the base station sets PWR_THRESH_ENABLE to ‘1’, it shall not set this field to ‘00000’.

**PWR_REP_FRAMES** - Power control reporting frame count.

The base station shall set this field to the value such that the number given by

\[
\left\lfloor 2 \times \left( \frac{\text{PWR_REP_FRAMES}}{2} \right) \times 5 \right\rfloor \text{ frames}
\]

is the number of frames over which the mobile station is to count frame errors.

**PWR_THRESH_ENABLE** - Threshold report mode indicator.

If the mobile station is to generate threshold *Power Measurement Report Messages*, the base station shall set this field to ‘1’. If the mobile station is not to generate threshold *Power Measurement Report Messages*, the base station shall set this field to ‘0’.

**PWR_PERIOD_ENABLE** - Periodic report mode indicator.

If the mobile station is to generate periodic *Power Measurement Report Messages*, the base station shall set this field to ‘1’. If the mobile station is not to generate periodic *Power Measurement Report Messages*, the base station shall set this field to ‘0’.

**PWR_REP_DELAY** - Power report delay.

The period that the mobile station waits following a *Power Measurement Report Message* before restarting frame counting for power control purposes.
The base station shall set this field to the power report delay value, in units of 4 frames (see 2.6.4.1.1).
3.7.3.3.2.11 Retrieve Parameters Message

MSG_TAG: RTPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETER_ID</td>
<td>16</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

PARAMETER_ID - Parameter identification.

The base station can request the mobile station to report any parameter specified in Table E-1.

The base station shall include one occurrence of this field for each parameter requested. The base station shall set this field to the parameter identification number specified in Table E-1 corresponding to the parameter requested.
3.7.3.3.2.12 Set Parameters Message

MSG_TAG: STPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETER_ID</td>
<td>16</td>
</tr>
<tr>
<td>PARAMETER_LEN</td>
<td>10</td>
</tr>
<tr>
<td>PARAMETER</td>
<td>PARAMETER_LEN + 1</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

The base station shall include one occurrence of the following three-field record for each parameter to be set.

PARAMETER_ID - Parameter identification.

The base station shall set this field to the identification shown in Table E-1 corresponding to the settable parameter to be set.

PARAMETER_LEN - Parameter length.

The base station shall set this field to the length shown in Table E-1 corresponding to the parameter to be set.

PARAMETER - Parameter value.

The base station shall set this field to the value of the parameter specified by the PARAMETER_ID field.
3.7.3.3.2.13 SSD Update Message

MSG_TAG: SSDUM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANDSSD</td>
<td>56</td>
</tr>
</tbody>
</table>

RANDSSD - Random data.

The base station shall set this field as specified in 2.3.12.1.5.
3.7.3.3.2.14 Flash With Information Message

MSG_TAG: FWIM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times$ RECORD_LEN</td>
</tr>
</tbody>
</table>

The base station shall include occurrences of the following three-field record as specified in 3.7.5.

- RECORD_TYPE - Information record type.
  
The base station shall set this field as specified in 3.7.5.

- RECORD_LEN - Information record length.
  
The base station shall set this field to the number of octets in the type-specific fields included in this record.

- Type-specific fields - Type-specific fields.
  
The base station shall include type-specific fields as specified in 3.7.5.
3.7.3.3.2.15 Mobile Station Registered Message

**MSG_TAG**: MSRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID</td>
<td>15</td>
</tr>
<tr>
<td>NID</td>
<td>16</td>
</tr>
<tr>
<td>REG_ZONE</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL_ZONES</td>
<td>3</td>
</tr>
<tr>
<td>ZONE_TIMER</td>
<td>3</td>
</tr>
<tr>
<td>MULT_SIDS</td>
<td>1</td>
</tr>
<tr>
<td>MULT_NIDS</td>
<td>1</td>
</tr>
<tr>
<td>BASE_LAT</td>
<td>22</td>
</tr>
<tr>
<td>BASE_LONG</td>
<td>23</td>
</tr>
<tr>
<td>REG_DIST</td>
<td>11</td>
</tr>
</tbody>
</table>

**SID** - System identification.

The base station shall set this field to the system identification number for this system.

**NID** - Network identification.

This field serves as a sub-identifier of a system as defined by the owner of the SID.

The base station shall set this field to the network identification number for this network. The NID value of 65,535 is reserved.

**REG_ZONE** - Registration zone.

The base station shall set this field to its registration zone number (see 2.6.5.1.5).

**TOTAL_ZONES** - Number of registration zones to be retained.

The base station shall set this field to the number of registration zones the mobile station is to retain for purposes of zone-based registration (see 2.6.5.1.5).

If zone-based registration is to be disabled, the base station shall set this field to '000'.

**ZONE_TIMER** - Zone timer length.

The base station shall set this field to the ZONE_TIMER value shown in Table 3.7.2.3.2.1-1 corresponding to the length of the zone registration timer to be used by mobile stations.
MULT_SIDS - Multiple SID storage indicator.
If mobile stations may store entries of SID_NID_LIST containing different SIDs, the base station shall set this field to ‘1’; otherwise the base station shall set this field to ‘0’.

MULT_NIDS - Multiple NID storage indicator.
If mobile stations may store multiple entries of SID_NID_LIST having the same SID (with different NIDs), the base station shall set this field to ‘1’; otherwise the base station shall set this field to ‘0’.

BASE_LAT - Base station latitude.
The base station shall set this field to its latitude in units of 0.25 second, expressed as a two’s complement signed number with positive numbers signifying North latitudes. The base station shall set this field to a value in the range –1296000 to 1296000 inclusive (corresponding to a range of –90° to +90°).

BASE_LONG - Base station longitude.
The base station shall set this field to its longitude in units of 0.25 second, expressed as a two’s complement signed number with positive numbers signifying East longitude. The base station shall set this field to a value in the range –2592000 to 2592000 inclusive (corresponding to a range of –180° to +180°).

REG_DIST - Registration distance.
If mobile stations are to perform distance-based registration, the base station shall set this field to the non-zero “distance” beyond which the mobile station is to re-register (see 2.6.5.1.4). If mobile stations are not to perform distance-based registration, the base station shall set this field to 0.
3.7.3.3.2.16 Status Request Message

MSG_TAG: STRQM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAL_INFO_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>QUAL_INFO_LEN</td>
<td>3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{QUAL_INFO_LEN}$</td>
</tr>
<tr>
<td>NUM_FIELDS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_FIELDS occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
</tbody>
</table>

QUAL_INFO_TYPE - Qualification information type.

The base station shall set this field to the value shown in Table 3.7.2.3.2.15-1 to show the inclusion of qualification information in the type-specific fields.

QUAL_INFO_LEN - Qualification information length.

The base station shall set this field to the number of octets included in the type-specific fields of the qualification information.

Type-specific fields - Type-specific fields.

The base station shall set these fields to the qualification information according to the QUAL_INFO_TYPE field.

If QUAL_INFO_TYPE is equal to ‘00000000’, the type-specific fields are omitted.

If QUAL_INFO_TYPE is equal to ‘00000001’, the base station shall use the following fixed-length format for the type-specific fields:

<table>
<thead>
<tr>
<th>Type-specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

If QUAL_INFO_TYPE is equal to ‘00000010’, the base station shall use the following fixed-length format for the type-specific fields:
<table>
<thead>
<tr>
<th>Type-specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>OP_MODE</td>
<td>8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

- **BAND_CLASS** - Band class.
  The base station shall set this field to the CDMA band class, as specified in [38].

- **OP_MODE** - Operating mode.
  The base station shall set this field as shown in Table 3.7.2.3.2.15-3 to specify the operating mode qualification information.

- **RESERVED** - Reserved bits.
  The base station shall set this field to ‘000’.

- **NUM_FIELDS** - Number of requested record fields in this message.
  The base station shall set this field to the number of occurrences of RECORD_TYPE in this message.

The base station shall only request the status information records qualified by the included qualification information in this message. The base station shall include one occurrence of the following field for each information record that is requested:

- **RECORD_TYPE** - Information record type.
  The base station shall set this field to the record type value shown in Table 3.7.2.3.2.15-2 corresponding to the information record requested.
3.7.3.3.2.17 Extended Handoff Direction Message

MSG_TAG: EHDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>HDM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>SEARCH_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>SRCH_WIN_A</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T_ADD</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_DROP</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_COMP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T_TDROP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>HARD_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>0 or 4</td>
</tr>
<tr>
<td>PRIVATE_LCM</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_L2</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_FPC</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SERV_NEG_TYPE</td>
<td>0 or 1</td>
</tr>
<tr>
<td>ENCRYPT_MODE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>NOM_PWR_EXT</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NOM_PWR</td>
<td>0 or 4</td>
</tr>
<tr>
<td>NUM_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
</tbody>
</table>

(continues on next page)
### Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD_LENGTH</td>
<td>3</td>
</tr>
<tr>
<td>Additional fields</td>
<td>$8 \times$ ADD_LENGTH</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USE_TIME</th>
<th>- Use action time indicator.</th>
</tr>
</thead>
<tbody>
<tr>
<td>This field indicates whether an explicit action time is specified in this message.</td>
<td></td>
</tr>
<tr>
<td>If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACTION_TIME</th>
<th>- Action time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the handoff is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HDM_SEQ</th>
<th>- Extended Handoff Direction Message sequence number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>This field is used by the mobile station in the Power Measurement Report Message to identify the order in which the reported pilot strengths are sent.</td>
<td></td>
</tr>
<tr>
<td>The base station shall set this field as specified in 2.6.6.2.2.2.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEARCHINCLUDED</th>
<th>- Pilot search parameters included.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the mobile station is to change its pilot search parameters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SRCH_WIN_A</th>
<th>- Search window size for the Active Set and Candidate Set.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If SEARCHINCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_A and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Active Set and Candidate Set; otherwise, the base station shall omit this field.</td>
<td></td>
</tr>
</tbody>
</table>

| T_ADD           | - Pilot detection threshold. |

3-238
This value is used by the mobile station to trigger the transfer of a pilot from the Neighbor Set or Remaining Set to the Candidate Set (see 2.6.6.2.6) and to trigger the sending of the *Pilot Strength Measurement Message* initiating the handoff process (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_ADD and set this field to the pilot detection threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} E_{c}/I_{o}\]; otherwise, the base station shall omit this field.

**T_DROP** - Pilot drop threshold.

This value is used by mobile stations to start a handoff drop timer for pilots in the Active Set and the Candidate Set (see 2.6.6.2.3).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_DROP and set this field to the pilot drop threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} E_{c}/I_{o}\]; otherwise, the base station shall omit this field.

**T_COMP** - Active Set versus Candidate Set comparison threshold.

The mobile station transmits a *Pilot Strength Measurement Message* when the strength of a pilot in the Candidate Set exceeds that of a pilot in the Active Set by this margin (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_COMP and set this field to the threshold Candidate Set pilot to Active Set pilot ratio, in units of 0.5 dB; otherwise, the base station shall omit this field.

**T_TDROP** - Drop timer value.

Timer value after which an action is taken by the mobile station for a pilot that is a member of the Active Set or Candidate Set, and whose strength has not become greater than T_DROP. If the pilot is a member of the Active Set, a *Pilot Strength Measurement Message* is issued. If the pilot is a member of the Candidate Set, it will be moved to the Neighbor Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_TDROP and set this field to the T_TDROP value shown in Table 2.6.6.2.3-1 corresponding to the drop timer value to be used by the mobile station; otherwise, the base station shall omit this field.

**HARD_INCLUDED** - Hard handoff parameters included.
If the mobile station is to change FRAME_OFFSET, PRIVATE_LCM, ENCRYPT_MODE, SERV_NEG_TYPE, NOM_PWR_EXT, NUM_PREAMBLE, NOM_PWR, BAND_CLASS, or CDMA_FREQ, or the mobile station is to perform a reset of the acknowledgment procedures, or the mobile station is to reset Forward Traffic Channel power control counters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **FRAME_OFFSET**: Frame offset.

  The Forward and Reverse Traffic Channel frames are delayed FRAME_OFFSET × 1.25 ms relative to system timing (see [2]).

  If HARD_INCLUDED is set to ‘1’, the base station shall include the field FRAME_OFFSET and set it to the Forward and Reverse Traffic Channel frame offset; otherwise, the base station shall omit this field.

- **PRIVATE_LCM**: Private long code mask indicator.

  This field is used to change the long code mask after a hard handoff.

  If HARD_INCLUDED is set to ‘1’, the base station shall include the field PRIVATE_LCM and set it as described below; otherwise, the base station shall omit this field.

  If the private long code mask is to be used after the handoff, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **RESET_L2**: Reset acknowledgment procedures command.

  This field is used to reset acknowledgment processing in the mobile station.

  If HARD_INCLUDED is set to ‘1’, the base station shall include the field RESET_L2 and set it as described below; otherwise, the base station shall omit this field.

  If the field is included and the mobile station is to reset its acknowledgment procedures, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **RESET_FPC**: Reset Forward Traffic Channel power control.

  This field is used to reset the Forward Traffic Channel power control counters.

  If HARD_INCLUDED is set to ‘1’, the base station shall include the field RESET_FPC and set it as described below; otherwise, the base station shall omit this field.

  The base station shall set this field to ‘0’ if the Forward Traffic Channel power control counters are to be maintained after completion of the handoff. If the counters are to be initialized as specified in 2.6.4.1.1.1, then the base station shall set this field to ‘1’.
SERV_NEG_TYPE - Service negotiation type.

If HARD_INCLUDED is set to '1', the base station shall include the field SERV_NEG_TYPE and set it as described below; otherwise, the base station shall omit this field.

If the mobile station is to use service negotiation, the base station shall set this field to '1'. If the mobile station is to use service option negotiation, the base station shall set this field to '0'.

ENCRYPT_MODE - Message encryption mode.

If HARD_INCLUDED is set to '1', the base station shall include the field ENCRYPT_MODE and set it to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8-2 corresponding to the encrypting mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2; otherwise, the base station shall omit this field.

NOM_PWR_EXT - Extended nominal transmit power.

If HARD_INCLUDED is set to '1', the base station shall include this field and set it as described below; otherwise, the base station shall omit this field.

If this field is included and the mobile station is being handed off to a base station operating in Band Class 0 or Band Class 3, then the base station shall set this field to '0'.

If this field is included and the mobile station is being handed off to a base station operating in a band class other than Band Class 0 or Band Class 3, then the base station shall set this field to '1' if the correction factor to be used by the mobile station in the open loop power estimate is between –24 dB and –9 dB inclusive; otherwise (the correction factor is in the range –8 dB to 7 dB inclusive), the base station shall set this field to '0'.

NOM_PWR - Nominal transmit power offset.

If HARD_INCLUDED is set to '1', the base station shall include the field NOM_PWR and set it to the correction factor to be used by the mobile station in the open loop power estimate, expressed as a two's complement value in units of 1 dB (see [2]); otherwise, the base station shall omit this field.

NUM_PREAMBLE - Traffic Channel preamble length.

If HARD_INCLUDED is set to '0', the base station shall omit the NUM_PREAMBLE field; otherwise, the base station shall include this field and set it to the length of Traffic Channel preamble that the mobile station is to send when performing a handoff; as follows:
If, after the handoff, radio configuration 1 or radio configuration 2 is to be used, the base station shall set NUM_PREAMBLE to the Traffic Channel preamble length in 20 ms units; otherwise, the base station shall set NUM_PREAMBLE to the value shown in Table 3.7.3.2.17-1 corresponding to the Traffic Channel preamble length in 1.25 ms units.

<table>
<thead>
<tr>
<th>NUM_PREAMBLE (binary)</th>
<th>Preamble Length in 1.25 ms Increments</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>0</td>
</tr>
<tr>
<td>001</td>
<td>2</td>
</tr>
<tr>
<td>010</td>
<td>4</td>
</tr>
<tr>
<td>011</td>
<td>6</td>
</tr>
<tr>
<td>100</td>
<td>8</td>
</tr>
<tr>
<td>101</td>
<td>10</td>
</tr>
<tr>
<td>110</td>
<td>12</td>
</tr>
<tr>
<td>111</td>
<td>16</td>
</tr>
</tbody>
</table>

**Table 3.7.3.2.17-1. Traffic Channel Preamble Length**

**BAND_CLASS** - Band class.

If HARD_INCLUDED is set to ‘1’, the base station shall include the field BAND_CLASS and set it to the CDMA band class corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [38]; otherwise, the base station shall omit this field.

**CDMA_FREQ** - Frequency assignment.

If HARD_INCLUDED is set to ‘1’, the base station shall include the field CDMA_FREQ and set it to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [2]; otherwise, the base station shall omit this field.

**ADD_LENGTH** - Number of octets in the additional fields.

The base station shall set this field to the number of octets included in the Additional fields. If Additional fields are not included in this message, the base station shall set this field to ‘000’.

**Additional fields** - Additional fields.

If the ADD_LENGTH field is not equal to ‘000’, the base station shall include the following fields as additional fields.
Field  | Length (bits)  
--- | ---  
P_REV | 8  

P_REV  - Protocol revision level.

The base station shall set this field to the base station protocol revision level that the mobile station is to use after completion of the handoff.

The base station shall include one occurrence of the following three-field record for each member of the mobile station’s new Active Set.

PILOT_PN  - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

PWR_COMB_IND  - Power control symbol combining indicator.

If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. For the first occurrence of this record in the message, the base station shall set this field to ‘0’.

CODE_CHAN  - Code channel index.

The base station shall set this field to the code channel index (see [2]) that the mobile station is to use as the Forward Fundamental Channel associated with this pilot. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.
3.7.3.3.2.18 Service Request Message

MSG_TAG: SRQM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERV_REQ_SEQ</td>
<td>3</td>
</tr>
<tr>
<td>REQ_PURPOSE</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or one occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

SERV_REQ_SEQ - Service request sequence number.

The base station shall set this field to the service request sequence number pertaining to this request message as specified in 3.6.4.1.2.1.1.

REQ_PURPOSE - Request purpose.

The base station shall set this field to the appropriate REQ_PURPOSE code from Table 3.7.3.3.2.18-1 to indicate the purpose of the message.

### Table 3.7.3.3.2.18-1. REQ_PURPOSE Codes

<table>
<thead>
<tr>
<th>REQ_PURPOSE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>Indicates that the purpose of this message is to reject a proposed service configuration.</td>
</tr>
<tr>
<td>0010</td>
<td>Indicates that the purpose of this message is to propose a service configuration.</td>
</tr>
</tbody>
</table>

All other REQ_PURPOSE codes are reserved.

If the REQ_PURPOSE code is set to '0010', the base station shall include one occurrence of the following three-field record to specify the proposed service configuration; otherwise, the base station shall not include the following record.

RECORD_TYPE - Information record type.
The base station shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Service Configuration information record.

**RECORD_LEN** - Information record length.

The base station shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

**Type-specific fields** - Type-specific fields.

The base station shall set these fields as specified in 3.7.5.7 for the Service Configuration information record.
3.7.3.3.2.19 Service Response Message

MSG_TAG: SRPM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERV_REQ_SEQ</td>
<td>3</td>
</tr>
<tr>
<td>RESP_PURPOSE</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or one occurrence of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

SERV_REQ_SEQ - Service request sequence number.

The base station shall set this field to the value of the SERV_REQ_SEQ field in the Service Request Message to which it is responding.

RESP_PURPOSE - Response purpose.

The base station shall set this field to the appropriate RESP_PURPOSE code from Table 3.7.3.3.2.19-1 to indicate the purpose of the message.

<table>
<thead>
<tr>
<th>RESP_PURPOSE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>Indicates that the purpose of the message is to reject a proposed service configuration.</td>
</tr>
<tr>
<td>0010</td>
<td>Indicates that the purpose of the message is to propose a service configuration.</td>
</tr>
</tbody>
</table>

Table 3.7.3.3.2.19-1. RESP_PURPOSE Codes

All other RESP_PURPOSE codes are reserved.

If the RESP_PURPOSE code is set to '0010', the base station shall include one occurrence of the following three-field record to specify the proposed service configuration; otherwise, the base station shall not include the following record.

RECORD_TYPE - Information record type.
The base station shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Service Configuration information record.

**RECORD_LEN** - Information record length.

The base station shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

**Type-specific fields** - Type-specific fields.

The base station shall set these fields as specified in 3.7.5.7 for the Service Configuration information record.
3.7.3.3.2.20 Service Connect Message

MSG_TAG: SCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>SERV_CON_SEQ</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

One occurrence of the following three-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

One occurrence of the following three-field record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

- **USE_TIME**: Use action time indicator.
  
  This field indicates whether an explicit action time is specified in this message.
  
  If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **ACTION_TIME**: Action time.
  
  If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the specified service configuration is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.

- **SERV_CON_SEQ**: Connect sequence number.
  
  The base station shall set this field to the connect sequence number pertaining to this connect message as specified in 3.6.4.1.2.1.2.

- **RESERVED**: Reserved bits.
  
  The base station shall set this field to ‘000000’.

The base station shall include one occurrence of the following three-field record to specify the service configuration.
RECORD_TYPE - Information record type.

The base station shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Service Configuration information record.

RECORD_LEN - Information record length.

The base station shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

Type-specific fields - Type-specific fields.

The base station shall set these fields as specified in 3.7.5.7 for the Service Configuration information record.

The base station shall include one occurrence of the following three-field record to specify the non-negotiable service configuration parameters.

RECORD_TYPE - Information record type.

The base station shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Non-Negotiable Service Configuration information record.

RECORD_LEN - Information record length.

The base station shall set this field to the number of octets included in the type-specific fields of the Non-Negotiable Service Configuration information record.

Type-specific fields - Type-specific fields.

The base station shall set these fields as specified in 3.7.5.20 for the Non-Negotiable Service Configuration information record.
3.7.3.3.2.21 Service Option Control Message

MSG_TAG: SOCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>CON_REF</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>CTL_REC_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{CTL}<em>\text{REC}</em>{\text{LEN}}$</td>
</tr>
</tbody>
</table>

**USE_TIME** - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**ACTION_TIME** - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.

**CON_REF** - Service option connection reference.

The base station shall set this field to the reference for the service option connection.

**SERVICE_OPTION** - Service option.

The base station shall set this field to the service option in use with the service option connection.

**CTL_REC_LEN** - Service option control record length.

The base station shall set this field to the number of octets included in the type-specific fields of this service option control record.

**Type-specific fields** - Type-specific fields.

The base station shall set these fields as specified by the requirements for the service option, which are defined external to this specification. See relevant service option specification.
3.7.3.3.2.22 TMSI Assignment Message

MSG_TAG: TASM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMSI_ZONE_LEN</td>
<td>4</td>
</tr>
<tr>
<td>TMSI_ZONE</td>
<td>$8 \times \text{TMSI_ZONE_LEN}$</td>
</tr>
<tr>
<td>TMSI_CODE</td>
<td>32</td>
</tr>
<tr>
<td>TMSI_EXP_TIME</td>
<td>24</td>
</tr>
</tbody>
</table>

- **TMSI_ZONE_LEN** - TMSI zone length.
  - The base station shall set this field to the number of octets included in the TMSI_ZONE. The base station shall set this field to a value in the range 1 to 8 inclusive.

- **TMSI_ZONE** - TMSI zone.
  - The base station shall set this field to the TMSI zone number, as specified in [33].

- **TMSI_CODE** - Temporary mobile station identity code.
  - The base station shall set this field to the 32-bit TMSI code assigned to the mobile station.
  - If the base station is to deassign the TMSI, the base station shall set all the bits in this field to ‘1’.

- **TMSI_EXP_TIME** - TMSI expiration time.
  - The base station shall set this field to the System Time in the units of $80 \text{ ms} \times 2^{12}$ when the TMSI is to expire.
3.7.3.2.23 Service Redirection Message

**MSG_TAG:** SRDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETURN_IF_FAIL</td>
<td>1</td>
</tr>
<tr>
<td>DELETE_TMSI</td>
<td>1</td>
</tr>
<tr>
<td>REDIRECT_TYPE</td>
<td>1</td>
</tr>
</tbody>
</table>

One or more occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_TYPE</td>
<td>8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
</tbody>
</table>

- **RETURN_IF_FAIL** - Return if fail indicator.
  
  The base station shall set this field to ‘1’ if the mobile station is required to return to the system from which it is being redirected upon failure to obtain service using the redirection criteria specified in this message; otherwise, the base station shall set this field to ‘0’.

- **DELETE_TMSI** - Delete TMSI indicator.
  
  The base station shall set this field to ‘1’ if the mobile station is required to delete the TMSI assigned to the mobile station; otherwise, the base station shall set this field to ‘0’.

- **REDIRECT_TYPE** - Redirect indicator.
  
  The base station shall set this field to the REDIRECT_TYPE value shown in Table 3.7.2.3.2.16-1 corresponding to the redirection type.

The base station shall include one occurrence of the following record:

- **RECORD_TYPE** - Redirection record type.
  
  The base station shall set this field to the RECORD_TYPE value shown in Table 3.7.2.3.2.16-2 corresponding to the type of redirection specified by this record.

- **RECORD_LEN** - Redirection record length.
  
  If RECORD_TYPE equals to ‘00000000’, the base station shall set this field to ‘00000000’; otherwise, the base station shall set this field to the number of octets in the type-specific fields of this redirection record.

- **Type-specific fields** - Redirection record type-specific fields.
The base station shall include type-specific fields based on the RECORD_TYPE of this redirection record.

If RECORD_TYPE is equal to ‘00000000’, the base station shall not include the type-specific fields.

If RECORD_TYPE is equal to ‘00000001’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>IGNORE_CDMA</td>
<td>1</td>
</tr>
<tr>
<td>SYS_ORDERING</td>
<td>3</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

- **EXPECTED_SID** - Expected SID.
  
  If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

- **IGNORE_CDMA** - Ignore CDMA Available indicator.
  
  The base station shall set this field to ‘1’ to indicate that the mobile station is to ignore the CDMA Capability Message on the analog system to which it is being redirected. The base station shall set this field to ‘0’ to indicate that the mobile station may discontinue service on the system to which it is being redirected if the mobile station receives a CDMA Capability Message with CDMA_AVAIL equal to ‘1’, and the preferred mode of the mobile station is CDMA.

- **SYS_ORDERING** - System ordering.
  
  The base station shall set this field to the SYS_ORDERING value shown in Table 3.7.2.3.2.16-3 corresponding to the order in which the mobile station is to attempt to obtain service on an analog system.

- **RESERVED** - Reserved bits.
  
  The base station shall set this field to ‘00000’.

If RECORD_TYPE is equal to ‘00000010’, the base station shall include the following fields:
<table>
<thead>
<tr>
<th>Subfield</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>EXPECTED_SID</td>
<td>15</td>
</tr>
<tr>
<td>EXPECTED_NID</td>
<td>16</td>
</tr>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
<tr>
<td>NUM_CHANS</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_CHANS occurrences of the following field:

| CDMA_CHAN     | 11           |

| RESERVED      | 0-7 (as needed) |

BAND_CLASS - Band class.

The base station shall set this field to the CDMA band class, as specified in [38].

EXPECTED_SID - Expected SID.

If the base station is redirecting the mobile station to a specific system, the base station shall set this field to the SID of that system; otherwise, the base station shall set this field to 0.

EXPECTED_NID - Expected NID.

If the base station is redirecting the mobile station to a specific network, the base station shall set this field to the NID of that network; otherwise, the base station shall set this field to 65535.

RESERVED - Reserved bits.

The base station shall set this field to ‘0000’.

NUM_CHANS - Number of CDMA Channels.

The base station shall set this field to the number of occurrences of the CDMA_CHAN field in this record.

CDMA_CHAN - CDMA Channel number.

For each CDMA Channel on which the mobile station is to attempt to acquire a CDMA system, the base station shall include one occurrence of this field specifying the associated CDMA Channel number.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire record equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.3.3.2.24 Supplemental Channel Assignment Message

MSG_TAG: SCAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_RETRY_DELAY</td>
<td>1</td>
</tr>
<tr>
<td>RETRY_DELAY</td>
<td>0 or 8</td>
</tr>
<tr>
<td>REV_INCLUDED</td>
<td>1</td>
</tr>
</tbody>
</table>

Include the following record only if REV_INCLUDED is set to ‘1’:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_DTX_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>EXPL_REV_START_TIME</td>
<td>1</td>
</tr>
<tr>
<td>REV_START_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>USE_REV_DURATION</td>
<td>1</td>
</tr>
<tr>
<td>REV_DURATION</td>
<td>0 or 8</td>
</tr>
<tr>
<td>USE_REV_HDM_SEQ</td>
<td>1</td>
</tr>
<tr>
<td>REV_LINKED_HDM_SEQ</td>
<td>0 or 2</td>
</tr>
<tr>
<td>NUM_REV_CODES</td>
<td>3</td>
</tr>
<tr>
<td>USE_T_ADD_ABORT</td>
<td>1</td>
</tr>
<tr>
<td>USE_SCRM_SEQ_NUM</td>
<td>1</td>
</tr>
<tr>
<td>SCRIM_SEQ_NUM</td>
<td>0 or 4</td>
</tr>
<tr>
<td>REV_PARMS_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>T_MULCHAN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BEGIN_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RESUME_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>FOR_INCLUDED</td>
<td>1</td>
</tr>
</tbody>
</table>

(continues on next page)
Include the following record only if FOR_INCLUDED is set to ‘1’:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SUP_CONFIG</td>
<td>2</td>
</tr>
<tr>
<td>EXPL_FOR_START_TIME</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_START_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>USE_FOR_DURATION</td>
<td>1</td>
</tr>
<tr>
<td>FOR_DURATION</td>
<td>0 or 8</td>
</tr>
<tr>
<td>USE_FOR_HDM_SEQ</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_LINKED_HDM_SEQ</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

Include the following fields and records only if FOR_INCLUDED is set to ‘1’ and FOR_SUP_CONFIG is set to ‘10’ or ‘11’:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_SUP_PILOTS</td>
<td>3</td>
</tr>
<tr>
<td>NUM_FOR_SUP</td>
<td>3</td>
</tr>
</tbody>
</table>

Include NUM_SUP_PILOTS occurrences of the following record only if FOR_INCLUDED is set to ‘1’ and FOR_SUP_CONFIG is set to ‘10’ or ‘11’:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>EXPL_CODE_CHAN</td>
<td>1</td>
</tr>
</tbody>
</table>

If EXPL_CODE_CHAN is set to ‘1’, for each PILOT_PN include NUM_FOR_SUP occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUP_CODE_CHAN</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

If EXPL_CODE_CHAN is set to ‘0’, the following field is included:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASE_CODE_CHAN</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

**USE_RETRY_DELAY** - Assign or Retry Indicator.

The base station shall set this field to ‘1’ to indicate that this message contains a retry delay time; otherwise, the base station shall set this field to ‘0’ to indicate that no RETRY_DELAY has been included.

**RETRY_DELAY** - *Supplemental Channel Request Message* retry delay.
If USE_RETRY_DELAY is set to ‘1’, the base station shall include and set this field to the duration of the delay interval in units of 320 ms (4 frames) from the next 80 ms system time boundary during which the mobile station is not permitted to send a Supplemental Channel Request Message. The base station shall set RETRY_DELAY to ‘11111111’ to indicate that the mobile station is to refrain from sending Supplemental Channel Request Messages indefinitely.

REV_INCLUDED - Reverse Supplemental Code Channel configuration indicator.

The base station shall set this field to ‘1’ to indicate that this message contains assignment information for Reverse Supplemental Code Channels; otherwise, the base station shall set this field to ‘0’.

If REV_INCLUDED is set to ‘1’, then the base station shall include the following fields, otherwise the base station shall omit the following fields:

REV_DTX_DURATION - Reverse Discontinuous Transmission Duration.

The base station shall set this field to the maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmission on a Reverse Supplemental Code Channel within the reverse assignment duration. The base station shall set this field to ‘0000’ if the mobile station is to stop using a Reverse Supplemental Code Channel once it has stopped transmitting on that Reverse Supplemental Code Channel. The base station shall set this field to ‘1111’ if the mobile station is allowed to resume transmission on a Reverse Supplemental Code Channel at any time within the reverse assignment duration.

EXPL_REV_START_TIME - Explicit Reverse Supplemental Code Channel assignment start time indicator.

This field indicates whether a start time for the specified Reverse Supplemental Channel Assignment is specified in this message. If a REV_START_TIME is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. If EXPL_REV_START_TIME is set to ‘1’, then the base station shall set USE_REV_HDM_SEQ to ‘0’.

REV_START_TIME - Explicit start time for Reverse Supplemental Code Channel assignment.

If EXPL_REV_START_TIME is included and set to ‘1’, the base station shall include and set this field to the System Time, in units of 80 ms (modulo 64), at which the mobile station may start transmitting on the specified number of Reverse Supplemental Code Channels. If EXPL_REV_START_TIME is omitted or set to ‘0’, the base station shall omit this field.

USE_REV_DURATION - Use reverse duration indicator.
The base station shall set this field to ‘1’ if the
REV_DURATION field is included in the message; otherwise,
the base station shall set this field to ‘0’. If the mobile station
is granted permission to transmit on Reverse Supplemental
Code Channels (i.e., NUM_REV_CODES is not ‘000’) then a
value of ‘0’ for this field indicates an infinite Reverse
Supplemental Code Channel assignment duration (i.e., the
mobile station may transmit on Reverse Supplemental Code
Channels until it receives a subsequent Supplemental Channel
Assignment Message or a General Handoff Direction Message
that specifies an updated REV_DURATION or an updated
value of NUM_REV_CODES).

**REV_DURATION** - Duration of Reverse Supplemental Code Channel assignment.

The base station shall include this field only if the
USE_REV_DURATION field is included and set to ‘1’. If
included, this field indicates the allocated duration, in units of
80 ms, during which the mobile station may transmit on
Reverse Supplemental Code Channels.

**USE_REV_HDM_SEQ** - Use Reverse General Handoff Direction Message sequence number indicator.

The base station shall set this field to ‘1’ to indicate that this
Reverse Supplemental Code Channel assignment shall take
effect at the same time as a corresponding General Handoff
Direction Message; otherwise, the base station shall set this
field to ‘0’. If USE_REV_HDM_SEQ is set to ‘1’, then the base
station shall set EXPL_REV_START_TIME to ‘0’.

**REV_LINKED_HDM_SEQ** - Sequence number of the reverse linked General Handoff Direction Message.

If USE_REV_HDM_SEQ is included and set to ‘1’, then the
base station shall set this field to the sequence number of the
General Handoff Direction Message (HDM_SEQ) to which this
Reverse Supplemental Code Channel assignment is linked.

**NUM_REV_CODES** - Number of Reverse Supplemental Code Channels.

The base station shall set this field to the number of Reverse
Supplemental Code Channels that are assigned to the mobile
station.

**USE_T_ADD_ABORT** - Reverse use T_ADD abort indicator.

The base station shall set this field to ‘1’ to indicate that the
mobile station is to utilize the T_ADD Reverse Supplemental
Code Channel abort feature for this reverse assignment;
otherwise, the base station shall set this field to ‘0’.

**USE_SCRM_SEQ_NUM** - Use Supplemental Channel Request Message sequence number indicator.

The base station shall set this field to ‘1’ if the
SCRM_SEQ_NUM field is included in this message; otherwise,
the base station shall set this field to ‘0’.

**SCRM_SEQ_NUM** - Supplemental Channel Request Message sequence number.

3-258
If USE_SCRM_SEQ_NUM is set to ‘1’, the base station shall set this field to the sequence number corresponding to the SCRM_SEQ_NUM field in a Supplemental Channel Request Message to which the mobile station is to match this message; otherwise, the base station shall omit this field.

REV_PARMS_INCLUDED - Reverse additional parameters included flag.

The base station shall set this field to ‘1’ if the following three fields (T_MULCHAN, BEGIN_PREAMBLE, and RESUME_PREAMBLE) are included in this message; otherwise, the base station shall set this field to ‘0’.

T_MULCHAN - Supplemental Channel Request Message pilot strength reporting offset.

If REV_PARMS_INCLUDED is set to ‘1’, the base station shall include this field and set this field to the threshold offset that the mobile station is to use when reporting neighbor pilot strength measurements in a Supplemental Channel Request Message. The mobile station is to interpret this field as an offset to T_ADD ranging from 0.5 dB (corresponding to T_MULCHAN = ‘000’) to 4.0 dB (corresponding to T_MULCHAN = ‘111’) in 0.5 dB increments.

BEGIN_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the beginning of transmission on Reverse Supplemental Code Channel.

If REV_PARMS_INCLUDED is set to ‘1’, the base station shall include this field and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when beginning transmission on Reverse Supplemental Code Channels.

RESUME_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the resumption of transmission.

If REV_PARMS_INCLUDED is set to ‘1’, the base station shall include this field and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when resuming transmission on a Reverse Supplemental Code Channel following an autonomous suspension of transmission on an allocated Supplemental Code Channel.

FOR_INCLUDED - Forward Supplemental Code Channel configuration indicator.

The base station shall set this field to ‘1’ to indicate that this message contains assignment information for Forward Supplemental Code Channels; otherwise, the base station shall set this field to ‘0’.

If FOR_INCLUDED is set to ‘1’, then the base station shall include the remaining fields in this message, otherwise the base station shall omit all of the following except for RESERVED.

FOR_SUP_CONFIG - Forward Supplemental Code Channel configuration indicator.
The base station shall set this field to '00' to indicate that the mobile station is to stop processing the Forward Supplemental Code Channels at the implicit action time of the message.

The base station shall set this field to '01' to indicate that the mobile station is to start processing the Forward Supplemental Code Channels in the Code Channel List at the implicit, explicit, or linked start time specified by this message (see 2.6.6.2.5.1).

The base station shall set this field to '10' if the Forward Supplemental Code Channels are specified in the message and the mobile station is to update its Code Channel List and stop processing the Forward Supplemental Code Channels at the implicit action time of the message.

The base station shall set this field to '11' if the Forward Supplemental Code Channels are specified in the message and the mobile station is to start processing the Forward Supplemental Code Channels at the implicit, explicit, or linked start time specified by this message (see 2.6.6.2.5.1).

**EXPL_FOR_START_TIME** - Explicit forward start time indicator.

This field indicates whether an explicit Forward Supplemental Code Channel start time is specified in this message.

The base station shall include this field only if FOR_SUP_CONFIG is set to '01' or '11'. If a FOR_START_TIME is specified in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'. If EXPL_FOR_START_TIME is set to '1', then the base station shall set USE_FOR_HDM_SEQ to '0'.

The following field is included only if EXPL_FOR_START_TIME is included and set to '1':

**FOR_START_TIME** - Start time of the Forward Supplemental Code Channel assignment.

The base station shall include this field only if FOR_SUP_CONFIG is set to '01' or '11'. If the EXPL_FOR_START_TIME field is set to '1', the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the mobile station is to start processing the Forward Supplemental Code Channels. If EXPL_FOR_START_TIME is set to '0' the base station shall omit this field.

**USE_FOR_DURATION** - Use forward duration indicator.

The base station shall set this field to '1' if FOR_DURATION is included in the message; otherwise, the base station shall set this field to '0'.
If FOR_SUP_CONFIG is set to '01' or '11', then the base station may set this field to '0' to indicate that the mobile station is to be assigned an infinite Forward Supplemental Code Channel assignment duration (i.e., the mobile station is to continue processing Forward Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies an updated FOR_DURATION). Otherwise, the base station may set this field to '1' to indicate that the mobile station is to be given a Forward Supplemental Code Channel assignment for the duration specified by the FOR_DURATION field.

If FOR_SUP_CONFIG is set to '00' or '10', then the base station shall set USE_FOR_DURATION to '0'.

**FOR_DURATION** - Duration of Forward Supplemental Code Channel assignment.

The base station shall include this field only if USE_FOR_DURATION is included and set to '1'. If included, this field indicates allocated duration, in units of 80 ms, during which the mobile station is to process the Forward Supplemental Code Channels.

**USE_FOR_HDM_SEQ** - Use Forward General Handoff Direction Message sequence number indicator.

This field indicates whether processing of the Forward Supplemental Code Channels shall take effect at the same time as a corresponding General Handoff Direction Message.

The base station shall include this field only if FOR_SUP_CONFIG is equal to '01' or '11'. If this message is linked with a General Handoff Direction Message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'. If USE_FOR_HDM_SEQ is set to '1', then the base station shall set EXPL_FOR_START_TIME to '0'.

**FOR_LINKED_HDM_SEQ** - Sequence number of the General Handoff Direction Message.

If the USE_FOR_HDM_SEQ field is included and set to '1', the base station shall set this field to the sequence number of the General Handoff Direction Message (HDM_SEQ) to which this Forward Supplemental Code Channel assignment is linked; otherwise, if USE_FOR_HDM_SEQ is not included or is set to '0', then base station shall omit this field.

**NUM_SUP_PILOTS** - Number of pilots in the Active Set which have at least one associated Supplemental Code Channel.

If FOR_SUP_CONFIG is included and is set to '10' or '11', the base station shall include this field and shall set this field to the number of pilots for which there is at least one associated Supplemental Code Channel. This field shall not be included if FOR_SUP_CONFIG is omitted or is set to '01' or '00'.

**NUM_FOR_SUP** - Number of Forward Supplemental Code Channels.
If FOR_SUP_CONFIG is included and is set to ‘10’ or ‘11’, the base station shall include this field and shall set this field to the number of Forward Supplemental Code Channels assigned to the mobile station. NUM_FOR_SUP shall not exceed the maximum number of Forward Supplemental Code Channels for the negotiated multiplex option. This field shall not be included if FOR_SUP_CONFIG is omitted or is set to ‘01’ or ‘00’.

If FOR_SUP_CONFIG is included and is set to ‘10’ or ‘11’, the base station shall include NUM_SUP_PILOTS occurrences of the following record, one for each pilot for which there is at least one associated Supplemental Code Channel:

- **PILOT_PN** - Pilot PN sequence offset index.
  - The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

- **EXPL_CODE_CHAN** - Explicit code channel indicator
  - The base station shall set this field to ‘1’ to indicate explicit assignment of each Forward Supplemental Code Channel.
  - The base station shall set this field to ‘0’ if the mobile station is to use NUM_FOR_SUP successive code channels beginning with index BASE_CODE_CHAN (i.e., BASE_CODE_CHAN through BASE_CODE_CHAN + NUM_FOR_SUP – 1). In both cases (i.e., the explicit code channel list format and range format), the order of the code channel indices is the same for all the pilots specified in this message (i.e., the $i^{th}$ code channel index in the list for each pilot PN sequence offset indicates the appropriate code channel to be used for the $i^{th}$ Forward Supplemental Code Channel).

If EXPL_CODE_CHAN is set to ‘1’, then the base station shall include NUM_FOR_SUP occurrences of the following field, one for each pilot which has been included:

- **SUP_CODE_CHAN** - Supplemental Code Channel index.
  - The base station shall set this field to the code channel index (see [2]) in the range 1 to 63 inclusive of the Supplemental Code Channel associated with this pilot.

If EXPL_CODE_CHAN is set to ‘0’ then the base station shall include the following field:

- **BASE_CODE_CHAN** - Base code channel index.
  - If EXPL_CODE_CHAN is equal to ‘0’ the base station shall include this field and set it to the base code channel index (see [2]) in the range of 1 to (63 – NUM_FOR_SUP + 1), inclusive, that the mobile station is to use as the first Forward Supplemental Code Channel associated with this pilot. The mobile station is to use NUM_FOR_SUP successive code channels beginning with index BASE_CODE_CHAN (i.e., BASE_CODE_CHAN through BASE_CODE_CHAN + NUM_FOR_SUP – 1) for the Forward Supplemental Code Channels associated with this pilot.
The base station shall not include this field if EXPL_CODE_CHAN is equal to '1' or if EXPL_CODE_CHAN is not included.
3.7.3.3.2.25 Power Control Message

MSG_TAG: PCNM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR_CNTL_STEP</td>
<td>3</td>
</tr>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>FPC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_MODE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_OLP_FCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_FCH_FER</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FPC_FCH_MIN_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_FCH_MAX_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_OLP_DCCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_DCCH_FER</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FPC_DCCH_MIN_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_DCCH_MAX_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_SEC_CHAN</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NUM_SUP</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

Include NUM_SUP occurrence of the following four fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FPC_SCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_SCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_SCH_MAX_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_THRESH_INCL</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

(continues on next page)
Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_SETPT_THRESH</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_THRESH_SCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_SETPT_THRESH_SCH</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RPC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RPC_NUM_REC</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

If RPC INCL is set to ‘1’, RPC_NUM_REC occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPC_ADJ_REC_TYPE</td>
<td>4</td>
</tr>
<tr>
<td>RPC_ADJ_REC_LEN</td>
<td>5</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>8× RPC_ADJ_REC_LEN</td>
</tr>
</tbody>
</table>

PWR_CNTL_STEP - Power control step size

The base station shall set this field to the closed loop power control step size parameter shown in Table 3.7.3.3.2.25-1 corresponding to the power control step size that the mobile station is to use for closed loop power control.

Table 3.7.3.3.2.25-1. Closed Loop Power Control Step Size

<table>
<thead>
<tr>
<th>PWR_CNTL_STEP (binary)</th>
<th>Power Control Step Size (dB nominal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>1</td>
</tr>
<tr>
<td>001</td>
<td>0.5</td>
</tr>
<tr>
<td>010</td>
<td>0.25</td>
</tr>
</tbody>
</table>

All other PWR_CNTL_STEP values are reserved.

USE_TIME - Use action time indicator.

This field indicates whether an ACTION_TIME is specified in this message.

If an ACTION_TIME is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

ACTION_TIME - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall omit this field.
FPC_INCL - Forward Link Power Control parameter included indicator.

If the forward power control related information is included in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

FPC_MODE - Forward Power Control Operation Mode Indicator

If FPC_INCL is set to '0' the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set the value to the forward power control operation mode as specified in [2].

FPC_PRI_CHAN - Power Control Subchannel indicator.

If FPC_INCL is set to '0' the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to '0' if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on the Forward Fundamental Channel. The base station shall set this field to '1' if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on the Forward Dedicated Control Channel.

If only the Fundamental Channel is assigned, the base station shall set this field to '0'. If only the Dedicated Control Channel is assigned, the base station shall set this field to '1'.

FPC_OLPC_FCH_INCL - Fundamental Channel Outer Loop Power Control parameter included indicator.

If FPC_INCL is set to '0' the base station shall omit this field; otherwise, the base station shall set this field as follows:

If the forward link fundamental channel outer loop power control parameters are included in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

FPC_FCH_FER - Fundamental channel target Frame Error Rate.

If FPC_OLPC_FCH_INCL is included and set to '1', the base station shall set this field to the target Frame Error Rate on the Forward Fundamental Channel, as specified in Table 3.7.3.3.2.25-2; otherwise, the base station shall omit this field.
Table 3.7.3.3.25-2. Target Frame Error Rate

<table>
<thead>
<tr>
<th>FER (Binary)</th>
<th>Frame Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000</td>
<td>0.2%</td>
</tr>
<tr>
<td>00001-10100</td>
<td>0.5% -10% (in units of 0.5%)</td>
</tr>
<tr>
<td>10101-11001</td>
<td>11% - 15% (in units of 1.0%)</td>
</tr>
<tr>
<td>11010-11110</td>
<td>18% - 30% (in units of 3.0%)</td>
</tr>
<tr>
<td>11111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

1. **FPC_FCH_MIN_SETPT** - Minimum Fundamental Channel Outer Loop Eb/Nt setpoint

   If FPC_O LPC_FCH_INCL is included and set to ‘1’, the base station shall set this field to minimum Fundamental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB; otherwise, the base station shall omit this field.

   The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

2. **FPC_FCH_MAX_SETPT** - Maximum Fundamental Channel Outer Loop Eb/Nt setpoint

   If FPC_O LPC_FCH_INCL is included and set to ‘1’, the base station shall set this field to maximum Fundamental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB; otherwise, the base station shall omit this field.

   The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

3. **FPC_O LPC_DCCH_INCL** - Dedicated Control Channel Outer Loop Power Control parameter included indicator.

   If FPC_INCL is set to ‘0’ the base station shall omit this field; otherwise, the base station shall set this field as follows:

   If the forward link Dedicated Control Channel outer loop power control parameters are included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

4. **FPC_DCCH_FER** - Dedicated Control Channel target Frame Error Rate.

   If FPC_O LPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to the target Frame Error Rate on the Forward Dedicated Control Channel, as specified in Table 3.7.3.3.2.25-2; otherwise, the base station shall omit this field.

5. **FPC_DCCH_MIN_SETPT** - Minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint.
If FPC_OLPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB; otherwise, the base station shall omit this field.

The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

FPC_DCCH_MAX_SETPT - Maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint.

If FPC_OLPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB; otherwise, the base station shall omit this field.

The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

FPC_SEC_CHAN - Master Supplemental channel index.

If FPC_INCL is set to ‘1’ and FPC_MODE is set to ‘001’ or ‘010’, the base station shall set this field to the master Supplemental Channel index; otherwise, the base station shall omit this field.

NUM_SUP – Number of Supplemental Channels.

If FPC_INCL is set to ‘0’ the base station shall omit this field; otherwise, the base station shall set this field to the total number of the Supplemental Channels.

The base station shall include NUM_SUP occurrences of the following record:

SCH_ID - Supplemental channel index.

The base station shall set this field to the Supplemental Channel index.

FPC_SCH_FER - Supplemental channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Supplemental Channel, as specified in Table 3.7.3.3.2.25-2.

FPC_MIN_SCH_SETPT - Minimum Supplemental Channel outer loop Eb/Nt setpoint.

The base station shall set this field to minimum Supplemental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.

The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

FPC_MAX_SCH_SETPT - Maximum Supplemental Channel outer loop Eb/Nt setpoint.

The base station shall set this field to maximum Supplemental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.
The base station shall set this field to ‘11111111’, when it directs the mobile station to set this Eb/No setpoint to the current setpoint used at the mobile station on this channel.

**FPC_THRESH_INCL** - Setpoint Report Threshold included indicator.

If FPC_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

If FPC_SETPT_THRESH is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**FPC_SETPT_THRESH** - Setpoint Report Threshold.

If FPC_THRESH_INCL is set to ‘1’, the base station shall set the value to FPC_SETPT_THRESH (in units of 0.125 dB) above which the outer loop report message will be sent by the mobile station; otherwise, the base station shall omit this field.

**FPC_THRESH_SCH_INCL** - SCH Setpoint Report Threshold included indicator.

If FPC_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

If FPC_SETPT_THRESH_SCH is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**FPC_SETPT_THRESH_SCH** - SCH Setpoint Report Threshold.

If FPC_THRESH_SCH_INCL is set to ‘1’, the base station shall set the value to FPC_SETPT_THRESH_SCH (in units of 0.125 dB) above which the outer loop report message will be sent by the mobile station; otherwise, the base station shall omit this field.

**RPC_INCL** - Reverse Link Power Control parameter included indicator.

If the reverse power control related information is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RPC_NUM_REC** - Number of records for Reverse Link Power Control.

If RPC_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field to the number of records included in this message.

If RPC_NUM_REC is included in this message, the base station shall include RPC_NUM_REC occurrences of the following record:

**RPC_ADJ_REC_TYPE** - Reverse Link Power Control adjustment record type.

The base station shall set this field to the value shown in Table 3.7.2.3.2.25-3 corresponding to the type of adjustment that is to be used.
Table 3.7.3.3.2.25-3. RPC_ADJ_REC_TYPE and RPC_ADJ_REC_LEN fields

<table>
<thead>
<tr>
<th>Description</th>
<th>RPC_ADJ_REC_TYP</th>
<th>RPC_ADJ_REC_LEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Channel Adjustment Gain</td>
<td>0000</td>
<td>2-5</td>
</tr>
<tr>
<td>Reverse Link Attribute Adjustment Gain for Basic Rates</td>
<td>0001</td>
<td>2-10</td>
</tr>
<tr>
<td>Reverse Link Attribute Adjustment Gain for Higher Rates</td>
<td>0010</td>
<td>2-13</td>
</tr>
</tbody>
</table>

All other values are reserved.

RPC_ADJ_REC_LEN - Reverse Link Power Control adjustment record length. The base station shall set this field to the number of octets in the type-specific fields of this adjustment record as given in Table 3.7.2.3.2.25-3.

Type-specific fields - Reverse Link Power Control adjustment record type-specific fields. The base station shall include type-specific fields based on the RPC_ADJ_REC_TYPE of this adjustment record, as specified as below.

If RPC_ADJ_REC_TYPE is equal to '0000', the base station shall set type-specific fields as specified in Table 3.7.2.3.2.25-4.
Table 3.7.2.3.25-4. Type Specific Fields for

RECORD_TYPE = ‘0000’

<table>
<thead>
<tr>
<th>Fields</th>
<th>Length (Bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCH_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FCH_CHAN_ADJ_GAIN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>DCCH_INCL</td>
<td>1</td>
</tr>
<tr>
<td>DCCH_CHAN_ADJ_GAIN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>SCH0_INCL</td>
<td>1</td>
</tr>
<tr>
<td>SCH0_CHAN_ADJ_GAIN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>SCH1_INCL</td>
<td>1</td>
</tr>
<tr>
<td>SCH1_CHAN_ADJ_GAIN</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

RESERVED                    | 0-7 (if needed) |

FCH_INCL - FCH channel adjustment gain included indicator.

If FCH_CHAN_ADJ_GAIN is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

FCH_CHAN_ADJ_GAIN - Channel adjustment gain for Reverse Fundamental Channel.

If FCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set each field to the value of the gain adjustment that the mobile station is to make for the Reverse Fundamental Channel. The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB. The base station shall set the value in the range from –48 to 48.

DCCH_INCL - DCCH channel adjustment gain included indicator.

If DCCH_CHAN_ADJ_GAIN is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

DCCH_CHAN_ADJ_GAIN - Channel adjustment gain for the Reverse Dedicated Control Channel.

If DCCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set each field to the value of the gain adjustment that the mobile station is to make for the Reverse Dedicated Control Channel. The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB. The base station shall set the value in the range from –48 to 48.

SCH0_INCL - SCH0 channel adjustment gain included indicator.
If SCH0_CHAN_ADJ_GAIN is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**SCH0_CHAN_ADJ_GAIN** - Channel adjustment gain for Reverse Supplemental Channel 0.

If SCH0_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set each field to the value of the gain adjustment that the mobile station is to make for the Reverse Supplemental Channel 0. The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB. The base station shall set the value in the range from –48 to 48.

**SCH1_INCL** - SCH1 channel adjustment gain included indicator.

If SCH1_CHAN_ADJ_GAIN is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**SCH1_CHAN_ADJ_GAIN** - Channel adjustment gain for Reverse Supplemental Channel 1.

If SCH1_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set each field to the value of the gain adjustment that the mobile station is to make for the Supplemental Channel 1. The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB. The base station shall set the value in the range from –48 to 48.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire record equal to an integer number of octets. The base station shall set these bits to ‘0’.

If RPC_ADJ_REC_TYPE is equal to ‘0001’, the base station shall set type-specific fields as specified in Table 3.7.2.3.2.25-5.
Table 3.7.2.3.2.25-5. Type Specific Fields for

| RECORD_TYPE = '0001' |

<table>
<thead>
<tr>
<th>Fields</th>
<th>Length (Bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL_ATT_ADJ_GAIN_TYPE</td>
<td>1</td>
</tr>
<tr>
<td>RC3_RC5_20MS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_1500</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_2700</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_4800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_9600</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RC4_RC6_20MS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_1800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_3600</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_7200</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_14400</td>
<td>0 or 8</td>
</tr>
<tr>
<td>5MS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NORM_ATT_GAIN_9600_5MS</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

RESERVED                            | 0-7 (if needed) |

- **RL_ATT_ADJ_GAIN_TYPE** - Reverse Link Attribute Adjustment Gain value type indicator.
  
  If the following corresponding gain adjustment fields are set to the value of the nominal attribute gain adjustment that the mobile station is to make for the corresponding transmission attributes (relative to Nominal_Attribute_Gain specified in [2]), the base station shall set this field to ‘0’. If the following corresponding gain adjustment fields are set to the value of the pilot reference level adjustment that the mobile station is to use for the corresponding transmission attributes (relative to Pilot_Reference_Level specified in [2]), the base station shall set this field to ‘1’.

- **RC3_RC5_20MS_INCL** - Reverse Link Attribute Adjustment Gain for Radio Configuration 3 or 5 of 20ms frame included indicator.
  
  If Reverse Link Attribute adjustment Gain for Radio Configuration 3 or 5 of 20ms frame is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.
RL_ATT_ADJ_GAIN_1500 - Reverse Link Attribute Adjustment Gain for the transmission rate 1500bits/s.

If RC3_RC5_20MS_INCL is set to '0', the base station shall omit this field.

If RC3_RC5_20MS_INCL is set to '1' and RL_ATT_ADJ_GAIN_TYPE is set to '0', the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 1500bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5_20MS_INCL is set to '1' and RL_ATT_ADJ_GAIN_TYPE is set to '1', the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 1500bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_2700 - Reverse Link Attribute Adjustment Gain for the transmission rate 2700bits/s.

If RC3_RC5_20MS_INCL is set to '0', the base station shall omit this field.

If RC3_RC5_20MS_INCL is set to '1' and RL_ATT_ADJ_GAIN_TYPE is set to '0', the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 2700bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5_20MS_INCL is set to '1' and RL_ATT_ADJ_GAIN_TYPE is set to '1', the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 2700bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_4800 - Reverse Link Attribute Gain Adjustment for the transmission rate 4800bits/s.

If RC3_RC5_20MS_INCL is set to '0', the base station shall omit this field.
If RC3_RC5__20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 4800bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5__20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 4800bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_9600 - Reverse Link Attribute Gain Adjustment for the transmission rate 9600bits/s.

If RC3_RC5__20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC3_RC5__20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 9600bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5__20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 9600bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

RC4_RC6_20MS_INCL - Reverse Link Attribute Adjustment Gain for Radio Configuration 4 and 20ms frame included indicator.

If Reverse Link Attribute Adjustment Gain for Radio Configuration 4 and 20ms frame is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

RL_ATT_ADJ_GAIN_1800 - Reverse Link Attribute Gain Adjustment for the transmission rate 1800bits/s.

If RC4_RC6__20MS_INCL is set to ‘0’, the base station shall omit this field.
If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 1800bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 1800bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_3600 - Reverse Link Attribute Adjustment Gain for the transmission rate 3600bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 3600bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 3600bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_7200 - Reverse Link Attribute Adjustment Gain for the transmission rate 7200bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 7200bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.
If RC4_RC6_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 7200bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_14400- Reverse Link Attribute Adjustment Gain for the transmission rate 14400bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 14400bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 14400bits/s, convolutional code and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

5MS_INCL - 5ms frame Reverse Link Attribute Adjustment Gain included indicator.

If Reverse Link Attribute Adjustment Gain for 5ms frame is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

RL_ATT_ADJ_GAIN- Reverse Link Attribute Adjustment Gain for the transmission rate 9600bits/s with 5ms frame.

If 5MS_INCL is set to ‘0’, the base station shall omit this field.

If 5MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 9600bits/s, convolutional code and 5ms frame. The base station shall set the value in the range from –48 to 48.
If 5MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 9600bits/s, convolutional code and 5ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire record equal to an integer number of octets. The base station shall set these bits to ‘0’.

If RPC_ADJ_REC_TYPE is equal to ‘0010’, the base station shall set type-specific fields as specified in Table 3.7.2.3.2.25-6.

### Table 3.7.2.3.2.25-6. Type Specific Fields for RECORD_TYPE = ‘0010’

<table>
<thead>
<tr>
<th>Fields</th>
<th>Length (Bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODE_TYPE</td>
<td>1</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_TYPE</td>
<td>1</td>
</tr>
<tr>
<td>RC3_RC5_20MS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_19200</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_38400</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_76800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_153600</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_307200</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_614400</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RC4_RC6_20MS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_28800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_576600</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_115200</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_230400</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_460800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RL_ATT_ADJ_GAIN_1036800</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0-7 (if needed)</td>
</tr>
</tbody>
</table>

CODE_TYPE - Coding type indicator.
If the following corresponding gain adjustment fields apply for the convolutional code, the base station shall set this field to ‘0’. If the following corresponding gain adjustment fields apply for the Turbo code, the base station shall set this field to ‘1’.

**RL_ATT_ADJ_GAIN_TYPE** - Reverse Link Attribute adjustment Gain value type indicator.

If the following corresponding gain adjustment fields are set to the value of the nominal attribute gain adjustment that the mobile station is to make for the corresponding transmission attributes (relative to Nominal_Attribute_Gain specified in [2]), the base station shall set this field to ‘0’. If the following corresponding gain adjustment fields are set to the value of the pilot reference level adjustment that the mobile station is to use for the corresponding transmission attributes (relative to Pilot_Reference_Level specified in [2]), the base station shall set this field to ‘1’.

**RC3_RC5_20MS_INCL** - Reverse Link Attribute Adjustment Gain for Radio Configuration 3 and 5 of 20ms frame included indicator.

If Reverse Link Attribute Adjustment Gain for Radio Configuration 3 and 5 of 20ms frame is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RL_ATT_ADJ_GAIN-_19200** - Reverse Link Attribute Adjustment Gain for the transmission rate 19200bits/s.

If RC3_RC5_20MS_INCL is set to ‘0’, the base station shall omit this field.

If **RC3_RC5_20MS_INCL** is set to ‘1’ and **RL_ATT_ADJ_GAIN_TYPE** is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 19200bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If **RC3_RC5_20MS_INCL** is set to ‘1’ and **RL_ATT_ADJ_GAIN_TYPE** is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 19200bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

**RL_ATT_ADJ_GAIN-_38400** - Reverse Link Attribute Adjustment Gain for the transmission rate 38400bits/s.
If RC3_RC5_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC3_RC5_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 38400bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 38400bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_76800 - Reverse Link Attribute Adjustment Gain for the transmission rate 76800bits/s.

If RC3_RC5_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC3_RC5_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 76800bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 76800bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN_153600 - Reverse Link Attribute Adjustment Gain for the transmission rate 153600bits/s.

If RC3_RC5_20MS_INCL is set to ‘0’, the base station shall omit this field.
If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘1’ and $\text{NORM\_ATT\_GAIN\_TYPE}$ is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 153600 bits/s, and 20 ms frame. The base station shall set the value in the range from –48 to 48.

If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘1’ and $\text{NORM\_ATT\_GAIN\_TYPE}$ is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 153600 bits/s and 20 ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

$\text{RL\_ATT\_ADJ\_GAIN\_307200}$ - Reverse Link Attribute Adjustment Gain for the transmission rate 307200 bits/s.

If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘0’, the base station shall omit this field.

If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘1’ and $\text{RL\_ATT\_ADJ\_GAIN\_TYPE}$ is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 307200 bits/s, and 20 ms frame. The base station shall set the value in the range from –48 to 48.

If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘1’ and $\text{RL\_ATT\_ADJ\_GAIN\_TYPE}$ is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 307200 bits/s and 20 ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

$\text{RL\_ATT\_ADJ\_GAIN\_614400}$ - Reverse Link Attribute Adjustment Gain for the transmission rate 614400 bits/s.

If $\text{RC3\_RC5\_20MS\_INCL}$ is set to ‘0’, the base station shall omit this field.
If RC3_RC5_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 614400bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC3_RC5_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 614400bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RC4_RC6_20MS_INCL - Reverse Link Attribute Adjustment Gain for Radio Configuration 4 and 6 of 20ms frame included indicator.

If Reverse Link Attribute Adjustment Gain for Radio Configuration 4 and 6 of 20ms frame is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

RL_ATT_ADJ_GAIN-_28800 - Reverse Link Attribute Adjustment Gain for the transmission rate 28800bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 28800bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 28800bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

RL_ATT_ADJ_GAIN-_57600 - Reverse Link Attribute Adjustment Gain for the transmission rate 57600bits/s.
If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 57600bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and NORM_ATT_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 57600bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

**RL_ATT_ADJ_GAIN**

- **RL_ATT_ADJ_GAIN-115200** - Reverse Link Attribute Adjustment Gain for the transmission rate 115200bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 115200bits/s, and 20ms frame. The base station shall set the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 115200bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two’s complement value in units of 0.125 dB.

**RL_ATT_ADJ_GAIN**

- **RL_ATT_ADJ_GAIN-230400** - Reverse Link Attribute Adjustment Gain for the transmission rate 230400bits/s.

If RC4_RC6_20MS_INCL is set to ‘0’, the base station shall omit this field.
If `RC4_RC6_20MS_INCL` is set to ‘1’ and `RL_ATT_ADJ_GAIN_TYPE` is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 230400bits/s, and 20ms frame. The base station shall set the value in the range from -48 to 48.

If `RC4_RC6_20MS_INCL` is set to ‘1’ and `RL_ATT_ADJ_GAIN_TYPE` is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 230400bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

`RL_ATT_ADJ_GAIN_460800` - Reverse Link Attribute Adjustment Gain for the transmission rate 460800bits/s.

If `RC4_RC6_20MS_INCL` is set to ‘0’, the base station shall omit this field.

If `RC4_RC6_20MS_INCL` is set to ‘1’ and `RL_ATT_ADJ_GAIN_TYPE` is set to ‘0’, the base station shall set this field to the value of the nominal attribute gain adjustment that the mobile station is to make for the transmission attributes with transmission rate 460800bits/s, and 20ms frame. The base station shall set the value in the range from -48 to 48.

If `RC4_RC6_20MS_INCL` is set to ‘1’ and `RL_ATT_ADJ_GAIN_TYPE` is set to ‘1’, the base station shall set this field to the value of the pilot reference level adjustment that the mobile station is to make for the transmission attributes with transmission rate 460800bits/s and 20ms frame. The base station shall set the value in the range from 0 to 63.

The base station shall set this field to the correction factor expressed as a two's complement value in units of 0.125 dB.

`RL_ATT_ADJ_GAIN_1036800` - Reverse Link Attribute Adjustment Gain for the transmission rate 1036800bits/s.

If `RC4_RC6_20MS_INCL` is set to ‘0’, the base station shall omit this field.
If RC4_RC6_20MS_INCL is set to ‘1’ and
RL_ATT_ADJ_GAIN_TYPE is set to ‘0’, the base station shall
set this field to the value of the nominal attribute gain
adjustment that the mobile station is to make for the
transmission attributes with transmission rate
1036800bits/s, and 20ms frame. The base station shall set
the value in the range from –48 to 48.

If RC4_RC6_20MS_INCL is set to ‘1’ and
RL_ATT_ADJ_GAIN_TYPE is set to ‘1’, the base station shall
set this field to the value of the pilot reference level
adjustment that the mobile station is to make for the
transmission attributes with transmission rate 1306800bits/s
and 20ms frame. The base station shall set the value in the
range from 0 to 63.

The base station shall set this field to the correction factor
expressed as a two’s complement value in units of 0.125 dB.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to
make the length of the entire record equal to an integer
number of octets. The base station shall set these bits to ‘0’.
### 3.7.3.3.2.26 Extended Neighbor List Update Message

**MSG_TAG**: ENLUM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_INC</td>
<td>4</td>
</tr>
<tr>
<td>NGHBKR_SRCH_MODE</td>
<td>2</td>
</tr>
<tr>
<td>SRCH_WIN_N</td>
<td>4</td>
</tr>
<tr>
<td>USE_TIMING</td>
<td>1</td>
</tr>
<tr>
<td>GLOBAL_TIMING_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>GLOBAL_TX_DURATION</td>
<td>0 or 4</td>
</tr>
<tr>
<td>GLOBAL_TX_PERIOD</td>
<td>0 or 7</td>
</tr>
<tr>
<td>NUM_NGHBR</td>
<td>6</td>
</tr>
</tbody>
</table>

**NUM_NGHBR** occurrences of the following field:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGHBKR_PN</td>
<td>9</td>
</tr>
<tr>
<td>SEARCH_PRIORITY</td>
<td>0 or 2</td>
</tr>
<tr>
<td>SRCH_WIN_NGHBR</td>
<td>0 or 4</td>
</tr>
<tr>
<td>TIMING_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NGHBKR_TX_OFFSET</td>
<td>0 or 7</td>
</tr>
<tr>
<td>NGHBKR_TX_DURATION</td>
<td>0 or 4</td>
</tr>
<tr>
<td>NGHBKR_TX_PERIOD</td>
<td>0 or 7</td>
</tr>
</tbody>
</table>

**SRCH_OFFSET_INCL**

**NUM_NGHBR** occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NGHBKR_PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or $8 \times$ RECORD_LEN</td>
</tr>
<tr>
<td>SRCH_OFFSET_NGHBR</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

- **PILOT_INC** - Pilot PN sequence offset index increment.
- A mobile station searches for Remaining Set pilots at pilot PN sequence index values that are multiples of this value.
The base station shall set this field to the pilot PN sequence increment, in units of 64 PN chips, that mobile stations are to use for searching the Remaining Set. The base station should set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

The base station shall set this field to a value in the range 1 to 15 inclusive.

**NGHBR_SRCH_MODE** - Search mode.

The base station shall set this field to the value specified in Table 3.7.3.3.2.26-1 corresponding to the search mode.

### Table 3.7.3.3.2.26-1. NGHBR_SRCH_MODE Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No search priorities or search windows</td>
</tr>
<tr>
<td>01</td>
<td>Search priorities</td>
</tr>
<tr>
<td>10</td>
<td>Search windows</td>
</tr>
<tr>
<td>11</td>
<td>Search windows and search priorities</td>
</tr>
</tbody>
</table>

**SRCH_WIN_N** - Default search window size for the Neighbor Set.

The base station shall set this field to the value specified in Table 2.6.6.2.1-1 corresponding to the default search window size to be used by the mobile station for its Neighbor Set. The mobile station uses the default search window size for all pilots in its Neighbor Set when the search window is not specified for each pilot individually (NGHBR_SRCH_MODE is set to a value other than ‘10’ and ‘11').

**USE_TIMING** - Use timing indicator.

If base station timing information is included for neighbor base stations, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**GLOBAL_TIMING_INCL** - Global timing included.

If USE_TIMING is set to ‘1’, the base station shall include the field GLOBAL_TIMING_INCL and set this field as described below; otherwise, the base station shall omit this field.

If base station timing information is included globally for all neighbor base stations with TIMING_INCL equal to ‘1’, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**GLOBAL_TX-**
_DURATION - Global neighbor transmit time duration.

If GLOBAL_TIMING_INCL is included and is set to ‘1’, the base station shall include the field GLOBAL_TX_DURATION and shall set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to the duration of the base station transmit window, during each period, in units of 80 ms. The base station should set this field to a value of 3 or greater.

GLOBAL_TX_PERIOD - Global neighbor transmit time period.

If GLOBAL_TIMING_INCL is included and is set to ‘1’, the base station shall include the field GLOBAL_TX_PERIOD and shall set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to duration of the period, in units of 80 ms.

NUM_NGHB - Number of neighbor pilot PN sequences.

The base station shall set this field to the number of neighbors included in the message.

The base station shall include one occurrence of the following record for each pilot that a mobile station is to place in its Neighbor Set

NGHBR_PN - Neighbor pilot PN sequence offset index.

The base station shall include one occurrence of this field for each pilot in its neighbor list. The base station shall set this field to the pilot’s PN sequence offset, in units of 64 PN chips.

SEARCH_PRIORITY - Pilot Channel search priority.

If NGHBR_SRCH_MODE is set to ‘01’ or ‘11’, then the base station shall set this field to the search priority for this neighbor. The base station shall set the search priority as specified in Table 3.7.3.3.2.26-2. If NGHBR_SRCH_MODE is set to any other value, the base station shall omit this field.
Table 3.7.3.3.2.26-2. SEARCH_PRIORITY Field

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Search Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Low</td>
</tr>
<tr>
<td>01</td>
<td>Medium</td>
</tr>
<tr>
<td>10</td>
<td>High</td>
</tr>
<tr>
<td>11</td>
<td>Very High</td>
</tr>
</tbody>
</table>

SRCH_WIN_NGHB - Neighbor pilot channel search window size.

If NGHB_SRCH_MODE is set to ‘10’ or ‘11’, then the base station shall set this field to the value specified in Table 2.6.6.2.1-1 corresponding to the search window size to be used by the mobile stations for this neighbor. If NGHB_SRCH_MODE is set to any other value, the base station shall omit this field.

TIMING_INCL - Timing included indicator.

If USE_TIMING is set to ‘1’, the base station shall include the field TIMING_INCL and set this field as described below; otherwise, the base station shall omit this field.

If base station timing information is included for this neighbor, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

NGHB_TX_OFFSET - Neighbor transmit time offset.

If TIMING_INCL is included and is set to ‘1’, the base station shall include the field NGHB_TX_OFFSET and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to the time offset, in units of 80 ms, from the beginning of the neighbor timing period to the beginning of the first base station transmit window within the period. The beginning of the neighbor timing period occurs when \[ \lfloor t/4 \rfloor \mod (16384) = 0. \]

NGHB_TX_DURATION - Neighbor transmit time duration.

If TIMING_INCL is included and is set to ‘1’ and GLOBAL_TIMING_INCL is set to ‘0’, the base station shall include the field NGHB_TX_DURATION and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field duration of the base station transmit window, during each period, in units of 80 ms. The base station should set this field to a value of 3 or greater.

NGHB_TX_PERIOD - Neighbor transmit time period.
If TIMING_INCL is included and is set to ‘1’ and GLOBAL_TIMING_INCL is set to ‘0’, the base station shall include the field NGHBR_TX_PERIOD and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to duration of the period, in units of 80 ms.

SRCH_OFFSET_INCL - Neighbor pilot channel search window offset included.

If NGHBR_SRCH_MODE = ‘10’ or ‘11’ and if the SRCH_OFFSET_NGHBR field is included in the following records, the base station shall set this bit to ‘1’; otherwise, the base station shall set this bit to ‘0’.

The base station shall include one occurrence of the following record for each pilot that a mobile station is to place in its Neighbor Set. The base station shall use the same order for the following record as is used for previous pilots which are listed in this message. Specifically, the $i^{th}$ occurrence of the following record shall correspond the $i^{th}$ pilot in this message.

ADD_PILOT_REC_INCL - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in NGHBR_PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

NGHBR_PILOT-_REC_TYPE - Neighbor Pilot record type

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the NGHBR_PILOT_REC_TYPE value shown in Table 3.7.2.3.2.22-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the NGHBR_PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.
If NGHBR_PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

RESERVED - Reserved bits.

The base station shall set this field to ‘000000’.

SRCH_OFFSET_NGHBR - Neighbor pilot channel search window offset.

If NGHBR_SRCH_MODE = ‘10’ or ‘11’ and SRCH_OFFSET_INCL equals to ‘1’, then the base station shall set this field to the value shown in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by the mobile station for this neighbor. If NGHBR_SRCH_MODE is set to any other value or if SRCH_OFFSET_INCL equals to ‘0’, the base station shall omit this field.
3.7.3.3.2.27 Candidate Frequency Search Request Message

MSG_TAG: CFSRQM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>RESERVED_1</td>
<td>4</td>
</tr>
<tr>
<td>CFSRM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>SEARCH_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>SEARCH_PERIOD</td>
<td>4</td>
</tr>
<tr>
<td>SEARCH_MODE</td>
<td>4</td>
</tr>
<tr>
<td>MODE_SPECIFIC_LEN</td>
<td>8</td>
</tr>
<tr>
<td>Mode-specific fields</td>
<td>$8 \times$ MODE_SPECIFIC_LEN</td>
</tr>
<tr>
<td>ALIGN_TIMING</td>
<td>1</td>
</tr>
<tr>
<td>SEARCH_OFFSET</td>
<td>0 or 6</td>
</tr>
</tbody>
</table>

USE_TIME - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

If the base station requests the mobile station to perform an aligned search (see 2.6.6.2.8.3), the base station shall specify an explicit action time for the message. ACTION_TIME - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.

RESERVED_1 - Reserved bits.

The base station shall set this field to ‘0000’.

CFSRM_SEQ - Candidate Frequency Search Request Message sequence number.

The base station shall set this field to the Candidate Frequency Search Request Message sequence number, as specified in 2.6.6.2.2.3.
SEARCH_TYPE - Search command.
The base station shall set this field to the appropriate SEARCH_TYPE code from Table 3.7.3.3.2.27-1 to indicate the purpose of the message.

Table 3.7.3.3.2.27-1. SEARCH_TYPE Codes

<table>
<thead>
<tr>
<th>SEARCH_TYPE (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Directs the mobile station to stop any periodic search in progress (see 2.6.6.2.8.3.4 and 2.6.6.2.10.4)</td>
</tr>
<tr>
<td>01</td>
<td>Directs the mobile station to perform a single search (see 2.6.6.2.8.3.1 and 2.6.6.2.10.1).</td>
</tr>
<tr>
<td>11</td>
<td>Directs the mobile station to perform a periodic search (see 2.6.6.2.8.3.2 and 2.6.6.2.10.2).</td>
</tr>
<tr>
<td>10</td>
<td>Reserved.</td>
</tr>
</tbody>
</table>

SEARCH_PERIOD - Time between successive searches on the Candidate Frequency.
The base station shall set this field to the SEARCH_PERIOD value shown in Table 2.6.6.2.8.3.2-1 corresponding to the search period to be used by the mobile station, i.e., the time between successive searches on the Candidate Frequency.

SEARCH_MODE - Search mode.
The base station shall set this field to the SEARCH_MODE value specified in Table 3.7.3.3.2.27-2 corresponding to the type of search specified by this message.

Table 3.7.3.3.2.27-2. SEARCH_MODE Types

<table>
<thead>
<tr>
<th>SEARCH_MODE (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Searches for CDMA pilots on a Candidate Frequency.</td>
</tr>
<tr>
<td>0001</td>
<td>Searches for analog channels.</td>
</tr>
<tr>
<td>0010-1111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

MODE_SPECIFIC_LEN - Length of mode-specific fields.
The base station shall set this field to the number of octets in the mode-specific fields of this message.

Mode-specific fields

Search mode-specific fields.

The base station shall include mode-specific fields based on the SEARCH_MODE field.

If SEARCH_MODE is equal to ‘0000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>11</td>
</tr>
<tr>
<td>SF_TOTAL_EC_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>SF_TOTAL_EC_IO_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>DIFF_RX_PWR_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>MIN_TOTAL_PILOT_EC_IO</td>
<td>5</td>
</tr>
<tr>
<td>CF_T_ADD</td>
<td>6</td>
</tr>
<tr>
<td>TF_WAIT_TIME</td>
<td>4</td>
</tr>
<tr>
<td>CF_PILOT_INC</td>
<td>4</td>
</tr>
<tr>
<td>CF_SRCH_WIN_N</td>
<td>4</td>
</tr>
<tr>
<td>CF_SRCH_WIN_R</td>
<td>4</td>
</tr>
<tr>
<td>RESERVED_2</td>
<td>5</td>
</tr>
<tr>
<td>PILOT_UPDATE</td>
<td>1</td>
</tr>
</tbody>
</table>

If PILOT_UPDATE is set to ‘1’ the base station shall include the following record:

| NUM_PILOTS                 | 6             |
| CF_NGHB_P_SRCH_MODE       | 2             |

If PILOT_UPDATE is set to ‘1’, the base station shall include NUM_PILOTS occurrences of the following record:

| NGHB_P_N                   | 9             |
| SEARCH_SET                 | 1             |
| SEARCH_PRIORITY            | 0 or 2        |
| SRCH_WIN_NGHB              | 0 or 4        |

If PILOT_UPDATE is set to ‘1’, the base station shall include the following field:

| CF_SRCH_OFFSET_INCL        | 1             |

(continues on next page)
If PILOT_UPDATE is set to ‘1’, the base station shall include NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NGHBR_PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 × RECORD_LEN</td>
</tr>
<tr>
<td>SRCH_OFFSET_NGHBRCBR</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

RESERVED_3 0 - 7 (as needed)

BAND_CLASS - Band class.
The base station shall set this field to the CDMA band class of the Candidate Frequency.

CDMA_FREQ - Frequency assignment.
The base station shall set this field to the CDMA frequency assignment for the Candidate Frequency.

SF_TOTAL_EC-_THRESH - Serving Frequency total pilot E_c threshold.
If the mobile station is not to use the measurement of total E_c of the pilots in the Serving Frequency Active Set in the Candidate Frequency periodic search procedure, the base station shall set this field to ’11111’; otherwise, the base station shall set this field to

\[
\lceil (10 \times \log_{10}(total_{ec\_thresh}) + 120) / 2 \rceil
\]

where total_{ec\_thresh} is defined by the following rule: The mobile station is not to visit the CDMA Candidate Frequency to search for pilots if the total E_c of the pilots in the Serving Frequency Active Set is greater than total_{ec\_thresh}.

SF_TOTAL_EC-_IO_THRESH - Serving Frequency total pilot E_c/I_o threshold.
If the mobile station is not to use the measurement of total E_c/ I_o of the pilots in the Serving Frequency Active Set in the Candidate Frequency periodic search procedure, the base station shall set this field to ’11111’; otherwise, the base station shall set this field to

\[
\lfloor -20 \times \log_{10}(total_{ec\_io\_thresh}) \rfloor
\]
where \( \text{total_ec_io_thresh} \) is defined by the following rule: The mobile station is not to visit the CDMA Candidate Frequency to search for pilots if the total \( \text{E}_c/\text{I}_0 \) of the pilots in the Serving Frequency Active Set is greater than \( \text{total_ec_io_thresh} \).

**DIFF_RX_PWR-THRESH** - Minimum difference in received power.

If the mobile station is to search for pilots on the CDMA Candidate Frequency irrespective of the received power on the Candidate Frequency, the base station shall set this field to '00000'; otherwise, the base station shall set this field to

\[
\left\lfloor \frac{\text{minimum_power_diff} + 30}{2} \right\rfloor
\]

where \( \text{minimum_power_diff} \) is determined by the following rule: The mobile station is not to search for pilots on the CDMA Candidate Frequency if \( \text{(cand_freq_pwr - serving_freq_pwr)} \) is less than \( \text{minimum_power_diff} \) (in dB), where \( \text{cand_freq_pwr} \) is the received power on the CDMA Candidate Frequency, in \( \text{dBm} / 1.23 \text{ MHz} \), and \( \text{serving_freq_pwr} \) is the received power on the Serving Frequency, in \( \text{dBm} / 1.23 \text{ MHz} \).

**MIN_TOTAL_PILOT_EC_IO** - Minimum total pilot \( \text{E}_c/\text{I}_0 \).

If the mobile station is to attempt to demodulate the Forward Traffic Channels irrespective of the strength of pilots in the Active Set, the base station shall set this field to '00000'; otherwise, the base station shall set this field to

\[
\left\lfloor -20 \times \log_{10} \text{total_pilot_threshold} \right\rfloor
\]

where \( \text{total_pilot_threshold} \) is defined by the following rule: The mobile station is not to attempt to demodulate the Forward Traffic Channels if the sum of \( \text{E}_c/\text{I}_0 \) of all pilots in the mobile station’s Active Set is less than \( \text{total_pilot_threshold} \).

**CF_T_ADD** - Pilot detection threshold for the CDMA Candidate Frequency.

This value is used by the mobile station to trigger the sending of the Candidate Frequency Search Report Message during a periodic search of the CDMA Candidate Frequency (see 2.6.6.2.8.3.2).

The base station shall set this field to the pilot detection threshold, expressed as an unsigned binary number equal to

\[
\left\lfloor -2 \times 10 \times \log_{10} \text{E}_c/\text{I}_0 \right\rfloor
\]

**TF_WAIT_TIME** - The total maximum wait time on the CDMA Target Frequency.

The base station shall set this field to the maximum wait time, in units of 80 ms, that the mobile station is to spend waiting for a period of \( (N_{11m} \times 20) \) ms with sufficient signal quality (e.g. good frames) on the CDMA Target Frequency.
CF_PILOT_INC - Pilot PN sequence offset index increment to be used on the CDMA Candidate Frequency after handoff. The base station shall set this field to the pilot PN sequence increment, in units of 64 PN chips, that the mobile station is to use for searching the Remaining Set, after a handoff to the CDMA Candidate Frequency is successfully completed. The base station should set this field to the largest increment such that the pilot PN sequence offsets of all its neighbor base stations are integer multiples of that increment.

CF_SRCH_WIN_N - Default search window size for the Candidate Frequency Search Set. The base station shall set this field to the value specified in Table 2.6.6.2.1-1 corresponding to the default search window size to be used by the mobile station for its Candidate Frequency Neighbor Set. The mobile station uses the default search window size for all pilots in its Candidate Frequency Neighbor Set when the search window has not been specified for each pilot individually.

CF_SRCH_WIN_R - Search window size for the Remaining Set on the CDMA Candidate Frequency. The base station shall set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Remaining Set on the CDMA Candidate Frequency after a handoff is successfully completed.

RESERVED_2 - Reserved bits. The base station shall set this field to ‘00000’.

PILOT_UPDATE - Pilot search parameter update indicator. If the mobile station is to change its pilot search parameters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

NUM_PILOTS - Number of pilots included in the message. The base station shall set this field to the number of the CDMA Candidate Frequency pilots included in this message. The base station shall set this field to a value from 0 to N_{8m}, inclusive.

CF_NGHB_SRCH_MODE - Search mode for Candidate Frequency Search Set. The base station shall set this field to the value shown in Table 3.7.3.3.2.27-3 corresponding to the search mode.
The base station shall include NUM_PILOTS occurrences of the following four-field record, one for each included CDMA Candidate Frequency pilot.

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No search priorities or search windows specified</td>
</tr>
<tr>
<td>01</td>
<td>Search priorities specified</td>
</tr>
<tr>
<td>10</td>
<td>Search windows specified</td>
</tr>
<tr>
<td>11</td>
<td>Search windows and search priorities specified</td>
</tr>
</tbody>
</table>

NGHBR_PN - Neighbor pilot PN sequence offset index. The base station shall set this field to the pilot’s PN sequence offset, in units of 64 PN chips.

SEARCH_SET - Flag to indicate if the corresponding pilot is to be searched. The base station shall set this field to ‘1’ if the mobile station should add the corresponding pilot to its Candidate Frequency Search Set; otherwise, the base station shall set this field to ‘0’.

SEARCH_PRIORITY - Pilot Channel search priority. If CF_NGHBR_SRCH_MODE is set to ‘01’ or ‘11’, then the base station shall set this field to the search priority for this neighbor. The base station shall set the search priority as specified in Table 3.7.3.3.2.26-2. If CF_NGHBR_SRCH_MODE is set to any other value, the base station shall omit this field.

SRCH_WIN_NGHB - Neighbor pilot channel search window size. If CF_NGHBR_SRCH_MODE is set to ‘10’ or ‘11’, then the base station shall set this field to the value specified in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for this neighbor. If the CF_NGHBR_SRCH_MODE is set to any other value, the base station shall omit this field.

CF_SRCH_OFFSET_INCL - Neighbor pilot channel search window offset included. If PILOT_UPDATE is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

- If SRCH_OFFSET_NGHB is included in the message, the base station shall set this bit to ‘1’; otherwise, the base station shall set this bit to ‘0’.

If PILOT_UPDATE is set to ‘1’, the base station shall include NUM_PILOTS occurrences of the following four-field record, one for each included CDMA Candidate Frequency Pilot.

ADD_PILOT_REC_INCL - Additional pilot information included indicator.
The base station shall set this field to ‘1’ if additional pilot information listed in NGHBR_PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

NGHBR_PILOT_REC_TYPE - Neighbor Pilot record type

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the NGHBR_PILOT_REC_TYPE value shown in Table 3.7.2.3.2.22-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the NGHBR_PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If NGHBR_PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

RESERVED - Reserved bits.

The base station shall set these bits to ‘0’.
SRCH_OFFSET_NGHB - Neighbor pilot channel search window offset.

If CF_NGHB_SRCH_MODE is set to '10' or '11' and CF_SRCH_OFFSET_INCL equals to '1', then the base station shall set this field to the value specified in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by the mobile station for this neighbor. If CF_NGHB_SRCH_MODE is set to any other value or if CF_SRCH_OFFSET_INCL equals to '0', the base station shall omit this field.

RESERVED_3 - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the Mode-specific fields equal to an integer number of octets. The base station shall set these bits to '0'.

If SEARCH_MODE is equal to '0001', the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND_CLASS</td>
<td>5</td>
</tr>
<tr>
<td>SF_TOTAL_EC_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>SF_TOTAL_EC_IO_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>RESERVED_4</td>
<td>6</td>
</tr>
<tr>
<td>NUM_ANALOG_FREQS</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_ANALOG_FREQS occurrences of the following record:

| ANALOG_FREQ            | 11            |

RESERVED_5 0-7

BAND_CLASS - Band class.

The base station shall set this field to the CDMA band class associated with the analog frequencies included in this message.

SF_TOTAL_EC-_THRESH - Serving Frequency total pilot $E_c$ threshold.

If the mobile station is not to use the measurement of total $E_c$ of the pilots in the Serving Frequency Active Set in the Analog Frequencies periodic search procedure, the base station shall set this field to '11111'; otherwise, the base station shall set this field to

\[
\left\lceil (10 \times \log_{10} (total_ec_thresh) + 120) / 2 \right\rceil
\]
where total_ec_thresh is defined by the following rule: The mobile station is not to visit any analog frequency if the total Ec of the pilots in the Serving Frequency Active Set is greater than total_ec_thresh.

\[
\text{SF\_TOTAL\_EC\_IO\_THRESH} - \text{Serving Frequency total pilot } E_c/I_0 \text{ threshold.}
\]

If the mobile station is not to use the measurement of total Ec/I_0 of the pilots in the Serving Frequency Active Set in the Analog Frequencies periodic search procedure, the base station shall set this field to ‘11111’; otherwise, the base station shall set this field to

\[
\left\lfloor -20 \times \log_{10}(\text{total_ec_io_thresh}) \right\rfloor
\]

where total_ec_io_thresh is defined by the following rule: The mobile station is not to visit any analog frequency if the total Ec/I_0 of the pilots in the Serving Frequency Active Set is greater than total_ec_io_thresh.

\[
\text{RESERVED\_4} - \text{Reserved bits.}
\]

The base station shall set this field to ‘000000’.

\[
\text{NUM\_ANALOG\_FREQS} - \text{Number of analog frequencies.}
\]

The base station shall set this field to the number of neighbors on the candidate frequency. The base station shall set this field to a value from 1 to 7, inclusive.

The message will include NUM\_ANALOG\_FREQS occurrences of the following one-field record, one for each neighbor on the candidate frequency.

\[
\text{ANALOG\_FREQ} - \text{Analog frequency channel number.}
\]

The base station shall set this field to the analog frequency channel number to search.

\[
\text{RESERVED\_5} - \text{Reserved bits.}
\]

The base station shall add reserved bits as needed in order to make the length of the Mode-specific fields equal to an integer number of octets. The base station shall set these bits to ‘0’.

\[
\text{ALIGN\_TIMING} - \text{Align timing indicator.}
\]

If the base station requests that the mobile station offset the start of the first search from the action time of this message (or of a subsequent Candidate Frequency Search Control Message that starts a search) by a delay specified by the SEARCH\_OFFSET field, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

\[
\text{SEARCH\_OFFSET} - \text{Search offset.}
\]

If the ALIGN\_TIMING field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it to
\[
\min \left( 63, \left\lceil \frac{\text{search\_offset\_time}}{0.00125} \right\rceil \right)
\]

where \(\text{search\_offset\_time}\) is the time offset, in seconds, of the start of the first search from the action time of this message (or of a subsequent Candidate Frequency Search Control Message that starts a search).
### 3.7.3.3.2.28 Candidate Frequency Search Control Message

**MSG_TAG:** CFSCNM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>CFSCM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>SEARCH_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>ALIGN_TIMING</td>
<td>1</td>
</tr>
</tbody>
</table>

**USE_TIME** - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

If the base station requests the mobile station to perform an aligned search (see 2.6.6.2.8.3), the base station shall specify an explicit action time for the message.

**ACTION_TIME** - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall set this field to ‘000000’.

**CFSCM_SEQ** - *Candidate Frequency Search Control Message* sequence number.

The base station shall set this field to the *Candidate Frequency Search Control Message* sequence number, as specified in 3.6.6.2.2.5.

**SEARCH_TYPE** - Search command.

The base station shall set this field to the appropriate SEARCH_TYPE code from Table 3.7.3.3.2.27-1 to indicate the purpose of the message.

**ALIGN_TIMING** - Align timing indicator.

If the base station requests that the mobile station offset the start of the first search from the action time of this message by a delay specified by the SEARCH_OFFSET field of the last *Candidate Frequency Search Request Message* sent to the mobile station, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.
3.7.3.3.2.29 Power Up Function Message

MSG_TAG: PUF

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>6</td>
</tr>
<tr>
<td>ACTION_TIME_FRAME</td>
<td>2</td>
</tr>
<tr>
<td>PUF_SETUP_SIZE</td>
<td>6</td>
</tr>
<tr>
<td>PUF_PULSE_SIZE</td>
<td>7</td>
</tr>
<tr>
<td>PUF_INTERVAL</td>
<td>10</td>
</tr>
<tr>
<td>PUF_INIT_PWR</td>
<td>6</td>
</tr>
<tr>
<td>PUF_PWR_STEP</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL_PUF_PROBES</td>
<td>4</td>
</tr>
<tr>
<td>MAX_PWR_PUF</td>
<td>4</td>
</tr>
<tr>
<td>PUF_FREQ_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PUF_BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>PUF_CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
</tbody>
</table>

- **USE_TIME**: Use action time indicator. The base station shall set this field to ‘1’.

- **ACTION_TIME**: Action time. The base station shall set this field to the System Time, in units of 80 ms (modulo 64), used in calculating the start of the first PUF probe.

- **ACTION_TIME_FRAME**: Action time frame. The base station shall set this field to the number of frames after ACTION_TIME that the mobile station is to begin the first PUF probe.

- **PUF_SETUP_SIZE**: Number of PUF setup power control groups. The base station shall set this field to one less than the number of power control groups that the mobile station is to transmit at nominal power prior to transmitting a PUF pulse.

- **PUF_PWR_STEP**: The base station shall set the values of PUF_SETUP_SIZE and PUF_PULSE_SIZE so that \([\text{PUF\_SETUP\_SIZE} + 1 + \text{PUF\_PULSE\_SIZE} + 1] \mod 16\) is not equal to 0.

- **PUF_PULSE_SIZE**: Number of PUF pulse power control groups.
The base station shall set this field to one less than the number of power control groups that the mobile station is to transmit at elevated power level during the PUF pulse. The base station shall set the values of PUF_SETUP_SIZE and PUF_PULSE_SIZE so that \([\text{PUF\_SETUP\_SIZE} + 1 + \text{PUF\_PULSE\_SIZE} + 1]\) mod 16 is not equal to 0.

**PUF\_INTERVAL** - PUF interval.

The base station shall set this field to the number of frames between the start of each PUF probe.

**PUF\_INIT\_PWR** - Power increase of initial PUF pulse.

The base station shall set this field to the amount (in dB) that the mobile station is to increase its mean output power for the first PUF pulse.

**PUF\_PWR\_STEP** - PUF power step.

The base station shall set this field to the value (in dB) by which the mobile station is to increment the power of a PUF pulse above nominal power from one PUF pulse to the next.

**TOTAL\_PUF\_PROBES** - Total number of PUF probes.

The base station shall set this field to one less than the maximum number of PUF probes the mobile station is to transmit in a PUF attempt.

**MAX\_PWR\_PUF** - Maximum number of PUF probes transmitted at full power.

The base station shall set this field to one less than the number of PUF pulses that the mobile station is to transmit at maximum power level.

**PUF\_FREQ\_INCL** - Frequency included indicator.

If the mobile station is to change PUF\_BAND\_CLASS or PUF\_CDMA\_FREQ, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**PUF\_BAND\_CLASS** - Band class.

If PUF\_FREQ\_INCL is set to ‘1’, the base station shall include this field and set it to the CDMA band class corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [38]; otherwise, the base station shall omit this field.

**PUF\_CDMA\_FREQ** - Frequency assignment.

If PUF\_FREQ\_INCL is set to ‘1’, the base station shall include this field and set it to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency for the CDMA Channel as specified in [2]; otherwise, the base station shall omit this field.
3.7.3.3.2.30 Power Up Function Completion Message

MSG_TAG: PUFCM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
<tr>
<td>LOC_IND</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED_1</td>
<td>0 or 3</td>
</tr>
<tr>
<td>MS_LAT</td>
<td>0 or 22</td>
</tr>
<tr>
<td>MS_LONG</td>
<td>0 or 23</td>
</tr>
<tr>
<td>MS_LOC_TSTAMP</td>
<td>0 or 24</td>
</tr>
</tbody>
</table>

RESERVED - Reserved bits.

The base station shall set these bits to ‘000000’.

LOC_IND - Location indicator

If the base station is to include MS_LAT, MS_LONG, and MS_LOC_TSTAMP in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

RESERVED_1 - Reserved bits.

If LOC_IND is equal to ‘1’, the base station shall set these bits to ‘000’; otherwise, the base station shall not include this field.

MS_LAT - Mobile station latitude.

If LOC_IND is equal to ‘1’, the base station shall set this field to the mobile station’s latitude in units of 0.25 second, expressed as a two’s complement signed number with positive numbers signifying North latitudes. The base station shall set this field to a value in the range -1296000 to 1296000 inclusive (corresponding to a range of -90° to +90°). Otherwise, the base station shall not include this field.

MS_LONG - Mobile station longitude.

If LOC_IND is equal to ‘1’, the base station shall set this field to the mobile station’s longitude in units of 0.25 second, expressed as a two’s complement signed number with positive numbers signifying East longitude. The base station shall set this field to a value in the range -2592000 to 2592000 inclusive (corresponding to a range of -180° to +180°). Otherwise, the base station shall not include this field.

MS_LOC_TSTAMP - Time stamp.
If LOC_IND is equal to ‘1’, the base station shall set this field to the time at which the mobile station’s location parameters were received; otherwise, the base station shall not include this field.

This field is formatted as shown below.

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOURS</td>
<td>8</td>
</tr>
<tr>
<td>MINUTES</td>
<td>8</td>
</tr>
<tr>
<td>SECONDS</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: All subfields contain two 4-bit BCD numbers giving the decimal value of the subfield. For example, if the minute is 53, the MINUTES subfield contains ‘01010011’.

HOURS - Current hour (UTC).
The base station shall set this field to the current hour (UTC), in the range 0-23.

MINUTES - Current minutes (UTC).
The base station shall set this field to the current minutes (UTC), in the range 0-59.

SECONDS - Current seconds (UTC).
The base station shall set this field to the current seconds (UTC), in the range 0-59.
### 3.7.3.3.2.31 General Handoff Direction Message

**MSG_TAG:** GHDM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>HDM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>SEARCHINCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>SRCH_WIN_A</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SRCH_WIN_N</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SRCH_WIN_R</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T_ADD</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_DROP</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_COMP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T TDROP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SOFT_SLOPE</td>
<td>0 or 6</td>
</tr>
<tr>
<td>ADD_INTERCEPT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>DROP_INTERCEPT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>EXTRA_parms</td>
<td>1</td>
</tr>
<tr>
<td>P_REV</td>
<td>0 or 8</td>
</tr>
<tr>
<td>PACKET_ZONE_ID</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>0 or 4</td>
</tr>
<tr>
<td>PRIVATE_LCM</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_L2</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_FPC</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SERV_NEG_TYPE</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

(continues on next page)
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCRYPT_MODE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>NOM_PWR_EXT</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NOM_PWR</td>
<td>0 or 4</td>
</tr>
<tr>
<td>NUM_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>RETURN_IF_HANDBOFF_FAIL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>COMPLETE_SEARCH</td>
<td>0 or 1</td>
</tr>
<tr>
<td>PERIODIC_SEARCH</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SCR_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SERV_CON_SEQ</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_TYPE</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 x RECORD_LEN</td>
</tr>
<tr>
<td>SUP_CHAN_PARMS_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>FOR_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_SUP_CONFIG</td>
<td>0 or 2</td>
</tr>
<tr>
<td>NUM_FOR_SUP</td>
<td>0 or 3</td>
</tr>
<tr>
<td>USE_FOR_DURATION</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_DURATION</td>
<td>0 or 8</td>
</tr>
<tr>
<td>REV_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_DTX_DURATION</td>
<td>0 or 4</td>
</tr>
<tr>
<td>CLEAR_RETRY_DELAY</td>
<td>0 or 1</td>
</tr>
<tr>
<td>USE_REV_DURATION</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_DURATION</td>
<td>0 or 8</td>
</tr>
<tr>
<td>NUM_REV_CODES</td>
<td>0 or 3</td>
</tr>
<tr>
<td>USE_T_ADD_ABORT</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_PARMS_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>T_MULCHAN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BEGIN_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RESUME_PREAMBLE</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

(continues on next page)
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_PWR_CNTL_STEP</td>
<td>1</td>
</tr>
<tr>
<td>PWR_CNTL_STEP</td>
<td>0 or 3</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>FOR_FUND_CODE_CHAN</td>
<td>8</td>
</tr>
<tr>
<td>FOR_SUP_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_SUP_CHAN_REC Record</td>
<td>0 or 9 or</td>
</tr>
<tr>
<td></td>
<td>(1 + 8 ×</td>
</tr>
<tr>
<td></td>
<td>NUM_FOR_SUP)</td>
</tr>
<tr>
<td>FPC_SUBCHAN_GAIN</td>
<td>5</td>
</tr>
<tr>
<td>USE_PC_TIME</td>
<td>1</td>
</tr>
<tr>
<td>PC_ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>RLGAIN_TRAFFIC_PILOT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>DEFAULT_RLAG</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NNSCR_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RECORD_TYPE</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 x RECORD_LEN</td>
</tr>
<tr>
<td>REV_FCH_GATING_MODE</td>
<td>1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REV_PWR_CNTL_DELAY</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

2

**USE_TIME** - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**ACTION_TIME** - Action time.
If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the handoff is to take effect. If the USE_TIME field is set to ‘0’ the base station shall omit this field.

**HDM_SEQ** - General Handoff Direction Message sequence number.

This field is used by the mobile station in the Power Measurement Report Message to identify the order in which the reported pilot strengths are sent.

The base station shall set this field to the handoff message sequence number, as specified in 3.6.6.2.2.10.

**SEARCH_INCLUDED** - Pilot search parameters included.

If the mobile station is to change its pilot search parameters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**SRCH_WIN_A** - Search window size for the Active Set and Candidate Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_A and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Active Set and the Candidate Set; otherwise, the base station shall omit this field.

**SRCH_WIN_N** - Search window size for the Neighbor Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_N and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Neighbor Set after completion of the handoff; otherwise, the base station shall omit this field.

**SRCH_WIN_R** - Search window size for the Remaining Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_R and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Remaining Set after completion of the handoff; otherwise, the base station shall omit this field.

**T_ADD** - Pilot detection threshold.

This value is used by the mobile station to trigger the transfer of a pilot from the Neighbor Set or Remaining Set to the Candidate Set (see 2.6.6.2.6) and to trigger the sending of the Pilot Strength Measurement Message initiating the handoff process (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_ADD and set this field to the pilot detection threshold, expressed as an unsigned binary number equal to \( \lfloor -2 \times 10 \times \log_{10} \frac{E_c}{I_0} \rfloor \); otherwise, the base station shall omit this field.
T_DROP - Pilot drop threshold.
This value is used by mobile stations to start a handoff drop timer for pilots in the Active Set and the Candidate Set (see 2.6.6.2.3).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_DROP and set this field to the pilot drop threshold, expressed as an unsigned binary number equal to $\left\lceil -2 \times 10 \times \log_{10} \frac{E_c}{I_0} \right\rceil$; otherwise, the base station shall omit this field.

T_COMP - Active Set versus Candidate Set comparison threshold.
The mobile station transmits a Pilot Strength Measurement Message when the strength of a pilot in the Candidate Set exceeds that of a pilot in the Active Set by this margin (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_COMP and set this field to the threshold Candidate Set pilot to Active Set pilot ratio, in units of 0.5 dB; otherwise, the base station shall omit this field.

T_TDROP - Drop timer value.
Timer value after which an action is taken by the mobile station for a pilot that is a member of the Active Set or Candidate Set, and whose strength has not become greater than T_DROP. If the pilot is a member of the Active Set, a Pilot Strength Measurement Message is issued. If the pilot is a member of the Candidate Set, it will be moved to the Neighbor Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_TDROP and set this field to the T_TDROP value shown in Table 2.6.6.2.3-1 corresponding to the drop timer value to be used by the mobile station; otherwise, the base station shall omit this field.

SOFT_SLOPE - The slope in the inequality criterion for adding a pilot to the active set, or dropping a pilot from the active set (see 2.6.6.2.3 and 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SOFT_SLOPE in the additional fields and set this field as an unsigned binary number; otherwise, the base station shall omit this field.

ADD_INTERCEPT - The intercept in the inequality criterion for adding a pilot to the active set (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field ADD_INTERCEPT in the additional fields and set this field as a two’s complement signed binary number; otherwise, the base station shall omit this field.

DROP_INTERCEPT - The intercept in the inequality criterion for dropping a pilot from the active set (see 2.6.6.2.3).
If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field DROP_INTERCEPT in the additional fields and set this field as a two’ complement signed binary number; otherwise, the base station shall omit this field.

**EXTRA_PARMS** - Extra parameters included.

If the mobile station is to change FRAME_OFFSET, PRIVATE_LCM, ENCRYPT_MODE, NOM_PWR, BAND_CLASS, or CDMA_FREQ, or the mobile station is to perform a reset of the acknowledgment procedures, or the mobile station is to reset Forward Traffic Channel power control counters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**P_REV** - Protocol revision level.

If EXTRA_PARMS is set to ‘1’, the base station shall set this field to the base station protocol revision level that the mobile station is to use after completion of the handoff; otherwise, the base station shall omit this field.

**PACKET_ZONE_ID** - Packet data services zone identifier.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field PACKET_ZONE_ID and set this field as described below; otherwise, the base station shall omit this field.

If the base station supports a packet data service zone, the base station shall set this field to the non-zero packet data services zone identifier that the mobile station is to use after completion of the handoff.

If the base station does not support a packet data service zone, the base station shall set this field to ‘00000000’.

**FRAME_OFFSET** - Frame offset.

The Forward and Reverse Traffic Channel frames are delayed FRAME_OFFSET × 1.25 ms relative to system timing (see [2]).

If EXTRA_PARMS is set to ‘1’, the base station shall include the field FRAME_OFFSET and set this field to the Forward and Reverse Traffic Channel frame offset; otherwise, the base station shall omit this field.

**PRIVATE_LCM** - Private long code mask indicator.

This field is used to change the long code mask after a hard handoff.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field PRIVATE_LCM and set this field as described below; otherwise, the base station shall omit this field.

If the private long code mask is to be used after the handoff, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RESET_L2** - Reset acknowledgment procedures command.
This field is used to reset acknowledgment processing in the mobile station.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RESET_L2 and set this field as described below; otherwise, the base station shall omit this field.

If the field is included and the mobile station is to reset its acknowledgment procedures, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RESET_FPC** - Reset Forward Traffic Channel power control.

This field is used to reset the Forward Traffic Channel power control counters.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RESET_FPC and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘0’ if the Forward Traffic Channel power control counters are to be maintained after completion of the handoff. If the counters are to be initialized as specified in 2.6.4.1.1.1, then the base station shall set this field to ‘1’.

**SERV_NEG_TYPE** - Service negotiation type.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field SERV_NEG_TYPE and set this field as described below; otherwise, the base station shall omit this field.

If the mobile station is to use service negotiation, the base station shall set this field to ‘1’. If the mobile station is to use service option negotiation, the base station shall set this field to ‘0’.

**ENCRYPT_MODE** - Message encryption mode.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field ENCRYPT_MODE and set this field to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8-2 corresponding to the encryption mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2; otherwise, the base station shall omit this field.

**NOM_PWR_EXT** - Extended nominal transmit power.

If EXTRA_PARMS is set to ‘1’, the base station shall include this field and set this field as described below; otherwise, the base station shall omit this field.

If this field is included and the mobile station is being handed off to a base station operating in Band Class 0 or Band Class 3, then the base station shall set this field to ‘0’.
If this field is included and the mobile station is being handed off to a base station operating in a band class other than Band Class 0 or Band Class 3, then the base station shall set this field to ‘1’ if the correction factor to be used by the mobile station in the open loop power estimate is between -24 dB and -9 dB inclusive; otherwise (the correction factor is in the range -8 dB to 7 dB inclusive), the base station shall set this field to ‘0’.

**NOM_PWR** - Nominal transmit power offset.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field NOM_PWR and set this field to the correction factor to be used by the mobile station in the open loop power estimate, expressed as a two’s complement value in units of 1 dB (see [2]); otherwise, the base station shall omit this field.

**NUM_PREAMBLE** - Traffic Channel preamble length.

If EXTRA_PARMS is set to ‘0’, the base station shall omit the field NUM_PREAMBLE field; otherwise, the base station shall include this field and set it to the length of Traffic Channel preamble that the mobile station is to send when performing a handoff; as follows:

If, after the handoff, radio configuration 1 or radio configuration 2 is to be used, the base station shall set NUM_PREAMBLE to the Traffic Channel preamble length in 20 ms units; otherwise, the base station shall set NUM_PREAMBLE to the value shown in Table 3.7.3.3.2.17-1 corresponding to the Traffic Channel preamble length in 1.25 ms units.

**BAND_CLASS** - Band class.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field BAND_CLASS and set this field to the CDMA band class corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [38]; otherwise, the base station shall omit this field.

**CDMA_FREQ** - Frequency assignment.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field CDMA_FREQ and set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [2]; otherwise, the base station shall omit this field.

**RETURN_IF_HANDOFF_FAIL** - Return on failure flag.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RETURN_IF_HANDOFF_FAIL and set this field as described below; otherwise, the base station shall omit this field.
If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to resume the use of the Active Set on the Serving Frequency following an unsuccessful hard handoff attempt, as specified in 2.6.6.2.8.2; otherwise, the base station shall set this field to ‘0’.

**COMPLETE_SEARCH** - Flag to complete search.

If \( \text{RETURN_IF_HANDOFF_FAIL} \) is included and is set to ‘1’, the base station shall include the field **COMPLETE_SEARCH** and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to complete the search of the Candidate Frequency Search Set before resuming the use of the Active Set on the Serving Frequency when an inter-frequency handoff attempt is unsuccessful, as specified in 2.6.6.2.8.2; otherwise, the base station shall set this field to ‘0’.

**PERIODIC_SEARCH** - Flag to search the Candidate Frequency periodically.

If \( \text{EXTRA_PARMS} \) is set to ‘1’, the base station shall include the field **PERIODIC_SEARCH** and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to periodically search the Candidate Frequency, as specified in 2.6.6.2.8.3; otherwise, the base station shall set this field to ‘0’.

**SCR_INCLUDED** - Service Configuration Record included indicator.

If \( \text{EXTRA_PARMS} \) is set to ‘1’, the base station shall include the field **SCR_INCLUDED** and shall set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if it includes the Service Configuration Record in the message; otherwise, the base station shall set this field to ‘0’.

**SERV_CON_SEQ** - Connect sequence number.

If **SCR_INCLUDED** is included and is set to ‘1’, the base station shall include the field **SERV_CON_SEQ** and shall set this field to the connect sequence number pertaining to this service configuration as specified in 3.6.4.1.2.1.2.

If **SCR_INCLUDED** is included and is set to ‘1’, the base station shall include one occurrence of the following three-field record to specify the service configuration.

**RECORD_TYPE** - Information record type.

If **SCR_INCLUDED** is included and is set to ‘1’, the base station shall include the field **RECORD_TYPE** and shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Service Configuration information record.

**RECORD_LEN** - Information record length.
If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_LEN and shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

Type-specific fields

- Type-specific fields.

If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the type specific fields and shall set these fields as specified in 3.7.5.7 for the Service Configuration information record.

SUP_CHAN_PARAMS_INCLUDED - Supplemental channel parameters included indicator.

The base station shall set this field to ‘1’ if the base station includes the FOR_INCLUDED, REV_INCLUDED, and REV_PARAMS_INCLUDED fields in the message; otherwise, the base station shall set this field to ‘0’.

FOR_INCLUDED - Forward assignment information included indicator.

If SUP_CHAN_PARMS_INCLUDED is set to ‘1’, the base station shall include the field FOR_INCLUDED and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if Forward Supplemental Code Channel assignment information is included in the message; otherwise, the base station shall set this field to ‘0’.

FOR_SUP_CONFIG - Forward Supplemental Code Channel configuration indicator.

If FOR_INCLUDED is included and is set to ‘1’, the base station shall include the field FOR_SUP_CONFIG and set this field according to the following rules:

The base station shall set this field to ‘00’ if Forward Supplemental Code Channels are not specified in the message, and the mobile station is to stop processing all Forward Supplemental Code Channels.

The base station shall set this field to ‘01’ if Forward Supplemental Code Channels are not specified in the message, and the mobile station is to start processing the Forward Supplemental Code Channels previously stored in its Code Channel List, CODE_CHAN_LISTs.

The base station shall set this field to ‘10’ if the Forward Supplemental Code Channels are specified in the message, and the mobile station is to stop processing all Forward Supplemental Code Channels in CODE_CHAN_LISTs, and to update the CODE_CHAN_LISTs, according to the information contained in the message.
The base station shall set this field to ‘11’ if the Forward Supplemental Code Channels are specified in the message, and the mobile station is to update its Code Channel List, CODE_CHAN_LIST₃, according to the information contained in the message and to start processing the Forward Supplemental Code Channels.

**NUM_FOR_SUP** - Number of Forward Supplemental Code Channels.

If FOR_SUP_CONFIG is included and is set to ‘10’ or ‘11’, the base station shall include the field NUM_FOR_SUP and set it to the number of Forward Supplemental Code Channels assigned to the mobile station; otherwise, the base station shall omit this field. NUM_FOR_SUP shall not exceed the maximum number of Forward Supplemental Code Channels for the negotiated multiplex option.

**USE_FOR_DURATION** - Use forward duration indicator.

If FOR_SUP_CONFIG is included and is set to ‘01’ or ‘11’ the base station shall include the field USE_FOR_DURATION and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to ‘1’ if the FOR_DURATION field is included in the message and the mobile station is to process the Forward Supplemental Code Channels for a time duration indicated by FOR_DURATION.

The base station shall set this field to ‘0’ if the mobile station is to process the Forward Supplemental Code Channels for an indefinite duration (i.e., the mobile station is to continue processing Forward Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Forward Supplemental Code Channel assignment.

**FOR_DURATION** - Duration of Forward Supplemental Code Channel assignment.

If USE_FOR_DURATION is included and is set to ‘1’ the base station shall include the field FOR_DURATION and set this field to the allocated duration, in units of 80 ms, for which the mobile station is to process the Forward Supplemental Code Channels; otherwise, the base station shall omit this field.

**REV_INCLUDED** - Reverse assignment information included indicator.

If SUP_CHAN_PARMS_INCLUDED is set to ‘1’, the base station shall include the field REV_INCLUDED and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if Reverse Supplemental Code Channel assignment information is included in the message; otherwise, the base station shall set this field to ‘0’.

**REV_DTX_DURATION** - Reverse Discontinuous Transmission Duration.
If REV_INCLUDED is included and is set to ‘1’, the base station shall include the field REV_DTX_DURATION; otherwise the base station shall omit this field.

If the base station includes this field, it shall set this field to the maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmission on a Reverse Supplemental Code Channel within the reverse assignment duration. The base station shall set this field to ‘0000’ if the mobile station is to stop using a Reverse Supplemental Code Channel once it has stopped transmitting on that Reverse Supplemental Code Channel. The base station shall set this field to ‘1111’ if the mobile station is allowed to resume transmission on a Reverse Supplemental Code Channel at any time within the reverse assignment duration.

CLEAR_RETRY_DELAY - Clear retry delay indicator.

If REV_INCLUDED is included and is set to ‘1’, the base station shall include the field CLEAR_RETRY_DELAY and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to ‘1’ to indicate that the mobile station is to clear any existing retry delay which it has stored (see 2.6.6.2.5.1); otherwise, the base station shall set this field to ‘0’.

USE_REV_DURATION - Use reverse duration indicator.

If REV_INCLUDED is included and is set to ‘1’, the base station shall include the field USE_REV_DURATION and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to ‘1’ if the REV_DURATION field is included in the message and the mobile station is allowed to transmit on the Reverse Supplemental Code Channels for a time duration indicated by REV_DURATION.

The base station shall set this field to ‘0’ if the mobile station is allowed to transmit on the Reverse Supplemental Code Channels for an indefinite duration (i.e., the mobile station may continue to transmit on the Reverse Supplemental Code Channels until it receives a subsequent Supplemental Channel Assignment Message or a General Handoff Direction Message that specifies a different Reverse Supplemental Code Channel assignment.

REV_DURATION - Duration of Reverse Supplemental Code Channel Assignment.

If USE_REV_DURATION is included and is set to ‘1’, the base station shall include the field REV_DURATION and set this field to the allocated duration, in units of 80 ms, for which the mobile station may transmit on Reverse Supplemental Code Channels; otherwise the base station shall omit this field.

NUM_REV_CODES - Number of Reverse Supplemental Code Channels.
If REV_INCLUDED is included and is set to ‘1’, the base station shall include the field NUM_REV_CODES and set this field to the number of Reverse Supplemental Code Channels which are assigned to the mobile station; otherwise the base station shall omit this field.

USE_T_ADD_ABORT - Reverse use T_ADD abort indicator.

If REV_INCLUDED is included and is set to ‘1’, the base station shall include the field USE_T_ADD_ABORT and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to ‘1’ to indicate that the mobile station is to use the T_ADD Reverse Supplemental Code Channel abort feature for this reverse assignment; otherwise, the base station shall set this field to ‘0’.

REV_PARMS_INCLUDED - Reverse assignment parameters included indicator.

If SUP_CHAN_PARMS_INCLUDED is set to ‘1’, the base station shall include the field REV_PARMS_INCLUDED and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the following three fields are included in the message; otherwise, the base station shall set this field to ‘0’.

T_MULCHAN - Supplemental Channel Request Message pilot strength reporting offset.

If REV_PARMS_INCLUDED is included and is set to ‘1’, the base station shall include the field T_MULCHAN and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to the threshold offset that the mobile station is to use when reporting neighbor pilot strength measurements in a Supplemental Channel Request Message. The mobile station is to interpret this field as an offset to T_ADD ranging from 0.5 dB (corresponding to T_MULCHAN = ‘000’) to 4.0 dB (corresponding to T_MULCHAN = ‘111’), in 0.5 dB increments.

BEGIN_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the beginning of transmission on Reverse Supplemental Code Channel.

If REV_PARMS_INCLUDED is included and is set to ‘1’, the base station shall include the field BEGIN_PREAMBLE and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when beginning transmission on Reverse Supplemental Code Channels; otherwise the base station shall omit this field.

RESUME_PREAMBLE - Number of preamble frames on Reverse Supplemental Code Channels at the resumption of transmission.
If REV_PARMS_INCLUDED is included and is set to ‘1’, the base station shall include the field RESUME_PREAMBLE and set this field to the number of Reverse Supplemental Code Channel preamble frames that the mobile station is to send when resuming transmission on a Reverse Supplemental Code Channel following an autonomous suspension of transmission on an allocated Supplemental Code Channel; otherwise the base station shall omit this field.

USE_PWR_CNTL_STEP - Power control step size indicator.

The base station shall set this field to ‘1’ if the field PWR_CNTL_STEP is included in the message.

PWR_CNTL_STEP - Power control step size.

If USE_PWR_CNTL_STEP is set to ‘1’, then the base station shall include the field PWR_CNTL_STEP and set this field to the step size that the mobile station is to use for closed loop power control, according to Table 3.7.3.3.2.25-1; otherwise, the base station shall omit this field.

NUM_PILOTS - Number of pilots included in the message.

The base station shall set this field to the number of pilots included in the message.

The base station shall include one occurrence of the following four-part record for each of the NUM_PILOTS pilots included in the message:

- PILOT_PN - Pilot PN sequence offset index.
  The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

- PWR_COMB_IND - Power control symbol combining indicator.
  If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. The base station shall set this field to ‘0’ in the first record in the pilot list.

- FOR_FUND_CODE- _CHAN - Forward Fundamental Channel.
  The base station shall set this field to the code channel index to be used for the Forward Fundamental Channel associated with this pilot.

- FOR_SUP_INCLUDED - Forward Supplemental Code Channel included.
  The base station shall include this field if FOR_SUP_CONFIG is included and is set to ‘10’ or ‘11’. If included, the base station shall set this field to ‘1’ if there are Supplemental Code Channels associated with this pilot.

- FOR_SUP_CHAN_REC - Forward Supplemental Code Channel record
If FOR_SUP_INCLUDED is set to ‘1’, the base station shall include the record FOR_SUP_CHAN_REC and set its fields as described below; otherwise, the base station shall omit this record.

FOR_SUP_CHAN_REC contains information about Forward Supplemental Code Channels associated with this pilot, and consists of the field EXPL_CODE_CHAN, and either the BASE_CODE_CHAN field or NUM_FOR_SUP occurrences of the FOR_SUP_CODE_CHAN field, as shown below.

<table>
<thead>
<tr>
<th>EXPL_CODE_CHAN</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASE_CODE_CHAN</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

If EXPL_CODE_CHAN is equal to ‘1’, NUM_FOR_SUP occurrences of the following field:

| FOR_SUP_CODE_CHAN | 8 |

EXPL_CODE_CHAN - Explicit code channel indicator.

The base station shall set this field to ‘1’ to indicate explicit assignment of each Forward Supplemental Code Channel by means of the field FOR_SUP_CODE_CHAN. The base station shall set this field to ‘0’ if the mobile station is to use NUM_FOR_SUP adjacent code channels beginning with index BASE_CODE_CHAN (i.e., BASE_CODE_CHAN through BASE_CODE_CHAN + NUM_FOR_SUP - 1).

In both cases (i.e., the explicit code channel list format and range format), the order of the code channel indices is the same for all pilots specified in this message (i.e., for each pilot, the $i^{th}$ entry in the list indicates the code channel index to be used for the $i^{th}$ Forward Supplemental Code Channel associated with that pilot).

BASE_CODE_CHAN - Base code channel index.

If the EXPL_CODE_CHAN field is included and is set to ‘0’ the base station shall include the field BASE_CODE_CHAN and set this field as described below; otherwise the base station shall omit this field.

The base station shall set this field to the base code channel index (see [2]) in the range of 1 to (63 - NUM_FOR_SUP + 1), inclusive, that the mobile station is to use as the first Forward Supplemental Code Channel associated with this pilot. The mobile station is to use code channel index (BASE_CODE_CHAN + $i$ - 1), where $i$ ranges from 1 to NUM_FOR_SUP, for the $i^{th}$ Forward Supplemental Code Channel associated with this pilot.

FOR_SUP_CODE_CHAN - Forward Supplemental Code Channel.
If EXPL_CODE_CHAN is included and is set to '1', the base station shall include NUM_FOR_SUP occurrences of the field FOR_SUP_CODE_CHAN and set this field as described below; otherwise the base station shall omit this field.

The base station shall set the $i^{th}$ occurrence of this field to the code channel index (see [2]), in the range 1 to 63 inclusive, that the mobile station is to use for the $i^{th}$ Forward Code Channel associated with this pilot.

**FPC_SUBCHAN_GAIN** - Forward power control subchannel relative gain.  The base station shall set FPC_SUBCHAN_GAIN equal to the power level of the forward link power control subchannel relative to that of 20 ms frames at a 9600 bps or 14400 bps rate on the Forward Fundamental Channel or the Forward Dedicated Control Channel that the Forward Power Control Subchannel is punctured on. The base station shall set the value in units of 0.25 dB.

**USE_PC_TIME** - Use power control action time indicator.

This field indicates whether an explicit time [PC_ACTION_TIME] at which a new value for Power Control Subchannel to traffic ratio (FPC_SUBCHAN_GAIN) takes effect is specified in the message.

If an explicit action time is specified in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

**PC_ACTION_TIME** - Power Control Subchannel gain action time.

If the USE_PC_TIME field is set to '1', the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which FPC_SUBCHAN_GAIN specified in this message is to take effect. If the USE_PC_TIME field is set to '0' the base station shall omit this field.

**RLGAIN_TRAFFIC-_PILOT** - Gain adjustment of the Reverse Traffic Channel relative to the Reverse Pilot Channel power for Radio Configurations greater than 2.

If EXTRA_PARMS is set to '1', the base station shall include this field and set it to the correction factor to be used by mobile stations in setting the power of a code channel, expressed as a two's complement value in units of 0.125 dB (see [2]); otherwise, the base station shall omit this field.

**DEFAULT_RLAG** - Default reverse link attribute gain used indicator.

If EXTRA_PARMS is set to '0', the base station shall omit this field; otherwise, the base station set this field as follows. If the mobile station is to use the default values for the reverse link attribute gain, as specified in [2] after completion of handoff, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.
NNSCR_INCLUDED - Non Negotiable Service Configuration Record included indicator.

The base station shall omit this field, if EXTRA_PARMS is set to ‘0’; otherwise, the base station shall include this field and set this field as described below:

The base station shall set this field to ‘1’, if the Non Negotiable Service Configuration record is included in this message; otherwise, the base station shall set this field to ‘0’.

If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include one occurrence of the following three-field record to specify the non-negotiable service configuration parameters.

  RECORD_TYPE - Information record type.

  If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_TYPE and shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Non-Negotiable Service Configuration information record.

  RECORD_LEN - Information record length.

  If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_LEN and shall set this field to the number of octets included in the type-specific fields of the Non-Negotiable Service Configuration record.

  Type-specific fields - Type-specific fields.

  If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the type specific fields and shall set these fields as specified in 3.7.5.20 for the Non-Negotiable Service Configuration information record.

  REV_FCH_GATING_MODE - Reverse eighth gating mode indicator.

  The base station shall set this field to ‘1’ if the mobile station is allowed to perform the reverse eighth gating mode after handoff; otherwise, the base station shall set this field to ‘0’.

  REV_PWR_CNTL_DELAY_INCL - Reverse power control delay included indicator.

  If REV_FCH_GATING_MODE is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

  The base station shall set this field to ‘1’ if REV_PWR_CNTL_DELAY is included in this message; otherwise, the base station shall set this field to ‘0’.

  REV_PWR_CNTL_DELAY - The reverse power control delay.

If REV_PWR_CNTL_DELAY_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to the closed-loop reverse power control delay minus one (the closed-loop reverse power control delay is the time between the end of a gated-on reverse PCG and the beginning of the reverse PCG where the corresponding feedback is sent on the Forward Power Control Subchannel, see [2]) used by the mobile station after handoff, in units of 1.25 ms. To disable the gating on the reverse Fundamental Channel, the base station shall set this field to '000'.
3.7.3.3.2.32 Resource Allocation Message

MSG_TAG: RAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>1</td>
</tr>
</tbody>
</table>

- **USE_TIME** - Use action time indicator.

  This field indicates whether an explicit action time is specified in this message.

  If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **ACTION_TIME** - Action time.

  If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which this message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall omit this field.

- **FPC_PRI_CHAN** - Power Control Subchannel indicator.

  The base station shall set this field to ‘0’ if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on the Forward Fundamental Channel. The base station shall set this field to ‘1’ if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on the Forward Dedicated Control Channel.
3.7.3.3.2.33 Resource Allocation Mini Message

MSG_TAG: RAMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>1</td>
</tr>
</tbody>
</table>

**USE_TIME** - Use action time indicator.

This field indicates whether an ACTION_TIME is specified in this message.

If an ACTION_TIME is specified in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

**ACTION_TIME** - Action time.

If the USE_TIME field is set to '1', the base station shall set this field to the System Time, in units of 80 ms (modular 64), at which the message is to take effect. If the USE_TIME field is set to '0' the base station shall omit this field.

**FPC_PRI_CHAN** - Power Control Subchannel indicator.

The base station shall set this field to '0' if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on the Forward Fundamental Channel. The base station shall set this field to '1' if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on the Forward Dedicated Control Channel.

3.7.3.3.2.34 Extended Release Message

MSG_TAG: ERM
### Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>CH_IND</td>
<td>3</td>
</tr>
<tr>
<td>GATING_RATE_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_GATING_RATE</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

### USE_TIME - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

### ACTION_TIME - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall omit this field.

### CH_IND - Channel Indicator.

The base station shall set this field as shown in Table 3.7.3.3.2.34-1, to release physical resources.

#### Table 3.7.3.3.2.34-1. Channel Indicator

<table>
<thead>
<tr>
<th>CH_IND (binary)</th>
<th>Physical Resource(s) Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Reserved</td>
</tr>
<tr>
<td>001</td>
<td>Fundamental Channel</td>
</tr>
<tr>
<td>010</td>
<td>Dedicated Control Channel</td>
</tr>
<tr>
<td>011</td>
<td>Reserved</td>
</tr>
<tr>
<td>100</td>
<td>Continuous Reverse Pilot Channel</td>
</tr>
<tr>
<td>101</td>
<td>Fundamental Channel and Continuous Reverse Pilot Channel</td>
</tr>
<tr>
<td>110</td>
<td>Dedicated Control Channel and Continuous Reverse Pilot Channel</td>
</tr>
<tr>
<td>111</td>
<td>Fundamental Channel, Dedicated Control Channel, and Continuous Reverse Pilot Channel</td>
</tr>
</tbody>
</table>

### GATING_RATE_INCL - Reverse pilot gating rate included flag.
The base station shall set this field to ‘1’ if the PILOT_GATING_RATE field is included, otherwise it shall set this field to ‘0’.

PILOT_GATING_RATE - Actual Reverse Pilot gating Rate.

If the GATING_RATE_INCL field is set to ‘1’ then the base station shall set this field to the PILOT_GATING_RATE field shown in Table 3.7.3.2.34-2 corresponding to the actual gating rate on the Reverse Pilot Channel; otherwise, the base station shall omit this field.

Table 3.7.3.2.34-2 Actual Reverse Pilot Gating rate

<table>
<thead>
<tr>
<th>PILOT_GATING_RATE field (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Gating rate 1</td>
</tr>
<tr>
<td>01</td>
<td>Gating rate (\frac{1}{2})</td>
</tr>
<tr>
<td>10</td>
<td>Gating rate (\frac{1}{4})</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>
3.7.3.3.2.35 Extended Release Mini Message

MSG_TAG: ERMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>CH_IND</td>
<td>3</td>
</tr>
<tr>
<td>GATING_RATE_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_GATING_RATE</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

USE_TIME - Use action time indicator.

This field indicates whether an ACTION_TIME is specified in this message.

If an ACTION_TIME is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

ACTION_TIME - Action time.

If the USE_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the message is to take effect. If the USE_TIME field is set to ‘0’ the base station shall omit this field.

CH_IND - Channel Indicator.

The base station shall set this field as shown in Table 3.7.3.3.2.34-1, to release physical resources.

GATING_RATE_INCL - Reverse pilot gating rate included flag.

The base station shall set this field to ‘1’ if the PILOT_GATING_RATE field is included, otherwise it shall set this field to ‘0’.

PILOT_GATING_RATE - Actual Reverse Pilot gating Rate.

If the GATING_RATE_INCL field is set to ‘1’ then the base station shall set this field to the PILOT_GATING_RATE field shown in Table 3.7.3.3.2.34-2 corresponding to the actual gating rate on the Reverse Pilot Channel; otherwise, the base station shall omit this field.
### 3.7.3.3.2.36 Universal Handoff Direction Message

**MSG_TAG: UHDM**

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_TIME</td>
<td>1</td>
</tr>
<tr>
<td>ACTION_TIME</td>
<td>0 or 6</td>
</tr>
<tr>
<td>HDM_SEQ</td>
<td>2</td>
</tr>
<tr>
<td>PARMS_INCL</td>
<td>1</td>
</tr>
<tr>
<td>P_REV</td>
<td>0 or 8</td>
</tr>
<tr>
<td>SERV_NEG_TYPE</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SEARCH_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>SRCH_WIN_A</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SRCH_WIN_N</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SRCH_WIN_R</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T_ADD</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_DROP</td>
<td>0 or 6</td>
</tr>
<tr>
<td>T_COMP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>T_TDROP</td>
<td>0 or 4</td>
</tr>
<tr>
<td>SOFT_SLOPE</td>
<td>0 or 6</td>
</tr>
<tr>
<td>ADD_INTERCEPT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>DROP_INTERCEPT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>EXTRA_PARMS</td>
<td>1</td>
</tr>
<tr>
<td>PACKET_ZONE_ID</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FRAME_OFFSET</td>
<td>0 or 4</td>
</tr>
<tr>
<td>PRIVATE_LCM</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_L2</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESET_FPC</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

(continues on next page)
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCRYPT_MODE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>NOM_PWR_EXT</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NOM_PWR</td>
<td>0 or 4</td>
</tr>
<tr>
<td>RLGAIN_TRAFFIC_PILOT</td>
<td>0 or 6</td>
</tr>
<tr>
<td>DEFAULT_RLAG</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NUM_PREAMBLE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>BAND_CLASS</td>
<td>0 or 5</td>
</tr>
<tr>
<td>CDMA_FREQ</td>
<td>0 or 11</td>
</tr>
<tr>
<td>RETURN_IF_HANDOFF_FAIL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>COMPLETE_SEARCH</td>
<td>0 or 1</td>
</tr>
<tr>
<td>PERIODIC_SEARCH</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SCR_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>SERV_CON_SEQ</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_TYPE</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 x RECORD_LEN</td>
</tr>
<tr>
<td>NNSCR_INCLUDED</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RECORD_TYPE</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 8</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 x RECORD_LEN</td>
</tr>
</tbody>
</table>

(continues on next page)
### Field Length (bits)

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE_PWR_CNTL_STEP</td>
<td>1</td>
</tr>
<tr>
<td>PWR_CNTL_STEP</td>
<td>0 or 3</td>
</tr>
<tr>
<td>CLEAR_RETRY_DELAY</td>
<td>1</td>
</tr>
<tr>
<td>SCH_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_FOR_ASSIGN</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

The base station shall include NUM_FOR_ASSIGN occurrences of the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_START_TIME_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_START_TIME</td>
<td>0 or 5</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_REV_ASSIGN</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

The base station shall include NUM_REV_ASSIGN occurrences of the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>REV_SCH_START_TIME_INCL</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_START_TIME</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_SUBCHAN_GAIN</td>
<td>5</td>
</tr>
<tr>
<td>USE_PC_TIME</td>
<td>1</td>
</tr>
<tr>
<td>PC_ACTION_TIME</td>
<td>0 or 6</td>
</tr>
</tbody>
</table>
If CH_IND = ‘101’, the ACTIVE_SET_REC_FIELDS shall be:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_FOR_SCH</td>
<td>0 or 5</td>
</tr>
<tr>
<td>NUM_REV_SCH</td>
<td>0 or 5</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>3</td>
</tr>
<tr>
<td>SRCH_OFFSET</td>
<td>0 or 3</td>
</tr>
</tbody>
</table>

NUM_FOR_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_REV_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_WALSH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>SRCH_OFFSET</td>
<td>0 or 3</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_FCH</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_FCH</td>
<td>2</td>
</tr>
</tbody>
</table>
NUM_SCH 0 or 5

NUM_SCH occurrences of the following record

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>PILOT_INCL</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_SCH</td>
<td>0 or 11</td>
</tr>
<tr>
<td>QOF_MASK_ID_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

RESERVED 0 - 7 (as needed)

If CH_IND = '010' or '110', the ACTIVE_SET_REC_FIELDS shall be:

NUM_FOR_SCH 0 or 5

NUM_FOR_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_REV_SCH 0 or 5

NUM_REV_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_WALSH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_PILOTS 3

SRCH_OFFSET_INCL 1

NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>SRCH_OFFSET</td>
<td>0 or 3</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>8 × RECORD_LEN</td>
</tr>
</tbody>
</table>

3-336
PWR_COMB_IND  1
CODE_CHAN_DCCH  11
QOF_MASK_ID_DCCH  2
NUM_SCH  0 or 5

NUM_SCH occurrences of the following five fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>PILOT_INCL</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_SCH</td>
<td>0 or 11</td>
</tr>
<tr>
<td>QOF_MASK_ID_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

RESERVED  0 - 7 (as needed)

If CH_IND = '111', the ACTIVE_SET_REC_FIELDS shall be:

NUM_FOR_SCH  0 or 5

NUM_FOR_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_REV_SCH  0 or 5

NUM_REV_SCH occurrences of the following three fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_WALSH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

NUM_PILOTS  3

NUM_PILOTS occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>SRCH_OFFSET</td>
<td>0 or 3</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Field</td>
<td>Value</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>$8 \times \text{RECORD_LEN}$</td>
</tr>
<tr>
<td>PWR_COMB_IND</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_FCH</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_FCH</td>
<td>2</td>
</tr>
<tr>
<td>CODE_CHAN_DCCH</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_DCCH</td>
<td>2</td>
</tr>
<tr>
<td>NUM_SCH</td>
<td>0 or 5</td>
</tr>
</tbody>
</table>

NUM\_SCH occurrences of the following record

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>PILOT_INCL</td>
<td>1</td>
</tr>
<tr>
<td>CODE_CHAN_SCH</td>
<td>0 or 11</td>
</tr>
<tr>
<td>QOF_MASK_ID_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

**USE\_TIME** - Use action time indicator.

This field indicates whether an explicit action time is specified in this message.

If an explicit action time is specified in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**ACTION\_TIME** - Action time.

If the USE\_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which the handoff is to take effect. If the USE\_TIME field is set to ‘0’ the base station shall omit this field.

**HDM\_SEQ** - *Universal Handoff Direction Message* sequence number.

This field is used by the mobile station in the *Power Measurement Report Message* to identify the order in which the reported pilot strengths are sent.

The base station shall set this field to the handoff message sequence number, as specified in 2.6.6.2.2.10.

**PARMS\_INCL** - Parameters included indicator.

The base station shall set this field to ‘1’, if P\_REV and SERV\_NEG\_TYPE are included; otherwise, the base station shall set this field ‘0’.
P_REV - Protocol revision level.

If PARMS_INCL is set to ‘1’, the base station shall set this field to the base station protocol revision level that the mobile station is to use after completion of the handoff; otherwise, the base station shall omit this field.

SERV_NEG_TYPE - Service negotiation type.

If PARMS_INCL is set to ‘1’, the base station shall include the field SERV_NEG_TYPE and set this field as described below; otherwise, the base station shall omit this field.

If the mobile station is to use service negotiation, the base station shall set this field to ‘1’. If the mobile station is to use service option negotiation, the base station shall set this field to ‘0’.

SEARCH_INCLUDED - Pilot search parameters included.

If the mobile station is to change its pilot search parameters, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

SRCH_WIN_A - Search window size for the Active Set and Candidate Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_A and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the number of PN chips that the mobile station is to search for pilots in the Active Set and the Candidate Set; otherwise, the base station shall omit this field.

SRCH_WIN_N - Search window size for the Neighbor Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_N and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Neighbor Set after completion of the handoff; otherwise, the base station shall omit this field.

SRCH_WIN_R - Search window size for the Remaining Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SRCH_WIN_R and set this field to the window size parameter shown in Table 2.6.6.2.1-1 corresponding to the search window size to be used by mobile stations for the Remaining Set after completion of the handoff; otherwise, the base station shall omit this field.

T_ADD - Pilot detection threshold.

This value is used by the mobile station to trigger the transfer of a pilot from the Neighbor Set or Remaining Set to the Candidate Set (see 2.6.6.2.6) and to trigger the sending of the Pilot Strength Measurement Message initiating the handoff process (see 2.6.6.2.5.2).
If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_ADD and set this field to the pilot detection threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\]; otherwise, the base station shall omit this field.

**T_DROP** - Pilot drop threshold.

This value is used by mobile stations to start a handoff drop timer for pilots in the Active Set and the Candidate Set (see 2.6.6.2.3).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_DROP and set this field to the pilot drop threshold, expressed as an unsigned binary number equal to \[-2 \times 10 \times \log_{10} \frac{E_c}{I_o}\]; otherwise, the base station shall omit this field.

**T_COMP** - Active Set versus Candidate Set comparison threshold.

The mobile station transmits a *Pilot Strength Measurement Message* when the strength of a pilot in the Candidate Set exceeds that of a pilot in the Active Set by this margin (see 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_COMP and set this field to the threshold Candidate Set pilot to Active Set pilot ratio, in units of 0.5 dB; otherwise, the base station shall omit this field.

**T_TDROP** - Drop timer value.

Timer value after which an action is taken by the mobile station for a pilot that is a member of the Active Set or Candidate Set, and whose strength has not become greater than T_DROP. If the pilot is a member of the Active Set, a *Pilot Strength Measurement Message* is issued. If the pilot is a member of the Candidate Set, it will be moved to the Neighbor Set.

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field T_TDROP and set this field to the T_TDROP value shown in Table 2.6.6.2.3-1 corresponding to the drop timer value to be used by the mobile station; otherwise, the base station shall omit this field.

**SOFT_SLOPE** - The slope in the inequality criterion for adding a pilot to the Active Set, or dropping a pilot from the Active Set (see 2.6.6.2.3 and 2.6.6.2.5.2).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field SOFT_SLOPE in the additional fields and set this field as an unsigned binary number; otherwise, the base station shall omit this field.

**ADD_INTERCEPT** - The intercept in the inequality criterion for adding a pilot to the Active Set (see 2.6.6.2.5.2).
If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field ADD_INTERCEPT in the additional fields and set this field as a two's complement signed binary number; otherwise, the base station shall omit this field.

**DROP_INTERCEPT** - The intercept in the inequality criterion for dropping a pilot from the Active Set (see 2.6.6.2.3).

If SEARCH_INCLUDED is set to ‘1’, the base station shall include the field DROP_INTERCEPT in the additional fields and set this field as a two's complement signed binary number; otherwise, the base station shall omit this field.

**EXTRA_PARMS** - Extra parameters included.

If the base station includes the fields PACKET_ZONE_ID, FRAME_OFFSET, PRIVATE_LCM, RESET_L2, RESET_FPC, SERV_NEG_TYPE, ENCRYPT_MODE, NOM_PWR_EXT, NOM_PWR, RLGAIN_TRAFFIC_PILOT, DEFAULT_RLAG, NUM_PREAMBLE, BAND_CLASS, PERIODIC_SEARCH, or CDMA_FREQ in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**PACKET_ZONE_ID** - Packet data services zone identifier.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field PACKET_ZONE_ID and set this field as described below; otherwise, the base station shall omit this field.

If the base station supports a packet data service zone, the base station shall set this field to the non-zero packet data services zone identifier that the mobile station is to use after completion of the handoff.

If the base station does not support a packet data service zone, the base station shall set this field to ‘00000000’.

**FRAME_OFFSET** - Frame offset.

The Forward and Reverse Traffic Channel frames are delayed FRAME_OFFSET × 1.25 ms relative to system timing (see [2]).

If EXTRA_PARMS is set to ‘1’, the base station shall include the field FRAME_OFFSET and set this field to the Forward and Reverse Traffic Channel frame offset; otherwise, the base station shall omit this field.

**PRIVATE_LCM** - Private long code mask indicator.

This field is used to change the long code mask after a hard handoff.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field PRIVATE_LCM and set this field as described below; otherwise, the base station shall omit this field.

If the private long code mask is to be used after the handoff, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RESET_L2** - Reset acknowledgment procedures command.
This field is used to reset acknowledgment processing in the mobile station.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RESET_L2 and set this field as described below; otherwise, the base station shall omit this field.

If the field is included and the mobile station is to reset its acknowledgment procedures, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**RESET_FPC** - Reset Forward Traffic Channel power control.

This field is used to reset the Forward Traffic Channel power control counters.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RESET_FPC and set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘0’ if the Forward Traffic Channel power control counters are to be maintained after completion of the handoff. If the counters are to be initialized as specified in 2.6.4.1.1.1, then the base station shall set this field to ‘1’.

**ENCRYPT_MODE** - Message encryption mode.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field ENCRYPT_MODE and set this field to the ENCRYPT_MODE value shown in Table 3.7.2.3.2.8-2 corresponding to the encryption mode that is to be used for messages sent on the Forward and Reverse Traffic Channels, as specified in 2.3.12.2; otherwise, the base station shall omit this field.

**NOM_PWR_EXT** - Extended nominal transmit power.

If EXTRA_PARMS is set to ‘1’, the base station shall include this field and set this field as described below; otherwise, the base station shall omit this field.

If this field is included and the mobile station is being handed off to a base station operating in Band Class 0 or Band Class 3, then the base station shall set this field to ‘0’.

If this field is included and the mobile station is being handed off to a base station operating in a band class other than Band Class 0 or Band Class 3, then the base station shall set this field to ‘1’ if the correction factor to be used by the mobile station in the open loop power estimate is between -24 dB and -9 dB inclusive; otherwise (the correction factor is in the range -8 dB to 7 dB inclusive), the base station shall set this field to ‘0’.

**NOM_PWR** - Nominal transmit power offset.
If EXTRA_PARMS is set to ‘1’, the base station shall include the field NOM_PWR and set this field to the correction factor to be used by the mobile station in the open loop power estimate, expressed as a two's complement value in units of 1 dB (see [2]); otherwise, the base station shall omit this field.

RLGAIN_TRAFFIC_PILOT - Gain adjustment of the Reverse Traffic Channel relative to the Reverse Pilot Channel power for Radio configurations greater than 2.

If EXTRA_PARMS is set to ‘1’, the base station shall include this field and set it to the correction factor to be used by mobile stations in setting the power of a reverse traffic channel, expressed as a two's complement value in units of 0.125 dB (see [2]; otherwise, the base station shall omit this field.

DEFAULT_RLAG - Default reverse link attribute gain used indicator.

If EXTRA_PARMS is set to ‘0’, the base station shall omit this field; otherwise, the base station set this field as follows:

If the mobile station is to use the default values for the reverse link attribute gain, as specified in [2] after completion of handoff, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

NUM_PREAMBLE - Number of Traffic Channel preamble.

If EXTRA_PARMS is set to ‘0’, the base station shall omit the NUM_PREAMBLE field; otherwise, the base station shall include this field and set it to the length of Traffic Channel preamble that the mobile station is to send when performing a handoff; as follows:

If, after the handoff, radio configuration 1 or radio configuration 2 is to be used, the base station shall set NUM_PREAMBLE to the Traffic Channel preamble length in 20 ms units; otherwise, the base station shall set NUM_PREAMBLE to the value shown in Table 3.7.3.3.2.17-1 corresponding to the Traffic Channel preamble length in 1.25 ms units.

BAND_CLASS - Band class.

If EXTRA_PARMS is set to ‘1’, the base station shall include the field BAND_CLASS and set this field to the CDMA band class corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [38]; otherwise, the base station shall omit this field.

CDMA_FREQ - Frequency assignment.

If EXTRA_PARMS is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:
If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the CDMA Channel number, in the specified CDMA band class, corresponding to the CDMA frequency assignment for the CDMA Channel as specified in [2].

```
RETURN_IF_HANDOFF_FAIL - Return on failure flag.
```

If EXTRA_PARMS is set to ‘1’, the base station shall include the field RETURN_IF_HANDOFF_FAIL and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to resume the use of the Active Set on the Serving Frequency following an unsuccessful hard handoff attempt, as specified in 2.6.6.2.8.2; otherwise, the base station shall set this field to ‘0’.

```
COMPLETE_SEARCH - Flag to complete search.
```

If RETURN_IF_HANDOFF_FAIL is included and is set to ‘1’, the base station shall include the field COMPLETE_SEARCH and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to complete the search of the Candidate Frequency Search Set before resuming the use of the Active Set on the Serving Frequency when an inter-frequency handoff attempt is unsuccessful, as specified in 2.6.6.2.8.2; otherwise, the base station shall set this field to ‘0’.

```
PERIODIC_SEARCH - Flag to search the Candidate Frequency periodically.
```

If EXTRA_PARMS is set to ‘1’, the base station shall include the field PERIODIC_SEARCH and set this field as described below; otherwise, the base station shall omit this field.

If the base station includes this field, it shall set this field to ‘1’ if the mobile station is to periodically search the Candidate Frequency, as specified in 2.6.6.2.8.3; otherwise, the base station shall set this field to ‘0’.

```
SCR_INCLUDED - Service Configuration Record included.
```

If EXTRA_PARMS is set to ‘1’, the base station shall include the field SCR_INCLUDED and shall set this field as described below; otherwise, the base station shall omit this field.

The base station shall set this field to ‘1’ if it includes the Service Configuration Record in the message; otherwise, the base station shall set this field to ‘0’.

```
SERV_CON_SEQ - Connect sequence number.
```
If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the field SERV_CON_SEQ and shall set this field to the connect sequence number pertaining to this service configuration as specified in 3.6.4.1.2.1.2.

If SCR_INCLUDED is included and is set to ‘1’, the base station shall include one occurrence of the following three-field record to specify the service configuration.

**RECORD_TYPE** - Information record type.

If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_TYPE and shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Service Configuration information record.

**RECORD_LEN** - Information record length.

If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_LEN and shall set this field to the number of octets included in the type-specific fields of the Service Configuration information record.

Type-specific fields - Type-specific fields.

If SCR_INCLUDED is included and is set to ‘1’, the base station shall include the type specific fields and shall set these fields as specified in 3.7.5.7 for the Service Configuration information record.

**NNSCR_INCLUDED** - Non Negotiable Service Configuration Record Included indicator

The base station shall omit this field, if EXTRA_PARMS is set to ‘0’; otherwise, the base station shall include this field and set this field as described below:

This base station shall set this field to ‘1’, if the Non Negotiable Service Configuration record is included in this message; otherwise, the base station shall set this field to ‘0’.

If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include one occurrence of the following three-field record to specify the non-negotiable service configuration.

**RECORD_TYPE** - Information record type.

If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_TYPE and shall set this field to the record type value shown in Table 3.7.5-1 corresponding to the Non-Negotiable Service Configuration information record.

**RECORD_LEN** - Information record length.

If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the field RECORD_LEN and shall set this field to the number of octets included in the type-specific fields of the Non-Negotiable Service Configuration information record.
Type-specific fields - Type-specific fields.
If NNSCR_INCLUDED is included and is set to ‘1’, the base station shall include the type specific fields and shall set these fields as specified in 3.7.5.20 for the Non-Negotiable Service Configuration information record.

USE_PWR_CNTL_STEP - Power control step size indicator.
The base station shall set this field to ‘1’ if the field PWR_CNTL_STEP is included in the message.

PWR_CNTL_STEP - Power control step size.
If USE_PWR_CNTL_STEP is set to ‘1’, then the base station shall include the field PWR_CNTL_STEP and set this field to the step size that the mobile station is to use for closed loop power control, according to Table 3.7.3.3.2.25-1; otherwise, the base station shall omit this field.

CLEAR_RETRY_DELAY - Clear retry delay indicator.
The base station shall set this field to ‘1’ if the mobile station is to clear any existing retry delay which it has stored (see 2.6.6.2.5.1); otherwise, the base station shall set this field to ‘0’.

SCH_INCL - SCH related parameters included indicator.
The base station shall set this field to ‘1’ if this message include the NUM_FOR_ASSIGN, NUM_REV_ASSIGN, NUM_FOR_SCH, NUM_REV_SCH, and NUM_SCH fields. Otherwise, the base station shall set this field to ‘0’.

NUM_FOR.Assign - Number of Forward Supplemental Channel assigned.
If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field to the number of Forward Supplemental Channel assigned.

The base station shall include NUM_FOR_ASSIGN occurrences of the following five fields (FOR_SCH_ID, FOR_SCH_DURATION, FOR_SCH_START_TIME_INCL, FOR_SCH_START_TIME, and SCCL_INDEX).

FOR_SCH_ID - Forward Supplemental Channel identifier.
The base station shall set this field to the Identifier of the Forward Supplemental Channel.

FOR_SCH_DURATION - Duration of Forward Supplemental Channel assignment.
The base station shall set this field to the duration (see Table 3.7.3.3.2.37-3), starting at the start time of the message specified by FOR_START_TIME, during which the mobile station is to process the Forward Supplemental Channel.
The base station shall set this field to '0000' to indicate that the mobile station should stop processing the Forward Supplemental Channel starting at the explicit start time of the message specified by FOR_SCH_START_TIME or at the implicit start time if FOR_SCH_START_TIME_INCL is set to '0'.

The base station shall set this field to ‘1111’ to indicate that the mobile station should process the Forward Supplemental Channel, starting at the start time of the message specified by FOR_SCH_START_TIME, until the start time specified by a subsequent Forward Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1).

FOR_SCH_START_TIME_INCL - Start time included indicator.

If FOR_SCH_DURATION is not equal to '0000', the base station shall set this field to '1'. If FOR_SCH_DURATION is equal to '0000', the base station shall set this field as follows:

The base station shall set this field to ‘1’ if FOR_SCH_START_TIME is included in this message; otherwise, the base station shall set this field to ‘0’.

FOR_SCH_START_TIME - Start time for Forward Supplemental Channel Assignment.

If FOR_SCH_START_TIME_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station is to start processing the Forward Supplemental Channel specified in this message. The explicit start time for processing Forward Supplemental Channels is the time for which

\[
\lfloor t/(\text{START\_TIME\_UNIT}+1) \rfloor - \text{FOR\_SCH\_START\_TIME} \mod 32 = 0,
\]

where t is the System Time in units of 20 ms.

SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Forward Supplemental Channel Code list corresponding to the FOR_SCH_ID. The base station shall include an SCCL_INDEX whose SCH Active Set is a subset of the Active Set of the Fundamental Channel, Dedicated Control Channel, or both.

NUM_REV_ASSIGN - Number of Reverse Supplemental Channel assigned.
If SCH_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field to the number of Reverse Supplemental Channel assigned.

The base station shall include NUM_REV_ASSIGN occurrences of the following five fields (REV_SCH_ID, REV_SCH_DURATION, REV_SCH_START_TIME_INCL, REV_SCH_START_TIME, and REV_SCH_RATE).

**REV_SCH_ID** - Reverse Supplemental Channel Identifier.
The base station shall set this field to the identifier of the Reverse Supplemental Channel.

**REV_SCH_DURATION** - Duration of Reverse Supplemental Channel assignment.
The base station shall set this field to '0000' to indicate that the mobile station is to stop transmitting on the Reverse Supplemental Channel specified by REV_SCH_ID at the explicit start time specified by REV_SCH_START_TIME or at the implicit start time if REV_SCH_START_TIME_INCL is set to '0'. The base station shall set this field to '1111' to indicate that the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID, starting at the explicit start time specified by REV_SCH_START_TIME in this message, until the start time specified by a subsequent Reverse Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1). The base station shall set this field to the duration according to Table 3.7.3.3.2.37-3, starting at the explicit start time specified by REV_SCH_START_TIME, during which the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID.

**REV_SCH_START_TIME_INCL** - Start time included indicator.

If REV_SCH_DURATION is not equal to '0000', the base station shall set this field to '1'. If REV_SCH_DURATION is equal to '0000', the base station shall set this field as follows:

The base station shall set this field to '1' if REV_SCH_START_TIME is included in this message; otherwise, the base station shall set this field to '0'.

3-348
REV_SCH_START_TIME - Start time for Reverse Supplemental Channel Assignment.

If REV_SCH_START_TIME_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station may start transmitting on the Reverse Supplemental Channel specified in this message. The explicit start time for transmitting on the Reverse Supplemental Channel is the time for which

\[
\left\lfloor \frac{t}{\text{START\_TIME\_UNITs}+1} \right\rfloor - \text{REV\_SCH\_START\_TIME} \mod 32 = 0,
\]

where t is the System Time in units of 20 ms.

REV_SCH_RATE - Reverse Supplemental Channel rate granted by the base station.

The base station shall set this field (see Table 3.7.3.3.2.37-1) to indicate the Reverse Supplemental Channel rate that is assigned to the mobile station.

FPC_SUBCHAN_GAIN - Forward power control subchannel relative gain.

The base station shall set FPC_SUBCHAN_GAIN equal to the power level of the forward link power control subchannel relative to that of 20 ms frames at a 9600 bps or 14400 bps rate on the Forward Fundamental Channel or the Forward Dedicated Control Channel that the Forward Power Control Subchannel is punctured on. The base station shall set the value in units of 0.25 dB.

USE_PC_TIME - Use power control action time indicator.

This field indicates whether an explicit time [PC_ACTION_TIME] at which a new value for power control sub-channel to traffic ratio [FPC_SUBCHAN_GAIN] takes effect is specified in the message.

If an explicit action time is specified in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'.

PC_ACTION_TIME - Power Control Subchannel gain action time.

If the USE_PC_TIME field is set to ‘1’, the base station shall set this field to the System Time, in units of 80 ms (modulo 64), at which FPC_SUBCHAN_GAIN specified in this message is to take effect. If the USE_PC_TIME field is set to '0' the base station shall omit this field.

CH_IND - Channel Indicator.

The base station shall set this field as shown in Table 3.7.3.3.2.36-1.
Table 3.7.3.3.2.36-1. Channel Indicator

<table>
<thead>
<tr>
<th>CH_IND (Binary)</th>
<th>Physical Resource(s) Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Reserved.</td>
</tr>
<tr>
<td>001</td>
<td>Reserved</td>
</tr>
<tr>
<td>010</td>
<td>Dedicated Control Channel</td>
</tr>
<tr>
<td>011</td>
<td>Reserved</td>
</tr>
<tr>
<td>100</td>
<td>Reserved</td>
</tr>
<tr>
<td>101</td>
<td>For Radio Configurations greater than 2, Fundamental Channel and Continuous Reverse Pilot Channel; For Radio Configuration 1 or 2, Fundamental Channel only.</td>
</tr>
<tr>
<td>110</td>
<td>Dedicated Control Channel and Continuous Reverse Pilot Channel</td>
</tr>
<tr>
<td>111</td>
<td>Fundamental Channel, Dedicated Control Channel and Continuous Reverse Pilot Channel</td>
</tr>
</tbody>
</table>

ACTIVE_SET_REC_LEN - Active Set record length.
The base station shall set this field to the number of octets in the ACTIVE_SET_REC_FIELDS included in this message.

ACTIVE_SET_REC_FIELDS - Active Set record fields.
The Active Set record fields are determined by the value of CH_IND, as described below.

REV_FCH_GATING_MODE - Reverse eighth gating mode indicator.
The base station shall set this field to ‘1’ if the mobile station is allowed to perform the reverse eighth gating mode after handoff; otherwise, the base station shall set this field to ‘0’.

REV_PWR_CNTL_DELAY_INCL - Reverse power control delay included indicator.
If REV_FCH_GATING_MODE is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows.
The base station shall set this field to ‘1’ if REV_PWR_CNTL_DELAY is included in this message; otherwise, the base station shall set this field to ‘0’.
REV_PWR_CNTL_DELAY - The reverse power control delay.

If REV_PWR_CNTL_DELAY_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to the closed-loop reverse power control delay minus one (the closed-loop reverse power control delay is the time between the end of a gated-on reverse PCG and the beginning of the reverse PCG where the corresponding feedback is sent on the Forward Power Control Subchannel, see [2]) used by the mobile station after handoff, in units of 1.25 ms.

If the CH_IND field is set to '101', the base station shall include the following fields:

NUM_FOR_SCH - Number of Forward Supplemental Channel records.

If SCH_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the number of the Forward Supplemental Channel records need to be updated.

If NUM_FOR_SCH is included and not equal to '00000', the base station shall include NUM_FOR_SCH occurrence of the following three fields:

FOR_SCH_ID - Forward Supplemental Channel identifier.

The base station shall set this field to the identifier of the Forward Supplemental Channel.

SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Supplemental Channel Code list.

FOR_SCH_RATE - Forward Supplemental Channel Rate.

The base station shall set this field to the data rate (see Table 3.7.3.2.37-1) corresponding to SCCL_INDEX.

NUM_REV_SCH - Number of Reverse Supplemental Channel records.

If SCH_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the number of the Reverse Supplemental Channels need to be updated.

If NUM_REV_SCH is included and not equal to '00000', the base station shall include NUM_REV_SCH occurrence of the following three fields:

REV_SCH_ID - Reverse Supplemental Channel identifier.

The base station shall set this field to the identifier of the Reverse Supplemental Channel.

REV_WALSH_ID - Reverse Supplemental Channel Walsh cover Identifier.
The base station shall set this field according to Table 3.7.3.3.2.37-2 to indicate the Walsh cover ID that the mobile station is to use when transmitting at the rate specified by REV_SCH_RATE on the Reverse Supplemental Channel specified by REV_SCH_ID. If only one reverse supplemental channel is assigned, the base station should set this field to the default value for the REV_WALSH_ID as specified in 2.6.4.2.

**REV_SCH_RATE** - Reverse Supplemental Channel Rate.

The base station shall set this field according to Table 3.7.3.2.37-1 to indicate the rate corresponding to the REV_WALSH_ID field.

**NUM_PILOTS** - Number of pilots included in the message.

The base station shall set this field to the number of pilots included in the message. The base station shall set this field to an integer that is equal to or greater than 1.

**SRCH_OFFSET_INCL** - Target pilot channel search window offset included.

If the SRCH_OFFSET field is included in the following records, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

The base station shall include one occurrence of the following record for each of the NUM_PILOTS pilots included in the message:

**PILOT_PN** - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

**SRCH_OFFSET** - Target pilot channel search window offset.

If SRCH_OFFSET_INCL equals to ‘1’, then the base station shall set this field to the value shown in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by the mobile station for this target pilot. Otherwise, the base station shall omit this field.

**ADD_PILOT_REC_INCL** - Additional pilot information included indicator.

The base station shall set this field to ‘1’ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

**PILOT_REC_TYPE** - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.
RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.21-6.

RESERVED - Reserved bits.

The base station shall set this field to ‘000000’.

PWR_COMB_IND - Power control symbol combining indicator.

If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. The base station shall set this field to ‘0’ in the first record in the pilot list.

CODE_CHAN_FCH - Code channel on the Fundamental Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Fundamental Channel of the Forward Traffic Channel. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.
QOF_MASK_ID_FCH - Quasi-orthogonal function index on the Fundamental Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

NUM_SCH - Number of Supplemental Channel records.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the number of the Supplemental Channel records need to be updated.

If NUM_SCH is included and not equal to ‘00000’, the base station shall include NUM_SCH occurrence of the following five fields:

FOR_SCH_ID - Forward Supplemental Channel identifier.

The base station shall set this field the identifier of the Forward Supplemental Channel pertaining to this record.

SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Supplemental Channel Code list.

PILOT_INCL - The corresponding pilot included in Supplemental Channel Active Set indicator.

The base station shall set this field to ‘1’ if the corresponding pilot is included in the Active Set of Supplemental Channel; otherwise, the base station shall set this field to ‘0’.

CODE_CHAN_SCH - Code channel on the Supplemental Channel.

If PILOT_INCL is included and set to ‘1’, the base station shall set this field as follows; otherwise, the base station shall omit this field.

The base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Supplemental Channel of the Forward Traffic Channel indexed by SCCL_INDEX.

QOF_MASK_ID_SCH - Quasi-orthogonal function index on the Supplemental Channel.

If PILOT_INCL is included and set to ‘1’, the base station shall set this field as follows; otherwise, the base station shall omit this field.

The base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

If the CH_IND field is set to ‘010’ or ‘110’, the base station shall include the following fields:

NUM_FOR_SCH - Number of Forward Supplemental Channel records.
If SCH_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the number of the Forward Supplemental Channel records need to be updated.

If NUM_FOR_SCH is included and not equal to '00000', the base station shall include NUM_FOR_SCH occurrence of the following three fields:

- **FOR_SCH_ID** - Forward Supplemental Channel identifier.
  - The base station shall set this field to identifier of the Forward Supplemental Channel.
- **SCCL_INDEX** - Supplemental Channel Code list index.
  - The base station shall set this field to the index of the record in the Supplemental Channel Code list.
- **FOR_SCH_RATE** - Forward Supplemental Channel Rate.
  - The base station shall set this field to the data rate (see Table 3.7.3.3.2.37-1) corresponding to SCCL_INDEX.

If NUM_REV_SCH is included and not equal to '00000', the base station shall include NUM_REV_SCH occurrence of the following three fields:

- **REV_SCH_ID** - Reverse Supplemental Channel identifier.
  - The base station shall set this field to the identifier of the Reverse Supplemental Channel.
- **REV_WALSH_ID** - Reverse Supplemental Channel Walsh cover Identifier.
  - The base station shall set this field according to Table 3.7.3.3.2.37-2 to indicate the Walsh cover ID that the mobile station is to use when transmitting at the rate specified by REV_SCH_RATE on the Reverse Supplemental Channel specified by REV_SCH_ID. If only one reverse supplemental channel is assigned, the base station should set this field to the default value for the REV_WALSH_ID as specified in 2.6.4.2.
- **REV_SCH_RATE** - Reverse Supplemental Channel Rate.
  - The base station shall set this field according to Table 3.7.3.3.2.37-1 to indicate the rate corresponding to the REV_WALSH_ID field.

- **NUM_PILOTS** - Number of pilots included in the message.
  - The base station shall set this field to the number of pilots included in the message. The base station shall set this field to an integer that is equal to or greater than 1.
SRCH_OFFSET_INCL - Target pilot channel search window offset included.

If the SRCH_OFFSET field is included in the following records, the base station shall set this field to ’1′; otherwise, the base station shall set this field to ’0′.

The base station shall include one occurrence of the following record for each of the NUM_PILOTS pilots included in the message:

PILOT_PN - Pilot PN sequence offset index.

The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

SRCH_OFFSET - Target pilot channel search window offset.

If SRCH_OFFSET_INCL equals to ‘1′, then the base station shall set this field to the value shown in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by the mobile station for this target pilot. Otherwise, the base station shall omit this field.

ADD_PILOT_REC_INCL - Additional pilot information included indicator.

The base station shall set this field to ‘1′ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0′ if the corresponding pilot is the common pilot and there is no additional pilot information included.

PILOT_REC_TYPE - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1′, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record. If ADD_PILOT_REC_INCL is set to ‘0′, the base station shall omit this field.

RECORD_LEN - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1′, the base station shall set this field to the number of octets in the type-specific fields of this pilot record. If ADD_PILOT_REC_INCL is set to ‘0′, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1′, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record. If ADD_PILOT_REC_INCL is set to ‘0′, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000′, the base station shall include the following fields:
<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

RESERVED - Reserved bits.

The base station shall set this field to '000000'.

PWR_COMB_IND - Power control symbol combining indicator.

If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to '1'; otherwise, the base station shall set this field to '0'. The base station shall set this field to '0' in the first record in the pilot list.

CODE_CHAN_DCCH - Code channel on the Dedicated Control Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Dedicated Control Channel of the Forward Traffic Channel. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

QOF_MASK_ID_DCCH - Quasi-orthogonal function index on the Dedicated Control Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

NUM_SCH - Number of Supplemental Channel records.

If SCH_INCL is set to '0', the base station shall omit this field; otherwise, the base station shall set this field as follows:

The mobile station shall set this field to the number of the Supplemental Channel records need to be updated.

If NUM_SCH is included and not equal to '00000', the mobile station shall include NUM_SCH occurrence of the following five fields:

FOR_SCH_ID - Forward Supplemental Channel identifier

The base station shall set this field to the identifier of the Forward Supplemental Channel pertaining to this record.
SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Supplemental Channel Code list.

PILOT_INCL - The corresponding pilot included in Supplemental Channel Active Set indicator.

The base station shall set this field to ‘1’ if the corresponding pilot is included in the Active Set of Supplemental Channel; otherwise, the base station shall set this field to ‘0’.

CODE_CHAN_SCH - Code channel on the Supplemental Channel.

The base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Supplemental Channel of the Forward Traffic Channel indexed by SCCL_INDEX.

QOF_MASK_ID_SCH - Quasi-orthogonal function index on the Supplemental Channel.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

If the CH_IND field is set to ‘111’, the base station shall include the following fields:

NUM_FOR_SCH - Number of Forward Supplemental Channel records.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the number of the Forward Supplemental Channel records need to be updated.

If NUM_FOR_SCH is included and not equal to ‘00000’, the base station shall include NUM_FOR_SCH occurrence of the following three fields:

FOR_SCH_ID - Forward Supplemental Channel identifier.

The base station shall set this field to the identifier of the Forward Supplemental Channel.

SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Supplemental Channel Code list.

FOR_SCH_RATE - Forward Supplemental Channel Rate.

The base station shall set this field to the data rate (see Table 3.7.3.2.37-1) corresponding to SCCL_INDEX.

NUM_FOR_SCH - Number of Forward Supplemental Channel records.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:
The base station shall set this field to the number of the Forward Supplemental Channels need to be updated.

If NUM_REV_SCH is included and not equal to '00000', the base station shall include NUM_REV_SCH occurrence of the following three fields:

- **REV_SCH_ID** - Reverse Supplemental Channel identifier.
  - The base station shall set this field to the identifier of the Reverse Supplemental Channel.

- **REV_WALSH_ID** - Reverse Supplemental Channel Walsh cover Identifier.
  - The base station shall set this field according to Table 3.7.3.3.2.37-2 to indicate the Walsh cover ID that the mobile station is to use when transmitting at the rate specified by REV_SCH_RATE on the Reverse Supplemental Channel specified by REV_SCH_ID. If only one reverse supplemental channel is assigned, the base station should set this field to the default value for the REV_WALSH_ID as specified in 2.6.4.2.

- **REV_SCH_RATE** - Reverse Supplemental Channel Rate.
  - The base station shall set this field according to Table 3.7.3.3.2.37-1 to indicate the rate corresponding to the REV_WALSH_ID field.

- **NUM_PILOTS** - Number of pilots included in the message.
  - The base station shall set this field to the number of pilots included in the message. The base station shall set this field to an integer that is equal to or greater than 1.

- **SRCH_OFFSET_INCL** - Target pilot channel search window offset included.
  - If the SRCH_OFFSET field is included in the following records, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

The base station shall include one occurrence of the following record for each of the NUM_PILOTS pilots included in the message:

- **PILOT_PN** - Pilot PN sequence offset index.
  - The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.

- **SRCH_OFFSET** - Target pilot channel search window offset.
  - If SRCH_OFFSET_INCL equals to ‘1’, then the base station shall set this field to the value shown in Table 2.6.6.2.1-2 corresponding to the search window offset to be used by the mobile station for this target pilot. Otherwise, the base station shall omit this field.

- **ADD_PILOT_REC_INCL** - Additional pilot information included indicator.
The base station shall set this field to ‘1’ if additional pilot information listed in PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.

**PILOT_REC_TYPE** - Pilot record type.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

**RECORD_LEN** - Pilot record length.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

Type-specific fields - Pilot record type-specific fields.

If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

**OTD_POWER_LEVEL** - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

**RESERVED** - Reserved bits.

The base station shall set this field to ‘000000’.

**PWR_COMB_IND** - Power control symbol combining indicator.
If the Forward Traffic Channel associated with this pilot will carry the same closed-loop power control subchannel bits as that of the previous pilot in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’. The base station shall set this field to ‘0’ in the first record in the pilot list.

**CODE_CHAN_FCH** - Code Channel on the Fundamental Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Fundamental Channel of the Forward Traffic Channel. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

**QOF_MASK_ID_FCH** - Quasi-orthogonal function index on the Fundamental Channel.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

**CODE_CHAN_DCCH** - Code channel on the DCCH.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Dedicated Control Channel of the Forward Traffic Channel. If Radio Configuration 1, 2, 3, or 5 (see [2]) is used, the base station shall set this field in the range 1 to 63 inclusive. If Radio Configuration 4, 6 or 8 is used, the base station shall set this field in the range 1 to 127 inclusive. If Radio Configuration 7 or 9 is used, the base station shall set this field in the range 1 to 255 inclusive.

**QOF_MASK_ID_DCCH** - Quasi-orthogonal function index on the DCCH.

If a Radio Configuration associated with Spreading Rate 1 is used, the base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

**NUM_SCH** - Number of Supplemental Channel records.

The mobile station shall set this field to the number of the Supplemental Channel records need to be updated.

If **NUM_SCH** is included and not equal to ‘00000’, the mobile station shall include **NUM_SCH** occurrence of the following fields:

**FOR_SCH_ID** - Forward Supplemental Channel identifier.

The base station shall set this field to the identifier of the Forward Supplemental Channel pertaining to this record.

**SCCL_INDEX** - Supplemental Channel Code list index.
The base station shall set this field to the index of the record in the Supplemental Channel Code List Table.

PILOT_INCL - The corresponding pilot included in Supplemental Channel Active Set indicator.

The base station shall set this field to ‘1’ if the corresponding pilot is included in the Active Set of Supplemental Channel; otherwise, the base station shall set this field to ‘0’.

CODE_CHAN_SCH - Code Channel on the Supplemental Channel.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the code channel index (see [2]) that the mobile station is to use on the Supplemental Channel of the Forward Traffic Channel indexed by SCCL_INDEX.

QOF_MASK_ID_SCH - Quasi-orthogonal function index on the Supplemental Channel.

If SCH_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to the index of the Quasi-orthogonal function (see [2]).
### 3.7.3.3.2.37 Extended Supplemental Channel Assignment Message

**MSG_TAG:** ESCAM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>START_TIME_UNIT</td>
<td>3</td>
</tr>
<tr>
<td>REV_SCH_DTX_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>USE_T_ADD_ABORT</td>
<td>1</td>
</tr>
<tr>
<td>USE_SCRM_SEQ_NUM</td>
<td>1</td>
</tr>
<tr>
<td>SCRM_SEQ_NUM</td>
<td>0 or 4</td>
</tr>
<tr>
<td>ADD_INFO_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

**REV_CFG_INCLUDED**

The base station shall include the following field if `REV_CFG_INCLUDED` is set to ‘1’

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUM_REV_CFG_RECS</td>
<td>5</td>
</tr>
</tbody>
</table>

The base station shall include `(NUM_REV_CFG_RECS + 1)` occurrences of the following three fields if `REV_CFG_INCLUDED` is set to ‘1’

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_WALSH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

**NUM_REV_SCH**

The base station shall include `NUM_REV_SCH` occurrences of the following fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>REV_SCH_START_TIME_INCL</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_START_TIME</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>

(continues on next page)
The base station shall include the following field if FOR_CFG_INCLUDED is set to ‘1’

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_CFG_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_FER_REP</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

The base station shall include (NUM_FOR_CFG_RECS +1) occurrences of the following fields if FOR_CFG_INCLUDED is set to ‘1’

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_RATE</td>
<td>4</td>
</tr>
<tr>
<td>NUM_SUP_SHO</td>
<td>3</td>
</tr>
</tbody>
</table>

NUM_SUP_SHO+1 occurrences of the following fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>9</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>ACTIVE_PILOT_REC_TYPE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>0 or 3</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>0 or 8 x RECORD_LEN</td>
</tr>
<tr>
<td>FOR_SCH_CC_INDEX</td>
<td>11</td>
</tr>
<tr>
<td>QOF_MASK_ID_SCH</td>
<td>2</td>
</tr>
</tbody>
</table>

The base station shall include NUM_FOR_SCH occurrences of the following fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_START_TIME_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_START_TIME</td>
<td>0 or 5</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
<tr>
<td>Field</td>
<td>Length (bits)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>FPC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_MODE_SCH</td>
<td>0 or 3</td>
</tr>
<tr>
<td>FPC_SCH_INIT_SETPT_OP</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_SEC_CHAN</td>
<td>0 or 1</td>
</tr>
<tr>
<td>NUM_SUP</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

Include NUM_SUP occurrences of the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FPC_SCH_FER</td>
<td>5</td>
</tr>
<tr>
<td>FPC_SCH_INIT_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_SCH_MIN_SETPT</td>
<td>8</td>
</tr>
<tr>
<td>FPC_SCH_MAX_SETPT</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_THRESH_SCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_SETPT_THRESH_SCH</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RPC_NUM_SUP</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>

Include RPC_NUM_SUP +1 occurrences of the following two fields record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>RLGAIN_SCH_PILOT</td>
<td>6</td>
</tr>
</tbody>
</table>

1. **START_TIME_UNIT** - Unit for start time.

   The base station shall set this field to indicate the units of start time included in *Extended Supplemental Channel Assignment Message*, *Forward Supplemental Channel Assignment Mini Message*, *Reverse Supplemental Channel Assignment Mini Message*, and *Universal Handoff Direction Message*. The base station shall set this field to one less than the number of 20 ms frames that determines the **START_TIME_UNIT**.

2. **REV_SCH_DTX-DURATION** - Discontinuous Transmission on Reverse Supplemental Channel.
The base station shall set this field to the maximum duration of time in units of 20 ms that the mobile station is allowed to stop transmission on a Reverse Supplemental Channel within the reverse assignment duration. The base station shall set this field to ‘0000’ if the mobile station is to stop using a Reverse Supplemental Channel once it has stopped transmitting on that Reverse Supplemental Channel. The base shall set this field to ‘1111’ if the mobile station is allowed to resume transmission on a Reverse Supplemental Channel at any time within the reverse assignment duration.

**USE_T_ADD_ABORT** - Reverse use T_ADD abort indicator.

The base station shall set this field to ‘1’ to indicate that the mobile station is to utilize the T_ADD Reverse Supplemental Channel abort feature for this reverse assignment; otherwise, the base station shall set this field to ‘0’.

**USE_SCRM_SEQ_NUM** - Use Supplemental Channel Request Message sequence number indicator.

The base station shall set this field to ‘1’ if the SCRM_SEQ_NUM field is included in this message; otherwise, the base station shall set this field to ‘0’.

**SCRM_SEQ_NUM** - Supplemental Channel Request Message sequence number.

If USE_SCRM_SEQ_NUM is set to ‘1’, the base station shall set this field to the sequence number corresponding to the SCRM_SEQ_NUM field in a Supplemental Channel Request Message to which the mobile station is to match this message; otherwise, the base station shall omit this field.

**ADD_INFO_INCL** - Additional information included indicator.

If the message is to contain the FPC_PRI_CHAN field, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

The base station shall set this field to ‘0’ if any of the following conditions hold:

- The message does not contain any Supplemental Channel assignment.
- The mobile station is currently in Active Mode.

**FPC_PRI_CHAN** - Power Control Subchannel Indicator.

If the ADD_INFO_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:
The base station shall set this field to ‘0’ if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on the Forward Fundamental Channel. The base station shall set this field to ‘1’ if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on the Forward Dedicated Control Channel.

**REV_CFG_INCLUDED** - Reverse Supplemental Channel configuration included.

The base station shall set this field to ‘1’ if this message contains a Reverse Supplemental Channel configuration. Otherwise, the base station shall set this field to ‘0’.

**NUM_REV_CFG_RECS** - Number of the Reverse Supplemental Channel configuration Records.

If REV_CFG_INCLUDED is set to ‘1’, the base station shall set this field to one less than the number of reverse supplemental channel configuration records consisting of the following three fields that are included in this message; otherwise, the base station shall omit this field.

The base station shall include NUM_REV_CFG_RECS+1 occurrences of the following three fields only if the REV_CFG_INCLUDED field is set to ‘1’.

**REV_SCH_ID** - Reverse Supplemental Channel Identifier.

The base station shall set this field to the identifier of the Reverse Supplemental Channel.

**REV_WALSH_ID** - Reverse Supplemental Channel Walsh cover Identifier.

The base station shall set this field according to Table 3.7.3.2.37-2 to indicate the Walsh cover ID that the mobile station is to use when transmitting at the rate specified by REV_SCH_RATE on the Reverse Supplemental Channel specified by REV_SCH_ID. If only one reverse supplemental channel is assigned, the base station should set this field to the default value for the REV_WALSH_ID as specified in 2.6.4.2.

<table>
<thead>
<tr>
<th>REV_WALSH_ID</th>
<th>Walsh Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>(binary)</td>
<td>SCH_ID = '0'</td>
</tr>
<tr>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>1</td>
<td>+++</td>
</tr>
</tbody>
</table>

**REV_SCH_RATE** - Reverse Supplemental Channel Rate.
The base station shall set this field according to Table 3.7.3.3.2.37-1 to indicate the rate corresponding to the REV_WALSH_ID field.

<table>
<thead>
<tr>
<th>REV_SCH_RATE FOR_SCH_RATE (binary)</th>
<th>Rate Granted by the Base Station (kbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R-RC 3, 5 F-RC 3, 4, 6, 7 R-RC 4, 6 F-RC 5, 8, 9</td>
</tr>
<tr>
<td>0000</td>
<td>9.6 14.4</td>
</tr>
<tr>
<td>0001</td>
<td>19.2 28.8</td>
</tr>
<tr>
<td>0010</td>
<td>38.4 57.6</td>
</tr>
<tr>
<td>0011</td>
<td>76.8 115.2</td>
</tr>
<tr>
<td>0100</td>
<td>153.6 230.4</td>
</tr>
<tr>
<td>0101</td>
<td>307.2 259.2</td>
</tr>
<tr>
<td>0110</td>
<td>614.4 460.8</td>
</tr>
<tr>
<td>0111</td>
<td>Reserved 518.4</td>
</tr>
<tr>
<td>1000</td>
<td>Reserved 1036.8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>All other values are reserved</td>
</tr>
</tbody>
</table>

**NUM_REV_SCH** - Number of Reverse Supplemental Channels assigned.

The base station shall set this field to the number of Reverse Supplemental Channel assigned. The base station shall set this field to '00' if the assignment of Supplemental Channel is not included.

The base station shall include NUM_REV_SCH occurrences of the following five fields (REV_SCH_ID, REV_SCH_DURATION, REV_SCH_START_TIME_INCL, REV_SCH_START_TIME, and REV_SCH_RATE).

**REV_SCH_ID** - Reverse Supplemental Channel Identifier.

The base station shall set this field to the identifier of the Reverse Supplemental Channel.

**REV_SCH_DURATION** - Duration of Reverse Supplemental Channel assignment.
The base station shall set this field to '0000' to indicate that the mobile station is to stop transmitting on the Reverse Supplemental Channel specified by REV_SCH_ID at the explicit start time specified by REV_SCH_START_TIME or at the implicit start time if REV_SCH_START_TIME_INCL is set to '0'. The base station shall set this field to '1111' to indicate that the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID, starting at the explicit start time specified by REV_SCH_START_TIME in this message, until the start time specified by a subsequent Reverse Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1). The base station shall set this field to the duration according to Table 3.7.3.3.2.37-3, starting at the start time specified by REV_SCH_START_TIME, during which the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID.

Table 3.7.3.3.2.37-3. FOR_SCH_DURATION and REV_SCH_DURATION Fields

<table>
<thead>
<tr>
<th>FOR_SCH_DURATION</th>
<th>REV_SCH_DURITION (binary)</th>
<th>Duration in 20 ms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0010</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0011</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>0100</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>0101</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>0110</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>0111</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1001</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>1010</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>1011</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>1100</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>1101</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>1110</td>
<td>256</td>
</tr>
<tr>
<td></td>
<td>1111</td>
<td>Infinite</td>
</tr>
</tbody>
</table>
REV_SCH_-_START_TIME_INCL - Start time included indicator.

If REV_SCH_DURATION is not equal to ‘0000’, the base station shall set this field to ‘1’. If REV_SCH_DURATION is equal to ‘0000’, the base station shall set this field as follows:

The base station shall set this field to ‘1’ if REV_SCH_START_TIME is included in this message; otherwise, the base station shall set this field to ‘0’.

REV_SCH_START_TIME - Start time for Reverse Supplemental Channel assignment.

If REV_SCH_START_TIME_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station may start transmitting on the Reverse Supplemental Channel specified in this message. The explicit start time for transmitting on the Reverse Supplemental Channel is the time for which

\[
\left\lfloor \frac{t}{(\text{START\_TIME\_UNITs}+1)} \right\rfloor - \text{REV\_SCH\_START\_TIME} \mod 32 = 0,
\]

where t is the System Time in units of 20 ms.

REV_SCH_RATE - Reverse Supplemental Channel rate granted by the base station.

The base station shall set this field (see Table 3.7.3.2.37-1) to indicate the Reverse Supplemental Channel rate that is assigned to the mobile station.

FOR_CFG_INCLUDED - Forward Supplemental Channel configuration included.

The base station shall set this field to ‘1’ if this message contains a Forward Supplemental Channel configuration. Otherwise, the base station shall set this field to ‘0’.

FOR_SCH_FER_REP - Forward Supplemental Channel FER report indicator.

If FOR_CFG_INCLUDED is set to ‘0’, the base station shall omit this field, otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to ‘1’ if the mobile station is to report the Supplemental Channel frame counts (see 2.6.4.1.1); otherwise, the base station shall set this field to ‘0’.

NUM_FOR_CFG_RECS - Number of the Forward Supplemental Channel configuration Records.

If FOR_CFG_INCLUDED is set to ‘1’, the base station shall set this field to one less than the number of forward supplemental channel configuration records consisting of the following three fields that are included in this message; otherwise, the base station shall omit this field.

The base station shall include NUM_FOR_CFG_RECS+1 occurrences of the following fields.
only if the FOR_CFG_INCLUDED field is set to ‘1’.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>Forward Supplemental Channel identifier</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field to the identifier of the Forward Supplemental Channel.</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>Supplemental Channel Code list index.</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field to the index of the record in the Supplemental Channel Code list.</td>
</tr>
<tr>
<td>FOR_SCH_RATE</td>
<td>Forward Supplemental Channel rate</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field (see Table 3.7.3.2.37-1) to indicate the data rate corresponding to SCCL_INDEX.</td>
</tr>
<tr>
<td>NUM_SUP_SHO</td>
<td>Number of Forward Supplemental Channels in Soft Handoff</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field to the size of the Forward Supplemental Channel Active Set minus one.</td>
</tr>
</tbody>
</table>

The base station shall include NUM_SUP_SHO+1 occurrences of the following fields for each Forward Supplemental channel corresponding to the FOR_SCH_ID and the SCCL_INDEX whose frames may be soft-combined by the mobile station:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT_PN</td>
<td>Pilot PN sequence offset index.</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field to the pilot PN sequence offset for this pilot in units of 64 PN chips.</td>
</tr>
<tr>
<td>ADD_PILOT_REC_INCL</td>
<td>Additional pilot information included indicator.</td>
</tr>
<tr>
<td></td>
<td>The base station shall set this field to ‘1’ if additional pilot information listed in ACTIVE_PILOT_REC_TYPE and RECORD_LEN fields are included. The base station shall set this field to ‘0’ if the corresponding pilot is the common pilot and there is no additional pilot information included.</td>
</tr>
<tr>
<td>PILOT_REC_TYPE</td>
<td>Pilot record type</td>
</tr>
<tr>
<td></td>
<td>If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the PILOT_REC_TYPE value shown in Table 3.7.2.3.2.21-5 corresponding to the type of Pilot Record specified by this record.</td>
</tr>
<tr>
<td></td>
<td>If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.</td>
</tr>
<tr>
<td>RECORD_LEN</td>
<td>Pilot record length.</td>
</tr>
<tr>
<td></td>
<td>If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall set this field to the number of octets in the type-specific fields of this pilot record.</td>
</tr>
<tr>
<td></td>
<td>If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.</td>
</tr>
<tr>
<td>Type-specific fields</td>
<td>Pilot record type-specific fields.</td>
</tr>
</tbody>
</table>
If ADD_PILOT_REC_INCL is set to ‘1’, the base station shall include type-specific fields based on the ACTIVE_PILOT_REC_TYPE of this pilot record.

If ADD_PILOT_REC_INCL is set to ‘0’, the base station shall omit this field.

If PILOT_REC_TYPE is equal to ‘000’, the base station shall include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD_POWER_LEVEL</td>
<td>2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

OTD_POWER_LEVEL - OTD Transmit Power Level.

The base station shall set this field to the OTD transmit power level relative to that of the Forward Pilot Channel as specified in Table 3.7.2.3.2.21-6.

FOR_SCH_CC_INDEX - Forward Supplemental Channel code channel index.

The base station shall set this field to the Forward Supplemental Channel code channel corresponding to PILOT_PN.

QOF_MASK_ID_SCH - Quasi-orthogonal function index on the Supplemental Channel.

The base station shall set this field to the index of the Quasi-orthogonal function (see [2]).

NUM_FOR_SCH - Number of Forward Supplemental Channels assigned.

The base station shall set this field to the number of forward Supplemental Channel assigned. The base station shall set this field to ‘00’ if the assignment of Supplemental Channel is not included.

The base station shall include NUM_FOR_SCH occurrences of the following five fields (FOR_SCH_ID, FOR_SCH_DURATION, FOR_SCH_START_TIME_INCL, FOR_SCH_START_TIME, and SCCL_INDEX).

FOR_SCH_ID - Forward Supplemental Channel identifier.

The base station shall set this field to the identifier of the Forward Supplemental Channel pertaining to this record.

FOR_SCH_DURATION - Duration of Forward Supplemental Channel assignment.
The base station shall set this field to the duration (see Table 3.7.3.3.2.37-3), starting at the start time of the message specified by FOR_SCH_START_TIME, during which the mobile station is to process the Forward Supplemental Channel.

The base station shall set this field to ‘0000’ to indicate that the mobile station should stop processing the Forward Supplemental Channel starting at the explicit start time of the message specified by FOR_SCH_START_TIME or at the implicit start time if FOR_SCH_START_TIME_INCL is set to ‘0’.

The base station shall set this field to ‘1111’ to indicate that the mobile station should process the Forward Supplemental Channel, starting at the start time of the message specified by FOR_SCH_START_TIME, until the start time specified by a subsequent Forward Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1).

FOR_SCH_START_TIME_INCL - Start time included indicator.

If FOR_SCH_DURATION is not equal to ‘0000’, the base station shall set this field to ‘1’. If FOR_SCH_DURATION is equal to ‘0000’, the base station shall set this field as follows:

The base station shall set this field to ‘1’ if FOR_SCH_START_TIME is included in this message; otherwise, the base station shall set this field to ‘0’.

FOR_SCH_START_TIME - Start time for Forward Supplemental Channel assignment.

If FOR_SCH_START_TIME_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station is to start processing the Forward Supplemental Channel specified in this message. The start time for processing Forward Supplemental Channels is the time for which

\[
\left\lfloor \frac{t}{(START_TIME_UNIT+1)} \right\rfloor - FOR_SCH_START_TIME \mod 32 = 0,
\]

where t is the System Time in units of 20 ms.

SCCL_INDEX - Supplemental Channel Code list index.

The base station shall set this field to the index of the record in the Forward Supplemental Channel Code list corresponding to the FOR_SCH_ID. The base station shall include an SCCL_INDEX whose SCH Active Set is a subset of the Active Set of the Fundamental Channel, Dedicated Control Channel, or both.

FPC_INCL - Forward Link Power Control parameter included indicator.
If the forward power control related information is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

**FPC_MODE_SCH** - Forward Power Control operational mode indicator used during forward Supplemental Channel assignment interval.

If FPC_INCL is set to ‘1’, the base station shall set the value to the forward power control operation mode as specified in [2]; otherwise, the base station shall omit this field.

**FPC_SCH_INIT_SETPT_OP** - Initial Supplemental Channel Outer Loop Eb/Nt setpoint option.

If FPC_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows:

The base station shall set this field to ‘0’ to indicate that FPC_SCH_INIT_SETPT contains the absolute value of the initial F-SCH Eb/Nt setpoint. The base station shall set this field to ‘1’ to indicate that FPC_SCH_INIT_SETPT contains the offset value of the initial F-SCH Eb/Nt setpoint relative to the current value used in the mobile station for the channel carrying the Forward Power Control Subchannel.

**FPC_SEC_CHAN** - Master Supplemental channel index.

If FPC_INCL is set to ‘1’ and FPC_MODE_SCH is set to ‘001’ or ‘010’, the base station shall set this field to the master Supplemental Channel index; otherwise, the base station shall omit this field.

**NUM_SUP** - Number of Supplemental Channels.

If FPC_INCL is set to ‘0’ the base station shall omit this field; otherwise, the base station shall set this field to the total number of the Supplemental Channels.

The base station shall include NUM_SUP occurrences of the following record:

**SCH_ID** - Supplemental channel index.

The base station shall set this field to the Supplemental Channel index.

**FPC_SCH_FER** - Supplemental channel target Frame Error Rate.

The base station shall set this field to the target Frame Error Rate on the Supplemental Channel, as specified in Table 3.7.3.3.2.25-2.

**FPC_SCH_INIT_SETPT** - Initial Supplemental Channel Output Loop Eb/Nt setpoint

The base station shall set this field to initial Supplemental Channel Outer Loop Eb/Nt setpoint (absolute value or offset value as indicated by FPC_SCH_INIT_SETPT_OP) as follows:

- If FPC_SCH_INIT_SETPT_OP is set to ‘0’, the unit is 0.125 dB;
- If FPC_SCH_INIT_SETPT_OP is set to ‘1’, the unit is 0.125 dB and the offset is expressed as two's complement signed number.

FPC_SCH_MIN_SETPT - Minimum Supplemental Channel outer loop Eb/Nt setpoint.
The base station shall set this field to minimum Supplemental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_SCH_MAX_SETPT - Maximum Supplemental Channel outer loop Eb/Nt setpoint.
The base station shall set this field to maximum Supplemental Channel Outer Loop Eb/Nt setpoint, in units of 0.125 dB.

FPC_THRESH_SCH_INCL - SCH Setpoint Report Threshold Included Indicator.
If FPC_INCL is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:
If SCH setpoint report threshold is included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

FPC_SETPT_THRESH_SCH - SCH Setpoint Report Threshold.
If FPC_THRESH_SCH_INCL is set to ‘1’, the base station shall set this field to the value of the Supplemental Channel setpoint threshold (in units of 0.125 dB) above which the outer loop report message will be sent by the mobile station; otherwise, the base station shall omit this field.

RPC_INCL - Reverse Power Control parameter included indicator.
The base station shall set this field to ‘1’ if RPC_NUM_SUP is included in this message; otherwise the base station shall set this field to ‘0’.

RPC_NUM_SUP - Number of Supplemental Channels.
If RPC_INCL is set to ‘1’, the base station shall set this field to the total number of the Supplemental Channels minus one; otherwise, the base station shall omit this field.

The base station shall include NUM_SUP +1 occurrences of the following two fields record:

SCH_ID - Supplemental channel index.
The base station shall set this field to the Supplemental Channel index.

RLGAIN_SCH_PILOT - Supplemental channel power offset adjustment relative to Reverse Pilot Channel power for radio configurations greater than 2.
The base station shall set this field to the correction factor to be used by mobile stations setting the power of a supplemental channel, expressed as a two's complement value in units of 0.125 dB.
### 3.7.3.3.2.38 Forward Supplemental Channel Assignment Mini Message

**MSG_TAG:** FSCAMM

<table>
<thead>
<tr>
<th><strong>Field</strong></th>
<th><strong>Length (bits)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>FOR_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>FOR_SCH_START_TIME</td>
<td>5</td>
</tr>
<tr>
<td>SCCL_INDEX</td>
<td>4</td>
</tr>
</tbody>
</table>
FOR_SCH_ID - Forward Supplemental Channel identifier.
The base station shall set this field to the identifier of the Forward Supplemental Channel.

FOR_SCH_DURATION - Duration of Forward Supplemental Channel assignment.
The base station shall set this field to the duration (see Table 3.7.3.3.2.37-3), starting at the start time of the message specified by FOR_SCH_START_TIME, during which the mobile station is to process the Forward Supplemental Channel.

The base station shall set this field to '0000' to indicate that the mobile station should stop processing the Forward Supplemental Channel starting at the start time of the message specified by FOR_SCH_START_TIME.

The base station shall set this field to '1111' to indicate that the mobile station should process the Forward Supplemental Channel, starting at the explicit start time of the message specified by FOR_SCH_START_TIME, until the start time specified by a subsequent Forward Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1).

FOR_SCH-_START_TIME - Start time for Forward Supplemental Channel assignment.
The base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station is to start processing the Forward Supplemental Channel specified in this message. The start time for processing Forward Supplemental Channels is the time for which

\[ \left\lfloor \frac{t}{(START_TIME_UNIT+1)} \right\rfloor - \text{FOR_SCH\_START\_TIME} \mod 32 = 0, \]

where \( t \) is the System Time in units of 20 ms.

SCCL_INDEX - Supplemental Channel Code list index.
The base station shall set this field to the index of the record in the Forward Supplemental Channel Code list corresponding to the FOR_SCH_ID. The base station shall include an SCCL_INDEX whose SCH Active Set is a subset of the Active Set of the Fundamental Channel, Dedicated Control Channel, or both.
3GPP2 C.S0005-0

3.7.3.3.2.39 Reverse Supplemental Channel Assignment Mini Message
MSG_TAG: RSCAMM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REV_SCH_ID</td>
<td>1</td>
</tr>
<tr>
<td>REV_SCH_DURATION</td>
<td>4</td>
</tr>
<tr>
<td>REV_SCH_START_TIME</td>
<td>5</td>
</tr>
<tr>
<td>REV_SCH_RATE</td>
<td>4</td>
</tr>
</tbody>
</table>
REV_SCH_ID - Reverse Supplemental Channel identifier.

The base station shall set this field to the identifier of the Reverse Supplemental Channel.

REV_SCH_DURATION - Duration of Reverse Supplemental Channel assignment.

The base station shall set this field to '0000' to indicate that the mobile station is to stop transmitting on the Reverse Supplemental Channel specified by REV_SCH_ID at the start time specified by START_TIME. The base station shall set this field to '1111' to indicate that the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID, starting at the start time specified by REV_SCH_START_TIME in this message, until the start time specified by a subsequent Reverse Supplemental Channel assignment corresponding to the same Supplemental Channel (see 2.6.6.2.5.1.1). The base station shall set this field to the duration according to Table 3.7.3.3.2.37-3, starting at the explicit start time specified by REV_SCH_START_TIME, during which the mobile station may transmit on the Reverse Supplemental Channel specified by REV_SCH_ID.

REV_SCH_START_TIME - Start time for Reverse Supplemental Channel Assignment Mini Message.

The base station shall set this field to the System Time, in units of time specified by START_TIME_UNIT, (modulo 32) at which the mobile station may start transmitting on the Reverse Supplemental Channel specified in this message. The explicit start time for transmitting on the Reverse Supplemental Channel is the time for which

\[
\lfloor t/(\text{START\_TIME\_UNIT}+1) \rfloor - \text{REV\_SCH\_START\_TIME} \mod 32 = 0,
\]

where \( t \) is the System Time in units of 20 ms.

REV_SCH_RATE - Reverse Supplemental Channel rate granted by the base station.

The base station shall set this field according to Table 3.7.3.3.2.37-1 to indicate the Reverse Supplemental Channel rate, that is assigned to the mobile station.
### 3.7.3.2.40 Mobile Assisted Burst Operation Parameters Message

**MSG_TAG: MABOPM**

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDER_FLAG</td>
<td>1</td>
</tr>
<tr>
<td>PS_MIN_DELTA</td>
<td>3</td>
</tr>
<tr>
<td>ORDER_INTERVAL</td>
<td>3</td>
</tr>
<tr>
<td>PERIODIC_FLAG</td>
<td>1</td>
</tr>
<tr>
<td>NUM_PILOTS</td>
<td>3</td>
</tr>
<tr>
<td>PERIODIC_INTERVAL</td>
<td>6</td>
</tr>
<tr>
<td>THRESHOLD_FLAG</td>
<td>1</td>
</tr>
<tr>
<td>PS_FLOOR_HIGH</td>
<td>6</td>
</tr>
<tr>
<td>PS_FLOOR_LOW</td>
<td>6</td>
</tr>
<tr>
<td>PS_CEILING_HIGH</td>
<td>6</td>
</tr>
<tr>
<td>PS_CEILING_LOW</td>
<td>6</td>
</tr>
<tr>
<td>THRESHOLD_INTERVAL</td>
<td>6</td>
</tr>
</tbody>
</table>
**ORDER_FLAG** - Order change reporting flag.

The base station shall set this field to ‘1’ to indicate that the mobile station is to send a *Pilot Strength Measurement Mini Message* to the base station whenever a received pilot strength measurement changes its relative order with respect to all other reported pilot strength measurements during supplemental channel burst operations; otherwise, the base station shall set this field to ‘0’.

If **ORDER_FLAG** is set to ‘1’, the base stations shall include the following two-field record:

**PS_MIN_DELTA** - Minimum power strength delta.

The base station shall set this field to one less than the minimum pilot strength measurement difference between two pilots (in units of 0.5 dB) that must be measured in order for the mobile station to send a *Pilot Strength Measurement Mini Messages* when the rank order mode is enabled. A difference in pilot strength of at least (PS_MIN_DELTA+1), in units of 0.5 dB, must be measured for **ORDER_INTERVAL** successive 20 ms intervals before a rank order based *Pilot Strength Measurement Mini Message* is generated.

**ORDER_INTERVAL** - Order interval.

The base station shall set this field to the minimum interval (in 20 ms units) during which the indicated pilot strength measurement difference greater than or equal to (PS_MIN_DELTA+1), in units of 0.5 dB, must be measured by the mobile station in order for the mobile station to send a *Pilot Strength Measurement Mini Messages* when the rank order mode is enabled.

**PERIODIC_FLAG** - Periodic report flag.

The base station shall set this field to ‘1’ to indicate that the mobile station is to send *Pilot Strength Measurement Mini Messages* periodically during supplemental channel burst operations; otherwise the base station shall set this field to ‘0’.

If **PERIODIC_FLAG** is set to ‘1’, the base station shall include the following two-field record:

**NUM_PILOTS** - Number of pilots.

The base station shall set this field to the number of pilots for which the mobile station is to send *Pilot Strength Measurement Mini Messages* when the periodic mode is enabled.

**PERIODIC_INTERVAL** - Periodic interval.

The base station shall set this field to the interval (in 20 ms units) between *Pilot Strength Measurement Mini Messages* when the periodic mode is enabled.

**THRESHOLD_FLAG** - Threshold reporting flag.
The base station shall set this field to ‘1’ to indicate that the mobile station is to send *Pilot Strength Measurement Mini Messages* whenever a measured pilot crosses below a lower bound or exceeds an upper bound during Supplemental channel burst operations; otherwise the base station shall set this field to ‘0’.

If THRESHOLD_FLAG is set to ‘1’, the base station shall include the following five-field record:

- **PS_FLOOR_HIGH** - Lower bound reporting high water mark.
  The base station shall set this field to the high water mark for the lower bound below which the mobile station is to send *Pilot Strength Measurement Mini Messages* when the threshold mode is enabled.
  The base station shall set this field as an unsigned binary number equal to \([-2 \times 10 \times \log_{10} \frac{E_c}{I_0}\]\).

- **PS_FLOOR_LOW** - Lower bound reporting low water mark.
  The base station shall set this field to the low water mark for the lower bound below which the mobile station is to send *Pilot Strength Measurement Mini Messages* when the threshold mode is enabled.
  The base station shall set this field as an unsigned binary number equal to \([-2 \times 10 \times \log_{10} \frac{E_c}{I_0}\]\).

- **PS_CEILING_HIGH** - Upper bound reporting high water mark.
  The base station shall set this field to the high water mark for the upper bound above which the mobile station is to send *Pilot Strength Measurement Mini Messages* when the threshold mode is enabled.
  The base station shall set this field as an unsigned binary number equal to \([-2 \times 10 \times \log_{10} \frac{E_c}{I_0}\]\).

- **PS_CEILING_LOW** - Upper bound reporting low water mark.
  The base station shall set this field to the low water mark for the upper bound above which the mobile station is to send *Pilot Strength Measurement Mini Messages* when the threshold mode is enabled.
  The base station shall set this field as an unsigned binary number equal to \([-2 \times 10 \times \log_{10} \frac{E_c}{I_0}\]\).

- **THRESHOLD_INTERVAL** - Threshold reporting interval.
  The base station shall set this field to the interval (in 20 ms units) between *Pilot Strength Measurement Mini Messages* when the threshold reporting mode is enabled.
3.7.3.3.2.41 User Zone Reject Message

MSG_TAG: UZRM

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECT_UZID</td>
<td>16</td>
</tr>
<tr>
<td>REJECT_ACTION_INDI</td>
<td>3</td>
</tr>
<tr>
<td>UZID_ASSIGN_INCL</td>
<td>1</td>
</tr>
<tr>
<td>ASSIGN_UZID</td>
<td>0 or 16</td>
</tr>
</tbody>
</table>

- **REJECT_UZID** - Rejected User Zone identifier.
  The base station shall set this field to the User Zone identifier of the User Zone rejected by the base station.

- **REJECT_ACTION_INDI** - Rejection action indicator.
  The base station shall set this field to the value shown in Table 3.7.2.3.2.29-1 corresponding to the User Zone rejection action field to identify the mobile station action.

- **UZID_ASSIGN_INCL** - User Zone identifier assignment included indicator.
  If assigned UZID information is included, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **ASSIGN_UZID** - Assigned User Zone identifiers.
  The base station shall set this field to the User Zone identifier of the User Zone assigned to the mobile station.
### 3.7.3.3.2.42 User Zone Update Message

**MSG_TAG:** UZUM

<table>
<thead>
<tr>
<th>Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UZID</td>
<td>16</td>
</tr>
</tbody>
</table>

- **UZID** - User Zone identifier.

The base station shall set this field to the User Zone identifier supported by the base station.
3.7.4 Orders

Order Messages are sent by the base station on the f-csch and the f-dsch. The general PDU format used on the f-csch is defined in 3.7.2.3.2.7, and the general PDU format used on the f-dsch is defined in 3.7.3.3.2.1. There are many specific types of Order Messages, as shown in Table 3.7.4-1.

The base station may send on the f-csch any type of order shown in Table 3.7.4-1 with a 'Y' in the first column, but shall not send on the f-csch any type of order with an 'N' in the first column. The base station may send on the f-dsch any type of order shown in Table 3.7.4-1 with a 'Y' in the second column, but shall not send on the f-dsch any type of order with an 'N' in the second column.

An order consists of a 6-bit order code and zero or more order-specific fields. The base station shall set the ORDER field in the Order Message to the order code shown in Table 3.7.4-1 corresponding to the type of order being sent.

If the order qualification code in the fourth column of Table 3.7.4-1 is '00000000' and there are no other additional fields as shown by an 'N' in the sixth column, the base station shall include no order qualification code or other order-specific fields in the Order Message. The order qualification code of such a message is implicitly '00000000'.

If the order qualification code is not '00000000' and there are no other additional fields as shown in Table 3.7.4-1 by an 'N' in the sixth column, the base station shall include the order qualification code as the only order specific field in the Order Message.

If there are other additional fields as shown in Table 3.7.4-1 by a 'Y' in the sixth column, the base station shall include order-specific fields as specified in the corresponding subsection of this section.
### Table 3.7.4-1. Order and Order Qualification Codes Used on the f-csch and the f-dsch (Part 1 of 3)

<table>
<thead>
<tr>
<th>f-csch Order</th>
<th>f-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>ACTION TIME can be specified</th>
<th>Additional Fields other than ORDQ</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>000001</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Abbreviated Alert Order</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>000010</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>Base Station Challenge Confirmation Order (see 3.7.4.1)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>000011</td>
<td>000000nn</td>
<td>Y</td>
<td>N</td>
<td>Message Encryption Mode Order (where nn is the mode per Table 3.7.2.3.2.8-2)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>001000</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Reorder Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>001010</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Parameter Update Order (where 'nnnn' is the Request Number)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010000</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Base Station Acknowledgment Order (see [4])</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010001</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Pilot Measurement Request Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010001</td>
<td>nnnnnnnnn (in the range of 00001010 to 11111111)</td>
<td>N</td>
<td>Y</td>
<td>Periodic Pilot Measurement Request Order (see 3.7.4.6)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010010</td>
<td>0001nnnn</td>
<td>N</td>
<td>N</td>
<td>Lock Until Power-Cycled Order (where nnnn is the lock reason)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010010</td>
<td>0010nnnn</td>
<td>N</td>
<td>N</td>
<td>Maintenance Required Order (where nnnn is the maintenance reason)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>010010</td>
<td>11111111</td>
<td>N</td>
<td>N</td>
<td>Unlock Order</td>
</tr>
</tbody>
</table>
### Table 3.7.4-1. Order and Order Qualification Codes Used on the f-csch and the f-dsch (Part 2 of 3)

<table>
<thead>
<tr>
<th>f-csch Order</th>
<th>f-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>ACTION_TIME can be specified</th>
<th>Additional Fields other than ORDQ</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Y</td>
<td>010011</td>
<td>000000000</td>
<td>Y</td>
<td>Y</td>
<td>Service Option Request Order (Band Class 0 only) (see 3.7.4.2)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010100</td>
<td>000000000</td>
<td>Y</td>
<td>Y</td>
<td>Service Option Response Order (Band Class 0 only; see 3.7.4.3)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010101</td>
<td>000000000</td>
<td>N</td>
<td>N</td>
<td>Release Order (no reason given)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>010101</td>
<td>000000100</td>
<td>N</td>
<td>N</td>
<td>Release Order (indicates that requested service option is rejected)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010110</td>
<td>000000000</td>
<td>N</td>
<td>N</td>
<td>Outer Loop Report Request Order</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>000000000</td>
<td>Y</td>
<td>N</td>
<td>Long Code Transition Request Order (request public)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>010111</td>
<td>000000001</td>
<td>Y</td>
<td>N</td>
<td>Long Code Transition Request Order (request private)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011001</td>
<td>0000nnnnn</td>
<td>N</td>
<td>N</td>
<td>Continuous DTMF Tone Order (where the tone is designated by ‘nnnn’ as defined in Table 2.7.1.3.2.4-4)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011001</td>
<td>111111111</td>
<td>N</td>
<td>N</td>
<td>Continuous DTMF Tone Order (stop continuous DTMF tone)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011010</td>
<td>nnnnnnnnnn</td>
<td>N</td>
<td>N</td>
<td>Status Request Order (see 3.7.4.4)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>011011</td>
<td>000000000</td>
<td>N</td>
<td>N</td>
<td>Registration Accepted Order (ROAM_INDI not included; see 3.7.4.5)</td>
</tr>
</tbody>
</table>
Table 3.7.4-1. Order and Order Qualification Codes Used on the f-csch and the f-dsch
(Part 3 of 3)

<table>
<thead>
<tr>
<th>f-csch Order</th>
<th>f-dsch Order</th>
<th>Order Code, ORDER (binary)</th>
<th>Order Qualification Code, ORDQ (binary)</th>
<th>ACTION TIME can be specified</th>
<th>Additional Fields other than ORDQ</th>
<th>Name/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>011011</td>
<td>00000001</td>
<td>N</td>
<td>N</td>
<td>Registration Request Order</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>011011</td>
<td>00000010</td>
<td>N</td>
<td>N</td>
<td>Registration Rejected Order</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>011011</td>
<td>00000100</td>
<td>N</td>
<td>N</td>
<td>Registration Rejected Order (delete TMSI)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>011011</td>
<td>0000101</td>
<td>N</td>
<td>Y</td>
<td>Registration Accepted Order (ROAM_INDI included; see 3.7.4.5)</td>
</tr>
<tr>
<td>N</td>
<td>Y</td>
<td>011101</td>
<td>nnnnnnnn</td>
<td>Y</td>
<td>N</td>
<td>Service Option Control Order (Band Class 0 only) (the specific control is designated by ‘nnnnnnnn’ as determined by each service option)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>011110</td>
<td>nnnnnnnn</td>
<td>N</td>
<td>N</td>
<td>Local Control Order (the specific order is designated by ‘nnnnnnnn’ as determined by each system)</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>011111</td>
<td>00000000</td>
<td>N</td>
<td>N</td>
<td>Slotted Mode Order (transition to the slotted mode operation.)</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>100000</td>
<td>00000000</td>
<td>N</td>
<td>Y</td>
<td>Retry Order (indicates that the requested operation is rejected and retry delay is included, see 3.7.4.7)</td>
</tr>
</tbody>
</table>

All other codes are reserved.
3.7.4.1 Base Station Challenge Confirmation Order

The Base Station Challenge Confirmation Order can be sent on either the f-csch or on the f-dsch.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>AUTHBS</td>
<td>18</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

ORDQ - Order qualification code.
The base station shall set this field to ‘00000000’.

AUTHBS - Challenge response.
The base station shall set this field as specified in 2.3.12.1.5.

RESERVED - Reserved bits.
The base station shall set this field to ‘000000’.
3.7.4.2 Service Option Request Order

The Service Option Request Order can be sent only on the f-dsch.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
</tbody>
</table>

ORDQ - Order qualification code. The base station shall set this field to '00000000'.

SERVICE_OPTION - Service option. The base station shall set this field to the service option code shown in [38], corresponding to the requested or alternative service option.
3.7.4.3 Service Option Response Order

The Service Option Response Order can be sent only on the f-dsch.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
</tbody>
</table>

ORDQ - Order qualification code.

The base station shall set this field to ‘00000000’.

SERVICE_OPTION - Service option.

The base station shall set this field to the service option code shown in [38], corresponding to the accepted service option, or to ‘0000000000000000’ to reject the last service option requested by the mobile station.
3.7.4.4 Status Request Order

The *Status Request Order* can be sent only on the f-dsch. The ORDQ field of the *Status Request Order* specifies the information record to be returned by the mobile station in the *Status Message*.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
</tbody>
</table>

**ORDQ** - Order qualification code.

The base station shall set this field to the order qualification code corresponding to the information record type to be returned by the mobile station in the *Status Message*, as shown in Table 3.7.4.4-1.

**Table 3.7.4.4-1. Status Request ORDQ Values**

<table>
<thead>
<tr>
<th>Information Record Requested</th>
<th>ORDQ (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved</td>
<td>00000110</td>
</tr>
<tr>
<td>Call Mode</td>
<td>00000111</td>
</tr>
<tr>
<td>Terminal Information</td>
<td>00001000</td>
</tr>
<tr>
<td>Roaming Information</td>
<td>00001001</td>
</tr>
<tr>
<td>Security Status</td>
<td>00001010</td>
</tr>
<tr>
<td>IMSI</td>
<td>00001100</td>
</tr>
<tr>
<td>ESN</td>
<td>00001101</td>
</tr>
<tr>
<td>IMSI_M</td>
<td>00001110</td>
</tr>
<tr>
<td>IMSI_T</td>
<td>00001111</td>
</tr>
</tbody>
</table>

All other ORDQ values are reserved.
3.7.4.5 Registration Accepted Order

The *Registration Accepted Order* can be sent only on the f-csch.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>ROAM_INDI</td>
<td>0 or 8</td>
</tr>
</tbody>
</table>

- **ORDQ** - Order qualification code.
  
  If ROAM_INDI is included in the order, the base station shall set this field to ‘00000101’; otherwise, the base station shall set this field to ‘00000000’.

- **ROAM_INDI** - Roaming display indication.
  
  If ORDQ is set to ‘00000000’, the base station shall omit this field.
  
  If ORDQ is set to ‘00000101’, the base station shall include this field and shall set it to the appropriate ROAM_INDI code corresponding to the MS roaming condition. These values are defined in [38].
3.7.4.6 Periodic Pilot Measurement Request Order

The Periodic Pilot Measurement Request Order can be sent only on the f-dsch.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>MIN_PILOT_PWR_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>MIN_PILOT_EC_IO_THRESH</td>
<td>5</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

ORDQ - Order qualification code.

The base station shall set this field to a report period, in units of 0.08 seconds, in the range of ‘00001010’ to ‘11111110’ inclusive. The base station shall set this field to ‘11111111’ to request a one time Periodic Pilot Strength Measurement Message.

MIN_PILOT_PWR_THRESH - The threshold of the total received E\(c\) of the pilots in the Active Set.

If the mobile station is to report pilot strength measurements periodically to the base station irrespective of the pilot power of the Active Set, the base station shall set this field to ‘11111’; otherwise, the base station shall set this field to the total E\(c\) threshold, expressed as an unsigned binary number equal to:

\[
\left\lfloor \frac{(10 \times \log_{10}(\text{pilot_ec_thresh}) + 120)}{2} \right\rfloor
\]

where pilot_ec_thresh is the threshold of the mobile station received total E\(c\) (in mW) of the pilots in the Active Set below which the mobile station is to send the pilot strength measurements periodically to the base station.

MIN_PILOT_EC_IO_THRESH - Pilot Strength Threshold of Serving Frequency.

If the mobile station is to ignore this threshold, the base station shall set this field to ‘11111’; otherwise, the base station shall set this field to the total E\(c/I_0\) threshold, expressed as an unsigned binary number equal to:

\[
\left\lfloor - 20 \times \log_{10} \text{pilot_streng_thresh} \right\rfloor.
\]
where $\text{pilot\_streng\_thresh}$ is the threshold of the total received $E_c/I_0$ of the pilots in Active Set (see 2.6.6.2.2) below which the mobile station is to send the pilot strength measurements periodically to the base station.

RESERVED - Reserved bits.

The base station shall set this field to '000000'.

3.7.4.7 Retry Order

The Retry Order can be sent on either the f-csch or on the f-dsch to indicate the requested service is rejected and specify the retry delay.

<table>
<thead>
<tr>
<th>Order Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORDQ</td>
<td>8</td>
</tr>
<tr>
<td>RETRY_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>RETRY_DELAY</td>
<td>0 or 8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>5</td>
</tr>
</tbody>
</table>

ORDQ - Order qualification code.

The base station shall set this field to '00000000'.

RETRY_TYPE - Retry delay type.

The base station shall set this field specified as in Table 3.7.4.7-1.

Table 3.7.4.7-1 Retry Delay Type

<table>
<thead>
<tr>
<th>Value (binary)</th>
<th>Retry Type</th>
<th>Usage</th>
</tr>
</thead>
</table>


RETRY_DELAY - Retry delay.

If RETRY_TYPE is set to '000' the base station shall omit this field. Otherwise the base station shall include this field and set it as follows:

If RETRY_TYPE is set to '001', the base station shall set this field to the duration of the delay interval, as shown in Table 3.7.4.7-2, during which the mobile station is not permitted to send an Origination Message with the same Packet Data Service Option. The base station shall set this field to '00000000' to indicate that there is no retry delay or to clear a previously set retry delay.

**Table 3.7.4.7-1 Retry Delay for RETRY_TYPE '001'**

<table>
<thead>
<tr>
<th>Bits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 (MSB)</td>
<td>Unit for the Retry Delay</td>
</tr>
<tr>
<td></td>
<td>'0' – unit is 1s</td>
</tr>
<tr>
<td></td>
<td>'1' – unit is 1 min</td>
</tr>
<tr>
<td>6 to 0</td>
<td>Retry Delay interval</td>
</tr>
</tbody>
</table>
If RETRY_TYPE is set to ‘010’ or ‘011’, the base station shall set this field to the duration of the delay interval in units of 320 ms during which the mobile station is not permitted to send another Supplemental Channel Request (Mini) Message or Resource Request (Mini) Message. The base station shall set RETRY_DELAY to ‘00000000’ to indicate that there is no retry delay or to clear a previously set retry delay. The base station shall set RETRY_DELAY to ‘11111111’ to indicate that the mobile station is to refrain from sending the request indefinitely.

RESERVED - Reserved bits.

The base station shall set this field to ‘00000’.
3.7.5 Information Records

On the f-csch, information records may be included in the Feature Notification Message. On the f-dsch, information records may be included in the Alert with Information Message and the Flash with Information Message. Table 3.7.5-1 lists the information record type values that may be used with each message type. The following sections describe the contents of each of the record types in detail.
Table 3.7.5-1. Information Record Types (Part 1 of 3)

<table>
<thead>
<tr>
<th>Information Record</th>
<th>Record Type (binary)</th>
<th>Message Type</th>
<th>f-csch</th>
<th>f-dsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>000000001</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Called Party Number</td>
<td>000000010</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Calling Party Number</td>
<td>000000011</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Connected Number</td>
<td>000000100</td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Signal</td>
<td>000001001</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Message Waiting</td>
<td>000001100</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Service Configuration</td>
<td>000001110</td>
<td>SRQM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SRPM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GHDM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UHDM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Called Party Subaddress</td>
<td>000010000</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>
### Table 3.7.5-1. Information Record Types (Part 2 of 3)

<table>
<thead>
<tr>
<th>Information Record</th>
<th>Record Type (binary)</th>
<th>Message Type</th>
<th>f-csch</th>
<th>f-dsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calling Party Subaddress</td>
<td>00001001</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Connected Subaddress</td>
<td>00001010</td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Redirecting Number</td>
<td>00001011</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Redirecting Subaddress</td>
<td>00001100</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Meter Pulses</td>
<td>00001101</td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Parametric Alerting</td>
<td>00001110</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Line Control</td>
<td>00001111</td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Extended Display</td>
<td>00010000</td>
<td>FNM</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWI</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FWI</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>
Table 3.7.5-1. Information Record Types (Part 3 of 3)

<table>
<thead>
<tr>
<th>Information Record</th>
<th>Record Type (binary)</th>
<th>Message Type</th>
<th>f-csch</th>
<th>f-dsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Negotiable Service Configuration</td>
<td>00010011</td>
<td>SCM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GHDM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UHDM</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Extended Record Type - International</td>
<td>11111110</td>
<td>Country-Specific</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All other record type values are reserved.
3.7.5.1 Display

This information record allows the network to supply display information that may be displayed by the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARi</td>
<td>8</td>
</tr>
</tbody>
</table>

CHARi - Character.

The base station shall include one occurrence of this field for each character to be displayed. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character entered, as specified in [12], with the most significant bit set to '0'.

3.7.5.2 Called Party Number

This information record identifies the called party's number.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi  | 8 |

| RESERVED | 1 |

**NUMBER_TYPE** - Type of number.

The base station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the called number, as defined in [8].

**NUMBER_PLAN** - Numbering plan.

The base station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the called number, as defined in [8].

**CHARi** - Character.

The base station shall include one occurrence of this field for each character in the called number. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to '0'.

**RESERVED** - Reserved bits.

The base station shall set this field to '0'.

---

3GPP2 C.S0005-0
3.7.5.3 Calling Party Number

This information record identifies the calling party’s number.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
<tr>
<td>PI</td>
<td>2</td>
</tr>
<tr>
<td>SI</td>
<td>2</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi               | 8            |

| RESERVED            | 5            |

NUMBER_TYPE - Type of number.

The base station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the calling number, as defined in [8].

NUMBER_PLAN - Numbering plan.

The base station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the calling number, as defined in [8].

PI - Presentation indicator.

This field indicates whether or not the calling number should be displayed.

The base station shall set this field to the PI value shown in Table 2.7.4.4-1 corresponding to the presentation indicator, as defined in [8].

SI - Screening indicator.

This field indicates how the calling number was screened.

The base station shall set this field to the SI value shown in Table 2.7.4.4-2 corresponding to the screening indicator value, as defined in [8].

CHARi - Character.

The base stations shall include one occurrence of this field for each character in the calling number. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to '0'.
1  RESERVED - Reserved bits.
2  The base station shall set this field to ‘00000’.
3.7.5.4 Connected Number

This information record identifies the responding party to a call.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
<tr>
<td>PI</td>
<td>2</td>
</tr>
<tr>
<td>SI</td>
<td>2</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi               | 8             |

| RESERVED            | 5             |

- **NUMBER_TYPE** - Type of number.
  - The base station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the connected number, as defined in [8].

- **NUMBER_PLAN** - Numbering plan.
  - The base station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the connected number, as defined in [8].

- **PI** - Presentation indicator.
  - This field indicates whether or not the connected number should be displayed.
  - The base station shall set this field to the PI value shown in Table 2.7.4.4-1 corresponding to the presentation indicator, as defined in [8].

- **SI** - Screening indicator.
  - This field indicates how the connected number was screened.
  - The base station shall set this field to the SI value shown in Table 2.7.4.4-2 corresponding to the screening indicator value, as defined in [8].

- **CHARi** - Character.
  - The base station shall include one occurrence of this field for each character in the connected number. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to ‘0’. 
RESERVED  -  Reserved bits.

The base station shall set this field to ‘00000’.
3.7.5.5 Signal

This information record allows the network to convey information to a user by means of tones and other alerting signals.

The Standard Alert is defined as SIGNAL_TYPE = ‘10’, ALERT_PITCH = ‘00’ and SIGNAL = ‘000001’.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNAL_TYPE</td>
<td>2</td>
</tr>
<tr>
<td>ALERT_PITCH</td>
<td>2</td>
</tr>
<tr>
<td>SIGNAL</td>
<td>6</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

SIGNAL_TYPE - Signal type.

The base station shall set this field to the signal type value shown in Table 3.7.5.5-1.

**Table 3.7.5.5-1. Signal Type**

<table>
<thead>
<tr>
<th>Description</th>
<th>SIGNAL_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tone signal</td>
<td>00</td>
</tr>
<tr>
<td>ISDN Alerting</td>
<td>01</td>
</tr>
<tr>
<td>IS-54B Alerting</td>
<td>10</td>
</tr>
<tr>
<td>Reserved</td>
<td>11</td>
</tr>
</tbody>
</table>

ALERT_PITCH - Pitch of the alerting signal.

This field is ignored unless SIGNAL_TYPE is ‘10’, IS-54B Alerting.

If SIGNAL_TYPE is ‘10’, the base station shall set this field to the alert pitch shown in Table 3.7.5.5-2; otherwise, the base station shall set this field to ‘00’.
**Table 3.7.5.5-2. Alert Pitch**

<table>
<thead>
<tr>
<th>Description</th>
<th>ALERT_PITCH (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium pitch (standard alert)</td>
<td>00</td>
</tr>
<tr>
<td>High pitch</td>
<td>01</td>
</tr>
<tr>
<td>Low pitch</td>
<td>10</td>
</tr>
<tr>
<td>Reserved</td>
<td>11</td>
</tr>
</tbody>
</table>

**SIGNAL** - Signal code.

The base station shall set this field to the specific signal desired. If SIGNAL_TYPE is ‘00’, the base station shall set this field as described in Table 3.7.5.5-3. If SIGNAL_TYPE is ‘01’, the base station shall set this field as described in Table 3.7.5.5-4. If SIGNAL_TYPE is ‘10’, the base station shall set this field as described in Table 3.7.5.5-5.
Table 3.7.5.5-3. Tone Signals (SIGNAL_TYPE = '00')

<table>
<thead>
<tr>
<th>Description</th>
<th>SIGNAL (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial tone on: a continuous 350 Hz tone added to a 440 Hz tone.</td>
<td>000000</td>
</tr>
<tr>
<td>Ring back tone on: a 440 Hz tone added to a 480 Hz tone repeated in a 2 s on, 4 s off pattern.</td>
<td>000001</td>
</tr>
<tr>
<td>Intercept tone on: alternating 440 Hz and 620 Hz tones, each on for 250 ms.</td>
<td>000010</td>
</tr>
<tr>
<td>Abbreviated intercept: alternating 440 Hz and 620 Hz tones, each on for 250 ms, repeated for four seconds.</td>
<td>000011</td>
</tr>
<tr>
<td>Network congestion (reorder) tone on: a 480 Hz tone added to a 620 Hz tone repeated in a 250 ms on, 250 ms off cycle.</td>
<td>000100</td>
</tr>
<tr>
<td>Abbreviated network congestion (reorder): a 480 Hz tone added to a 620 Hz tone repeated in a 250 ms on, 250 ms off cycle for four seconds.</td>
<td>000101</td>
</tr>
<tr>
<td>Busy tone on: a 480 Hz tone added to a 620 Hz tone repeated in a 500 ms on, 500 ms off cycle.</td>
<td>000110</td>
</tr>
<tr>
<td>Confirm tone on: a 350 Hz tone added to a 440 Hz tone repeated 3 times in a 100 ms on, 100 ms off cycle.</td>
<td>000111</td>
</tr>
<tr>
<td>Answer tone on: answer tone is not presently used in North American networks.</td>
<td>001000</td>
</tr>
<tr>
<td>Call waiting tone on: a 300 ms burst of 440 Hz tone.</td>
<td>001001</td>
</tr>
<tr>
<td>Pip tone on: four bursts of 480 Hz tone (0.1 s on, 0.1 s off).</td>
<td>001010</td>
</tr>
<tr>
<td>Tones off</td>
<td>111111</td>
</tr>
</tbody>
</table>

All other SIGNAL values are reserved
Table 3.7.5.5-4. ISDN Alerting (SIGNAL_TYPE = ‘01’)

<table>
<thead>
<tr>
<th>Description</th>
<th>SIGNAL (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Alerting: 2.0 s on, 4.0 s off, repeating</td>
<td>000000</td>
</tr>
<tr>
<td>Intergroup Alerting: 0.8 s on, 0.4 s off, 0.8 s on, 4.0 s off, repeating</td>
<td>000001</td>
</tr>
<tr>
<td>Special/Priority Alerting: 0.4 s on, 0.2 s off, 0.4 s on, 0.2 s off, 0.8 s on, 4.0 s off, repeating</td>
<td>000010</td>
</tr>
<tr>
<td>Reserved (ISDN Alerting pattern 3)</td>
<td>000011</td>
</tr>
<tr>
<td>“Ping ring”: single burst of 500 ms</td>
<td>000100</td>
</tr>
<tr>
<td>Reserved (ISDN Alerting pattern 5)</td>
<td>000101</td>
</tr>
<tr>
<td>Reserved (ISDN Alerting pattern 6)</td>
<td>000110</td>
</tr>
<tr>
<td>Reserved (ISDN Alerting pattern 7)</td>
<td>000111</td>
</tr>
<tr>
<td>Alerting off</td>
<td>001111</td>
</tr>
</tbody>
</table>

All other SIGNAL values are reserved
### Table 3.7.5.5-5. IS-54B Alerting (SIGNAL_TYPE = '10')

<table>
<thead>
<tr>
<th>Description</th>
<th>SIGNAL (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Tone: Off</td>
<td>000000</td>
</tr>
<tr>
<td>Long: 2.0 s on, 4.0 s off, repeating (standard alert)</td>
<td>000001</td>
</tr>
<tr>
<td>Short-Short: 0.8 s on, 0.4 s off, 0.8 s on, 4.0 s off, repeating</td>
<td>000010</td>
</tr>
<tr>
<td>Short-Short-Long: 0.4 s on, 0.2 s off, 0.4 s on, 0.2 s off, 0.8 s on, 4.0 s off, repeating</td>
<td>000011</td>
</tr>
<tr>
<td>Short-Short-2: 1.0 s on, 1.0 s off, 1.0 s on, 3.0 s off, repeating</td>
<td>000100</td>
</tr>
<tr>
<td>Short-Long-Short: 0.5 s on, 0.5 s off, 1.0 s on, 0.5 s off, 0.5 s on, 3.0 s off, repeating</td>
<td>000101</td>
</tr>
<tr>
<td>Short-Short-Short-Short: 0.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 0.5 s on, 2.5 s off, repeating</td>
<td>000110</td>
</tr>
<tr>
<td>PBX Long: 1.0 s on, 2.0 s off, repeating</td>
<td>000111</td>
</tr>
<tr>
<td>PBX Short-Short: 0.4 s on, 0.2 s off, 0.4 s on, 2.0 s off, repeating</td>
<td>001000</td>
</tr>
<tr>
<td>PBX Short-Short-Long: 0.4 s on, 0.2 s off, 0.4 s on, 0.2 s off, 0.8 s on, 1.0 s off, repeating</td>
<td>001001</td>
</tr>
<tr>
<td>PBX Short-Long-Short: 0.4 s on, 0.2 s off, 0.8 s on, 0.2 s off, 0.4 s on, 1.0 s off, repeating</td>
<td>001010</td>
</tr>
<tr>
<td>PBX Short-Short-Short-Short: 0.4 s on, 0.2 s off, 0.4 s on, 0.2 s off, 0.4 s on, 0.8 s off, repeating</td>
<td>001011</td>
</tr>
<tr>
<td>Pip-Pip-Pip-Pip: 0.1 s on, 0.1 s off, 0.1 s on, 0.1 s off, 0.1 s off, 0.1 s on</td>
<td>001100</td>
</tr>
</tbody>
</table>

All other SIGNAL values are reserved

**RESERVED** - Reserved bits.

The base station shall set this field to '000000'.
3.7.5.6 Message Waiting

This information record conveys to the user the number of messages waiting.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSG_COUNT</td>
<td>8</td>
</tr>
</tbody>
</table>

MSG_COUNT - Number of waiting messages.

The base station shall set this field to the number of messages waiting.
3.7.5.7 Service Configuration

This record is included in a Service Request Message and a Service Response Message to propose a service configuration. It is included in a Service Connect Message to specify an actual service configuration to be used. It can be included in a General Handoff Direction Message and Universal Handoff Direction Message to specify an actual service configuration to be used.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_MUX_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>REV_MUX_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>FOR_RATES</td>
<td>8</td>
</tr>
<tr>
<td>REV_RATES</td>
<td>8</td>
</tr>
<tr>
<td>NUM_CON_REC</td>
<td>8</td>
</tr>
</tbody>
</table>

NUM_CON_REC occurrences of the following variable-length record:
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECORD_LEN</td>
<td>8</td>
</tr>
<tr>
<td>CON_REF</td>
<td>8</td>
</tr>
<tr>
<td>SERVICE_OPTION</td>
<td>16</td>
</tr>
<tr>
<td>FOR_TRAFFIC</td>
<td>4</td>
</tr>
<tr>
<td>REV_TRAFFIC</td>
<td>4</td>
</tr>
<tr>
<td>UI_ENCRYPT_MODE</td>
<td>3</td>
</tr>
<tr>
<td>SR_ID</td>
<td>3</td>
</tr>
<tr>
<td>RLP_INFO_INCL</td>
<td>1</td>
</tr>
<tr>
<td>RLP_BLOB_LEN</td>
<td>0 or 4</td>
</tr>
<tr>
<td>RLP_BLOB</td>
<td>0 or (8 \times RLP_BLOB_LEN)</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0-7 (as needed)</td>
</tr>
<tr>
<td>FCH_CC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FCH_FRAME_SIZE</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FOR_FCH_RC</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_FCH_RC</td>
<td>0 or 5</td>
</tr>
<tr>
<td>DCCH_CC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>DCCH_FRAME_SIZE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>FOR_DCCH_RC</td>
<td>0 or 5</td>
</tr>
<tr>
<td>REV_DCCH_RC</td>
<td>0 or 5</td>
</tr>
</tbody>
</table>

(continues on next page)
<table>
<thead>
<tr>
<th><strong>Type-Specific Field</strong></th>
<th><strong>Length (bits)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR_SCH_CC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>NUM_FOR_SCH</td>
<td>0 or 2</td>
</tr>
</tbody>
</table>

NUM_FOR_SCH occurrences of the following three-field record

| **FOR_SCH_ID**                  | 2                 |
| **FOR_SCH_MUX**                 | 16                |
| **SCH_CC_Type-specific field**  | Variable (see 3.7.5.7.1) |

| **REV_SCH_CC_INCL**             | 1                 |
| **NUM_REV_SCH**                 | 0 or 2            |

NUM_REV_SCH occurrences of the following three-field record

| **REV_SCH_ID**                  | 2                 |
| **REV_SCH_MUX**                 | 16                |
| **SCH_CC_Type-specific field**  | Variable (see 3.7.5.7.1) |

| **RESERVED**                    | 0-7 (as needed)   |

**FOR_MUX_OPTION** - Forward Traffic Channel multiplex option.

For a *Service Request Message* and a *Service Response Message*, the base station shall set this field to the number of the Forward Traffic Channel multiplex option in the proposed service configuration.

For a *Service Connect Message*, *General Handoff Direction Message*, and a *Universal Handoff Direction Message*, the base station shall set this field to the number of the Forward Traffic Channel multiplex option of the actual service configuration to be used.

**REV_MUX_OPTION** - Reverse Traffic Channel multiplex option.

For a *Service Request Message* and a *Service Response Message*, the base station shall set this field to the number of the Reverse Traffic Channel multiplex option in the proposed service configuration.
For a Service Connect Message, General Handoff Direction Message, and a Universal Handoff Direction Message, the base station shall set this field to the number of the Reverse Traffic Channel multiplex option of the actual service configuration to be used.

FOR_RATES - Transmission rates of the Forward Fundamental Channel.

The base station shall set this field to the Forward Fundamental Channel transmission rates specified in 2.7.4.17 for the specified Forward Traffic Channel multiplex option.

For a Service Request Message or a Service Response Message, the base station shall set the subfields corresponding to the Forward Fundamental Channel transmission rates of the proposed service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The base station shall set RESERVED to ‘0000’.

For a Service Connect Message, General Handoff Direction Message, and a Universal Handoff Direction Message, the base station shall set the subfields corresponding to the Forward Fundamental Channel transmission rates of the actual service configuration to be used to ‘1’, and shall set the remaining subfields to ‘0’. The base station shall set RESERVED to ‘0000’.

REV_RATES - Transmission rates of the Reverse Fundamental Channel.

The base station shall set this field to the Reverse Fundamental Channel transmission rates specified in 2.7.4.17 for the specified Reverse Traffic Channel multiplex option.

For a Service Request Message or a Service Response Message, the base station shall set the subfields corresponding to the Reverse Fundamental Channel transmission rates of the proposed service configuration to ‘1’, and shall set the remaining subfields to ‘0’. The base station shall set RESERVED to ‘0000’.

For a Service Connect Message, General Handoff Direction Message, and a Universal Handoff Direction Message, the base station shall set the subfields corresponding to the Reverse Fundamental Channel transmission rates of the actual service configuration to be used to ‘1’, and shall set the remaining subfields to ‘0’. The base station shall set RESERVED to ‘0000’.

NUM_CON_REC - Number of service option connection records.

The base station shall set this field to the number of service option connection records included in the message.

For a Service Request Message or a Service Response Message, the base station shall include one occurrence of the following variable-length record for each service option connection of the proposed service configuration.
For a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message, the base station shall include one occurrence of the following variable-length record for each service option connection of the actual service configuration to be used.

- **RECORD_LEN** - Service option connection record length.
  The base station shall set this field to the number of octets included in this service option connection record including this field.

- **CON_REF** - Service option connection reference.
  For a Service Request Message or a Service Response Message:
  if the service option connection is part of the current service configuration, the base station shall set this field to the service option connection reference; otherwise, the base station shall set this field to ‘00000000’.
  For a Service Connect Message, General Handoff Direction Message, and a Universal Handoff Direction Message, the base station shall set this field to the service option connection reference assigned to the service option connection.

- **SERVICE_OPTION** - Service option.
  The base station shall set this field to the service option to be used with the service option connection.

- **FOR_TRAFFIC** - Forward Traffic Channel traffic type.
  The base station shall set this field to the FOR_TRAFFIC code shown in Table 3.7.5.7-1 corresponding to the Forward Traffic Channel traffic type to be used with the service option connection.

<table>
<thead>
<tr>
<th>FOR_TRAFFIC (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>The service option connection does not use Forward Traffic Channel traffic.</td>
</tr>
<tr>
<td>0001</td>
<td>The service option connection uses primary traffic on the Forward Traffic Channel.</td>
</tr>
<tr>
<td>0010</td>
<td>The service option connection uses secondary traffic on the Forward Traffic Channel.</td>
</tr>
</tbody>
</table>

All other FOR_TRAFFIC codes are reserved.

- **REV_TRAFFIC** - Reverse Traffic Channel traffic type.
The base station shall set this field to the REV_TRAFFIC code shown in Table 3.7.5.7-2 corresponding to the Reverse Traffic Channel traffic type to be used with the service option connection.

**Table 3.7.5.7-2. REV_TRAFFIC Codes**

<table>
<thead>
<tr>
<th>REV_TRAFFIC (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>The service option connection does not use Reverse Traffic Channel traffic.</td>
</tr>
<tr>
<td>0001</td>
<td>The service option connection uses primary traffic on the Reverse Traffic Channel.</td>
</tr>
<tr>
<td>0010</td>
<td>The service option connection uses secondary traffic on the Reverse Traffic Channel.</td>
</tr>
</tbody>
</table>

All other REV_TRAFFIC codes are reserved.

**UI_ENCRYPT_MODE** - Encryption mode indicator for user information privacy.

For a Service Request Message or a Service Response Message: the base station shall set this field to the proposed user information encryption mode, as shown in Table 2.7.4.18-3.

For a Service Connect Message, General Handoff Direction Message, and a Universal Handoff Direction Message, the base station shall set this field to the assigned user information encryption mode, as shown in Table 2.7.4.18-3.

**SR_ID** - Service reference identifier.

For a Service Request Message, a Service Response Message, a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message, the base station shall set this field as follows:

If the service option connection is a part of the current service configuration, the base station shall set this field to the service reference identifier in use.

If the service option connection is not a part of the current service configuration, the base station shall perform the following:

- If this service option connection request is initiated by the mobile station, the base station shall set this field to the value sent by the mobile station.
- If this service option connection request is initiated by the base station, the base station shall perform the following:
  if the service instance provides a service reference identifier, the base station shall set this field to the service reference identifier specified by the service instance; otherwise, the base station shall set this field to the highest unused service reference identifier value between 1 and 6 (inclusive).

**RLP_INFO_INCL** - RLP information included indicator.

The base station shall set this field to ‘1’ if the RLP_BLOB field is included in this record; otherwise, it shall set this field to ‘0’.

**RLP_BLOB_LEN** - RLP information block of bits length.

If the RLP_INFO_INCL field is set to ‘0’, the base station shall omit this field; otherwise, it shall include this field and set it as follows:

The base station shall set this field to the size of the RLP_BLOB field in integer number of octets.


If the RLP_INFO_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to the Radio Link Protocol block of bits for this service option connection, and shall add ‘0’ bits to the end of the field as needed in order to make the length of this field equal to an integer number of octets.

**RESERVED** - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of this record equal to an integer number of octets. The base station shall set these bits to ‘0’.

**FCH_CC_INCL** - Channel configuration for the Fundamental Channel included indicator.

The base station shall set this field to ‘1’, if the channel configuration information for the Fundamental Channel is included in this Service Configuration Record; otherwise, the base station shall set this field to ‘0’.

**FCH_FRAME_SIZE** - Fundamental Channel frame size supported indicator.
If the FCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

The base station shall set this field to ‘1’ if the service configuration includes the use of 5 ms frame size in addition to 20ms frame size for the Forward and Reverse Fundamental Channel; otherwise, the base station shall set this field to ‘0’.

FOR_FCH_RC - Forward Fundamental Channel Radio Configuration.

If the FCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

For a Service Request Message or a Service Response Message, the base station shall set this field to the Forward Fundamental Channel Radio Configuration (see [2]) in the proposed service configuration.

For a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message, the base station shall set this field to the actual Forward Fundamental Channel Radio Configuration to be used.

REV_FCH_RC - Reverse Fundamental Channel Radio Configuration.

If the FCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

For a Service Request Message or a Service Response Message, the base station shall set this field to the Reverse Fundamental Channel Radio Configuration (see [2]) in the proposed service configuration.

For a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message, the base station shall set this field to the actual Reverse Fundamental Channel Radio Configuration to be used.

DCCH_CC_INCL - Channel configuration for the Dedicated Control Channel included indicator.

The base station shall set this field to ‘1’, if channel configuration information for the Dedicated Control Channel is included in this Service Configuration Record; otherwise, the base station shall set this field to ‘0’.

DCCH_FRAME_SIZE - Dedicated Control Channel frame size.

If the DCCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it according to the Table 3.7.5.7-3 as follows:

For a Service Connect Message, a General Handoff Direction Message, or a Universal Handoff Direction Message, the base station shall set this field to the actual Dedicated Control Channel frame size(s) to be used in the service configuration.
For a *Service Request Message* or *a Service Response Message*, the base station shall set this field to the Dedicated Control Channel frame size for the proposed service configuration.

### Table 3.7.5.7-3. DCCH Frame Size

<table>
<thead>
<tr>
<th>DCCH_FRAME_SIZE (binary)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Reserved</td>
</tr>
<tr>
<td>01</td>
<td>20 ms frame size only</td>
</tr>
<tr>
<td>10</td>
<td>5 ms frame size only</td>
</tr>
<tr>
<td>11</td>
<td>Both 5 ms and 20 ms frame sizes</td>
</tr>
</tbody>
</table>

**FOR_DCCH_RC** - Forward Dedicated Control Channel Radio Configuration.

If the DCCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

For a *Service Connect Message*, a *General Handoff Direction Message*, or a *Universal Handoff Direction Message*, the base station shall set this field to the actual Forward Dedicated Control Channel Radio Configuration to be used (see [2]).

For a *Service Request Message* or *a Service Response Message*, the base station shall set this field to the Forward Dedicated Control Channel Radio Configuration for the proposed service configuration.

**REV_DCCH_RC** - Reverse Dedicated Control Channel Radio Configuration.

If the DCCH_CC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

For a *Service Connect Message*, a *General Handoff Direction Message*, or a *Universal Handoff Direction Message*, the base station shall set this field to the actual Reverse Dedicated Control Channel Radio Configuration to be used (see [2]).

For a *Service Request Message* or *a Service Response Message*, the base station shall set this field to the reverse Dedicated Control Channel Radio Configuration for the proposed service configuration.

**FOR_SCH-CC_INCL** - Channel configuration for the Forward Suppemental Channel included indicator.
The base station shall set this field to ‘1’, if the channel
configuration information for the forward Supplemental
Channel is included in this Service Configuration Record;
otherwise, the base station shall set this field to ‘0’.

NUM_FOR_SCH - Number of Forward Supplemental Channels.

If the FOR_SCH_CC_INCL field is set to ‘0’, the base station
shall omit this field; otherwise, the base station shall set this
field to the number of Forward Supplemental Channels
associated with this service configuration.

If the NUM_FOR_SCH field is present and is set to any value other than ‘00’, the base
station shall include one occurrence of the following three field record for each Forward
Supplemental Channel included in this record:

FOR_SCH_ID - Forward Supplemental Channel Identification

The base station shall set this field to the identifier of the
Forward Supplemental Channel pertaining to this record.

The base station shall set this field to the Supplemental
Channel identifier, shown in Table 2.7.3.18-4.

FOR_SCH_MUX - Forward Supplemental Channel Multiplex Option.

The base station shall set this field to the Multiplex Option
associated with the maximum data rate for this Forward
Supplemental Channel (see [3]).

SCH_CC_Type-specific field - Supplemental Channel Configuration Information.

The base station shall set this field as defined in 3.7.5.7.1 for
this Forward Supplemental Channel.

REV_SCH_CC_INCL - Channel configuration for the Reverse Supplemental Channel
included indicator.

The base station shall set this field to ‘1’ if the channel
configuration information for the reverse Supplemental
Channel is included in this service configuration record;
otherwise, the mobile station shall set this field to ‘0’.

NUM_REV_SCH - Number of Reverse Supplemental Channels.

If the REV_SCH_CC_INCL field is set to ‘0’, the base station
shall omit this field; otherwise, the base station shall set this
field to the number of Reverse Supplemental Channels
associated with this service configuration.

If the NUM_REV_SCH field is present and is set to any value other than ‘00’, the base
station shall include one occurrence of the following three field record for each Reverse
Supplemental Channel included in this record:

REV_SCH_ID - Reverse Supplemental Channel Identification

The base station shall set this field to the identifier of the
Reverse Supplemental Channel pertaining to this record.

The base station shall set this field to the Supplemental
Channel identifier, shown in Table 2.7.3.18-4.

REV_SCH_MUX - Reverse Supplemental Channel Multiplex Option
The base station shall set this field to the Multiplex Option associated with the maximum data rate for this Reverse Supplemental Channel (see [3]).

SCH_CC_Type-specific field - Supplemental Channel Configuration Information.

The base station shall set this field as defined in 3.7.5.7.1 for this Reverse Supplemental Channel.

RESERVED - Reserved bits.

The base station shall add reserved bits as needed in order to make the length of the entire message equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.5.7.1 Channel Configuration for the Supplemental Channel Type-specific Field

The channel configuration information for the Supplemental Channel Type-specific field consists of the following subfields:

<table>
<thead>
<tr>
<th>Subfields</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH_REC_LEN</td>
<td>4</td>
</tr>
<tr>
<td>SCH_RC</td>
<td>5</td>
</tr>
<tr>
<td>CODING</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>6</td>
</tr>
</tbody>
</table>

SCH_REC_LEN - Supplemental Channel channel configuration record length.

The mobile station or base station shall set this field to the number of octets included in this Supplemental Channel channel configuration record including this SCH_REC_LEN field.

SCH_RC - Supplemental Channel Radio Configuration.

The mobile station or base station shall set this field to the Radio Configuration for this Supplemental Channel. Radio Configurations are defined in [2] for the Forward Supplemental Channel and Reverse Supplemental Channel.

CODING - Coding type.

The mobile station or base station shall set this field to ‘1’ if the mobile station or the base station is to use Convolutional Coding when the number of channel bits per frame is less than 360 and Turbo Coding when the number of channel bits per frame is equal to or greater than 360. The mobile station or base station shall set this field to ‘0’ if the mobile station or the base station uses Convolutional Coding for all block sizes.

RESERVED - Reserved bits.

The base station shall set this field to ‘000000’. 
3GPP2 C.S0005-0

3.7.5.8 Called Party Subaddress

This information record identifies the called party subaddress.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi                               | 8             |

EXTENSION_BIT - The extension bit.

The base station shall set this field to ‘1’.

SUBADDRESS_TYPE - Type of subaddress.

The base station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

ODD/EVEN_INDICATOR - The indicator of odd/even bits.

The base station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in[8]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

RESERVED - Reserved bits.

The base station shall set this field to ‘000’.

CHARi - Character.

The base station shall include one occurrence of this field for each character in the called party subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348 AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets.

When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
### 3.7.5.9 Calling Party Subaddress

This information record identifies the calling party subaddress.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi                       | 8             |

- **EXTENSION_BIT** - The extension bit.
  - The base station shall set this field to ‘1’.

- **SUBADDRESS_TYPE** - Type of subaddress.
  - The base station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

- **ODD/EVEN_INDICATOR** - The indicator of odd/even bits.
  - The base station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in [8]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

- **RESERVED** - Reserved bits.
  - The base station shall set this field to ‘000’.

- **CHARi** - Character.
  - The base station shall include one occurrence of this field for each character in the calling party subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348 AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets. When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
3.7.5.10 Connected Subaddress

This information record identifies the subaddress of the responding party.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi | 8 |

EXTENSION_BIT - The extension bit.

The base station shall set this field to ‘1’.

SUBADDRESS_TYPE - Type of subaddress.

The base station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in [8].

ODD/EVEN_INDICATOR - The indicator of odd/even bits.

The base station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in [8]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

RESERVED - Reserved bits.

The base station shall set this field to ‘000’.

CHARi - Character.

The base station shall include one occurrence of this field for each character in the connected subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348 AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets.

When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
3.7.5.11 Redirecting Number

This information record identifies the Redirecting Number.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT_1</td>
<td>1</td>
</tr>
<tr>
<td>NUMBER_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>NUMBER_PLAN</td>
<td>4</td>
</tr>
<tr>
<td>EXTENSION_BIT_2</td>
<td>0 or 1</td>
</tr>
<tr>
<td>PI</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 or 3</td>
</tr>
<tr>
<td>SI</td>
<td>0 or 2</td>
</tr>
<tr>
<td>EXTENSION_BIT_3</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 or 3</td>
</tr>
<tr>
<td>REDIRECTION_REASON</td>
<td>0 or 4</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi                      | 8             |

EXTENSION_BIT_1 - The extension bit.

If the PI and SI are included in this record, the base station shall set this field to ‘0’; otherwise, the base station shall set this field to ‘1’.

NUMBER_TYPE - Type of number.

The base station shall set this field to the NUMBER_TYPE value shown in Table 2.7.1.3.2.4-2 corresponding to the type of the redirecting number, as defined in ANSI-T1.625 §6.1.3.7[40].

NUMBER_PLAN - Numbering plan.

The base station shall set this field to the NUMBER_PLAN value shown in Table 2.7.1.3.2.4-3 corresponding to the numbering plan used for the redirecting number, as defined in ANSI-T1.625 §6.1.3.7[40].

EXTENSION_BIT_2 - The extension bit.

If the EXTENSION_BIT_1 is set to ‘0’ and REDIRECTION_REASON is included in this record, the base station shall set this field to ‘0’. If the EXTENSION_BIT_1 is set to ‘0’ and REDIRECTION_REASON is not included in this record, the base station shall set this field to ‘1’. If the EXTENSION_BIT_1 is set to ‘1’, the base station shall omit this field.
PI - Presentation indicator.
This field indicates whether or not the redirecting number should be displayed.

If the EXTENSION_BIT_1 is set to '0', the base station shall set this field to the PI value shown in Table 2.7.4.4-1 corresponding to the presentation indicator, as defined in ANSI T1.625 §6.1.3.7[40]; otherwise, the base station shall omit this field.

RESERVED - Reserved bits.
If the EXTENSION_BIT_1 is set to '0', the base station shall set this field to '000'; otherwise, the base station shall omit this field.

SI - Screening indicator.
This field indicates how the redirecting number was screened.

If the EXTENSION_BIT_1 is set to '0', the base station shall set this field to the SI value shown in Table 2.7.4.4-2 corresponding to the screening indicator value, as defined in ANSI T1.625 §6.1.3.7[40]; otherwise, the base station shall omit this field.

EXTENSION_BIT_3 - The extension bit.
If the EXTENSION_BIT_2 is set to '0', the base station shall set this field to '1'; otherwise, the base station shall omit this field.

RESERVED - Reserved bits.
If the EXTENSION_BIT_2 is set to '0', the base station shall set this field to '000'; otherwise, the base station shall omit this field.

REDIRECTION_REASON - The reason for redirection.
If the EXTENSION_BIT_2 is set to '0', the base station shall set this field to the REDIRECTION_REASON value shown in Table 3.7.5.5.11-1 corresponding to the redirection reason, as defined in ANSI T1.625 §6.1.3.7 [40]; otherwise, the base station shall omit this field.
Table 3.7.5.11-1. Redirection Reason

<table>
<thead>
<tr>
<th>Description</th>
<th>REDIRECTION-REASON (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>0000</td>
</tr>
<tr>
<td>Call forwarding busy or called DTE busy</td>
<td>0001</td>
</tr>
<tr>
<td>Call forwarding no reply (circuit-mode only)</td>
<td>0010</td>
</tr>
<tr>
<td>Called DTE out of order (packet-mode only)</td>
<td>1001</td>
</tr>
<tr>
<td>Call forwarding by the called DTE (packet-mode only)</td>
<td>1010</td>
</tr>
<tr>
<td>Call forwarding unconditional or Systematic call redirection</td>
<td>1111</td>
</tr>
<tr>
<td>Reserved</td>
<td>others</td>
</tr>
</tbody>
</table>

CHARi - Character.

The base stations shall include one occurrence of this field for each character in the Redirecting Number. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character, as specified in [12], with the most significant bit set to '0'.

3-431
3.7.5.12 Redirecting Subaddress

This information record identifies the subaddress of the responding party.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENSION_BIT</td>
<td>1</td>
</tr>
<tr>
<td>SUBADDRESS_TYPE</td>
<td>3</td>
</tr>
<tr>
<td>ODD/EVEN_INDICATOR</td>
<td>1</td>
</tr>
<tr>
<td>RESERVED</td>
<td>3</td>
</tr>
</tbody>
</table>

Zero or more occurrences of the following field:

| CHARi                      | 8             |

EXTENSION_BIT - The extension bit.
The base station shall set this field to ‘1’.

SUBADDRESS_TYPE - Type of subaddress.
The base station shall set this field to the SUBADDRESS_TYPE value shown in Table 2.7.4.19-1 corresponding to the type of the subaddress, as defined in ANSI T1.625 §6.1.3.8[40].

ODD/EVEN_INDICATOR - The indicator of odd /even bits.
The base station shall set this field to the ODD/EVEN_INDICATOR value shown in Table 2.7.4.19-2 corresponding to the indicator of even/odd bits, as defined in ANSI T1.625 §6.1.3.8[40]. It is only used when the type of subaddress is “User specified” and the coding is BCD.

RESERVED - Reserved bits.
The base station shall set this field to ’000’.

CHARi - Character.
The base station shall include one occurrence of this field for each character in the redirecting subaddress.

When the SUBADDRESS_TYPE field is equal to ‘000’, the NSAP address shall be encoded using the preferred binary encoding specified in CCITT Recommendation X.213 or ISO 8348-AD2[41].

When the SUBADDRESS_TYPE field is set to ‘010’, user-specified subaddress field is encoded according to the user specification, subject to a maximum length of 20 octets. When interworking with CCITT Recommendation X.25[42] networks, BCD coding should be applied.
### 3.7.5.13 Meter Pulses

This information record identifies the number of meter pulses and frequency of the alert tone.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PULSE_FREQUENCY</td>
<td>11</td>
</tr>
<tr>
<td>PULSE_ON_TIME</td>
<td>8</td>
</tr>
<tr>
<td>PULSE_OFF_TIME</td>
<td>8</td>
</tr>
<tr>
<td>PULSE_COUNT</td>
<td>4</td>
</tr>
<tr>
<td>RESERVED</td>
<td>1</td>
</tr>
</tbody>
</table>

- **PULSE_FREQUENCY** - Pulse frequency.
  
  The base station shall set this field to the frequency of the alert signals in units of 10 Hz or to zero to indicate that line polarity control is to be used. If this field is set to zero, the PULSE_ON_TIME and PULSE_OFF_TIME shall be the period of line polarity reversal and normal line polarity, respectively.

- **PULSE_ON_TIME** - Pulse on time.
  
  The base station shall set this field to the period of the meter pulses in units of 5 ms.

- **PULSE_OFF_TIME** - Pulse off time.
  
  The base station shall set this field to the period of the inter-pulse spacing in units of 5 ms.

- **PULSE_COUNT** - Pulse count.
  
  The base station shall set this field to the number of meter pulses.

- **RESERVED** - Reserved bits.

  The base station shall set this field to '0'.
3.7.5.14 Parametric Alerting

This information record allows the network to convey information to a user by means of programmable alerting signals.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CADENCE_COUNT</td>
<td>8</td>
</tr>
<tr>
<td>NUM_GROUPS</td>
<td>4</td>
</tr>
</tbody>
</table>

`NUM_GROUPS` occurrences of the following record:

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPLITUDE</td>
<td>8</td>
</tr>
<tr>
<td>FREQ_1</td>
<td>10</td>
</tr>
<tr>
<td>FREQ_2</td>
<td>10</td>
</tr>
<tr>
<td>ON_TIME</td>
<td>8</td>
</tr>
<tr>
<td>OFF_TIME</td>
<td>8</td>
</tr>
<tr>
<td>REPEAT</td>
<td>4</td>
</tr>
<tr>
<td>DELAY</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESERVED</td>
<td>4</td>
</tr>
</tbody>
</table>

**CADENCE_COUNT** - Cadence count.
The base station shall set this field to the number of times the cadence of tone groups will be generated between 0x01 and 0xFE. The base station shall set this field to 0x00 to indicate that the mobile station should end alert tone generation. The base station shall set this field to 0xFF to indicate that the cadence will repeat indefinitely.

**NUM_GROUPS** - Number of groups.
The base station shall set this field to the number of groups.

**AMPLITUDE** - Amplitude.
The base station shall set this field to the amplitude level of the tone group in units of -1 dBm.

**FREQ_1** - Tone frequency 1.
The base station shall set this field to the first frequency of the tone group in units of 5 Hz.

**FREQ_2** - Tone frequency 2.
The base station shall set this field to the second frequency of the tone group in units of 5 Hz. Setting this field to zero creates a single frequency tone.

**ON_TIME** - On time.

The base station shall set this field to the duration of the tone group in units of 50 ms.

**OFF_TIME** - Off time.

The base station shall set this field to the duration of the spacing between tones in units of 50 ms.

**REPEAT** - Repeat.

The base station shall set this field to the number of times the tone group should repeat. The base station shall set this field to 0xFF to indicate that the tone group will repeat indefinitely.

**DELAY** - Delay.

The base station shall set this field to the length of time before the next tone group begins in units of 50 ms.

**RESERVED** - Reserved bits.

The base station shall set this field to '0000'.

3GPP2 C.S0005-0
3.7.5.15 Line Control

This information record allows the network to convey line control information.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLARITY_INCLUDED</td>
<td>1</td>
</tr>
<tr>
<td>TOGGLE_MODE</td>
<td>0 or 1</td>
</tr>
<tr>
<td>REVERSE_POLARITY</td>
<td>0 or 1</td>
</tr>
<tr>
<td>POWER_DENIAL_TIME</td>
<td>8</td>
</tr>
<tr>
<td>RESERVED</td>
<td>0 - 7 (as needed)</td>
</tr>
</tbody>
</table>

- **POLARITY_INCLUDED** - Polarity parameter included.
  
  If the mobile station is to change the line polarity, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

- **TOGGLE_MODE** - If POLARITY_INCLUDED is set to ‘1’, the base station shall include this field and set it to ‘1’ to toggle the line polarity or to ‘0’ to set the polarity to the absolute value indicated in the REVERSE_POLARITY field.

- **REVERSE_POLARITY** - Reverse polarity.
  
  If POLARITY_INCLUDED is set to ‘1’ and TOGGLE_MODE is equal to ‘0’, the base station shall include this field and set it to ‘1’ to reverse the tip and ring polarity or to ‘0’ to use normal polarity. If POLARITY_INCLUDED is set to ‘1’ and TOGGLE_MODE is set to ‘1’, the base station shall include this field and set it to ‘0’; otherwise, the base station shall omit this field.

- **POWER_DENIAL_TIME** - Power denial timeout.
  
  The base station shall include this field and set it to the duration of the power denial in increments of 5 ms.

- **RESERVED** - Reserved bits.
  
  The base station shall add reserved bits as needed in order to make the length of the entire message equal to an integer number of octets. The base station shall set these bits to ‘0’.
3.7.5.16 Extended Display

This information record allows the network to supply supplementary service display information that may be displayed by the mobile station.

<table>
<thead>
<tr>
<th>Type-Specific Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXT_DISPLAY_IND</td>
<td>1</td>
</tr>
<tr>
<td>DISPLAY_TYPE</td>
<td>7</td>
</tr>
</tbody>
</table>

One or more occurrences of the following record:

<table>
<thead>
<tr>
<th>Field</th>
<th>Length (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISPLAY_TAG</td>
<td>8</td>
</tr>
<tr>
<td>DISPLAY_LEN</td>
<td>8</td>
</tr>
</tbody>
</table>

DISPLAY_LEN occurrences of the following field if the DISPLAY_TAG field is not equal to ‘10000000’ or ‘10000001’:

| CHARi               | 8            |

- **EXT_DISPLAY_IND** - The indicator of Extended Display Information record. The base station shall set this field to ‘1’.

- **DISPLAY_TYPE** - The type of display. The base station shall set this field to the DISPLAY_TYPE value shown in Table 3.7.5.16-1 corresponding to the type of display, as defined in [9].

Table 3.7.5.16-1. Display Type

<table>
<thead>
<tr>
<th>Description</th>
<th>DISPLAY_TYPE (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0000000</td>
</tr>
</tbody>
</table>

All other DISPLAY_TYPE values are reserved.

- **DISPLAY_TAG** - The indicator of the display information. There are three types of display tags: mandatory control tags (Blank and Skip), display text tags, and optional control tags, see [9]. The base station shall set this field to the DISPLAY_TAG value shown in Table 3.7.5.16-2 corresponding to the type of information contained in the following CHARi field, as defined in [9].
Table 3.7.5.16-2. Mandatory Control Tags and Display Text Tags

<table>
<thead>
<tr>
<th>Description</th>
<th>DISPLAY_TAG (binary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>10000000</td>
</tr>
<tr>
<td>Skip</td>
<td>10000001</td>
</tr>
<tr>
<td>Continuation</td>
<td>10000010</td>
</tr>
<tr>
<td>Called Address</td>
<td>10000011</td>
</tr>
<tr>
<td>Cause</td>
<td>10000100</td>
</tr>
<tr>
<td>Progress Indicator</td>
<td>10000101</td>
</tr>
<tr>
<td>Notification Indicator</td>
<td>10000110</td>
</tr>
<tr>
<td>Prompt</td>
<td>10000111</td>
</tr>
<tr>
<td>Accumulated Digits</td>
<td>10001000</td>
</tr>
<tr>
<td>Status</td>
<td>10001001</td>
</tr>
<tr>
<td>Inband</td>
<td>10001010</td>
</tr>
<tr>
<td>Calling Address</td>
<td>10001011</td>
</tr>
<tr>
<td>Reason</td>
<td>10001100</td>
</tr>
<tr>
<td>Calling Party Name</td>
<td>10001101</td>
</tr>
<tr>
<td>Called Party Name</td>
<td>10001110</td>
</tr>
<tr>
<td>Original Called Name</td>
<td>10001111</td>
</tr>
<tr>
<td>Redirecting Name</td>
<td>10010000</td>
</tr>
<tr>
<td>Connected Name</td>
<td>10010001</td>
</tr>
<tr>
<td>Originating Restrictions</td>
<td>10010010</td>
</tr>
<tr>
<td>Date &amp; Time of Day</td>
<td>10010011</td>
</tr>
<tr>
<td>Call Appearance ID</td>
<td>10010100</td>
</tr>
<tr>
<td>Feature Address</td>
<td>10010101</td>
</tr>
<tr>
<td>Redirection Name</td>
<td>10010110</td>
</tr>
<tr>
<td>Redirection Number</td>
<td>10010111</td>
</tr>
<tr>
<td>Redirecting Number</td>
<td>10011000</td>
</tr>
<tr>
<td>Original Called Number</td>
<td>10011001</td>
</tr>
<tr>
<td>Connected Number</td>
<td>10011010</td>
</tr>
<tr>
<td>Text (e.g., ASCII)</td>
<td>10011110</td>
</tr>
</tbody>
</table>
DISPLAY_LEN - The display length.
The base station shall set this field to the number of octets of display text. See [9].

CHARi - Character.
The base station shall include DISPLAY_LEN occurrences of this field, one for each character to be displayed, except for blank and skip. The base station shall set each occurrence of this field to the ASCII representation corresponding to the character entered, as specified in [12], with the most significant bit set to ‘0’.
3.7.5.17 Extended Record Type - International

The use of this record type is country-specific. The first ten bits of the type-specific fields shall include the Mobile Country Code (MCC) associated with the national standards organization administering the use of the record type. Encoding of the MCC shall be as specified in 2.3.1.3. The remaining six bits of the first two octets of the type-specific fields shall be used to specify the country-specific record type.
3.7.5.18 Reserved
3.7.5.19 Reserved
3.7.5.20 Non-Negotiable Service Configuration

This record is included in a Service Connect Message to specify the non-negotiable service configuration parameters to be used by the mobile station. This record can be included in a General Handoff Direction Message or a Universal Handoff Direction Message to specify the non-negotiable service configuration parameters to be used by the mobile station.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC_INCL</td>
<td>1</td>
</tr>
<tr>
<td>FPC_PRI_CHAN</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_MODE</td>
<td>0 or 3</td>
</tr>
<tr>
<td>FPC_O LPC_FCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_FCH_FER</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FPC_FCH_MIN_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_FCH_MAX_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_O LPC_DCCH_INCL</td>
<td>0 or 1</td>
</tr>
<tr>
<td>FPC_DCCH_FER</td>
<td>0 or 5</td>
</tr>
<tr>
<td>FPC_DCCH_MIN_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>FPC_DCCH_MAX_SETPT</td>
<td>0 or 8</td>
</tr>
<tr>
<td>GATING_RATE_INCL</td>
<td>1</td>
</tr>
<tr>
<td>PILOT_GATING_RATE</td>
<td>0 or 2</td>
</tr>
<tr>
<td>RESERVED</td>
<td>2</td>
</tr>
<tr>
<td>LPM_IND</td>
<td>2</td>
</tr>
<tr>
<td>NUM_LPM_ENTRIES</td>
<td>0 or 4</td>
</tr>
</tbody>
</table>

If LPM_IND = '01', include NUM_LPM_ENTRIES occurrences of the following six-field record:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR_ID</td>
<td>3</td>
</tr>
<tr>
<td>LOGICAL_RESOURCE</td>
<td>4</td>
</tr>
<tr>
<td>PHYSICAL_RESOURCE</td>
<td>4</td>
</tr>
<tr>
<td>FORWARD_FLAG</td>
<td>1</td>
</tr>
<tr>
<td>REVERSE_FLAG</td>
<td>1</td>
</tr>
<tr>
<td>PRIORITY</td>
<td>4</td>
</tr>
</tbody>
</table>
FPC_INCL - Forward power control information included indicator.
The base station shall set this field to ‘1’ if the forward power control information parameters are included in this record; otherwise, it shall set this field to ‘0’.

FPC_PRI_CHAN - Power Control Subchannel indicator.
If the FPC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:
The base station shall set this field to ‘0’ if the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel and the base station is to multiplex the Power Control Subchannel on Forward Fundamental Channel; the base station shall set this field to ‘1’ if the mobile station is to perform the primary inner loop estimation on the received Forward Dedicated Control Channel and the base station is to multiplex the Power Control Subchannel on Forward Dedicated Control Channel.

If only Fundamental Channel is assigned, the base station shall set this field to ‘0’. If only the Dedicated Control Channel is assigned, the base station shall set this field to ‘1’.

FPC_MODE - Forward Power Control operation mode indicator.
If the FPC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:
The base station shall set this field to the value of the forward power control operation mode as specified in [2].

FPC_OLPC_FCH_INCL - Fundamental Channel Outer Loop Power Control parameter included indicator.
If the FPC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:
If the forward link Fundamental Channel outer loop power control parameters are included in this record, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

FPC_FCH_FER - Fundamental Channel target Frame Error Rate.
If FPC_OLPC_FCH_INCL is included and set to ‘1’, the base station shall set this field to the target Frame Error Rate on the Forward Fundamental Channel, as specified in Table 3.7.3.3.2.25-2; otherwise, the base station shall omit this field.

FPC_FCH_MIN_SETPT - Minimum Fundamental Channel Outer Loop Eb/Nt setpoint.
If FPC_OLPC_FCH_INCL is included and set to ‘1’, the base station shall set this field to minimum Fundamental Channel Outer Loop Eb/Nt setpoint, in units of 0.125dB; otherwise, the base station shall omit this field.

FPC_FCH_MAX_SETPT - Maximum Fundamental Channel Outer Loop Eb/Nt setpoint.

If FPC_OLPC_FCH_INCL is set to ‘1’, the base station shall set this field to maximum Fundamental Channel Outer Loop Eb/Nt setpoint, in units of 0.125dB; otherwise, the base station shall omit this field.

FPC_OLPC_DCCH_INCL - Dedicated Control Channel Outer Loop Power Control parameter included indicator.

If the FPC_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall include this field and set it as follows:

If the forward link Dedicated Control Channel outer loop power control parameters are included in this message, the base station shall set this field to ‘1’; otherwise, the base station shall set this field to ‘0’.

FPC_DCCH_FER - Dedicated Control Channel target Frame Error Rate.

If FPC_OLPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to the target Frame Error Rate on the Forward Dedicated Control Channel, as specified in Table 3.7.3.3.2.25-2; otherwise, the base station shall omit this field.

FPC_DCCH_MIN_SETPT - Minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint.

If FPC_OLPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to minimum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125dB; otherwise, the base station shall omit this field.

FPC_DCCH_MAX_SETPT - Maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint.

If FPC_OLPC_DCCH_INCL is included and set to ‘1’, the base station shall set this field to maximum Dedicated Control Channel Outer Loop Eb/Nt setpoint, in units of 0.125dB; otherwise, the base station shall omit this field.

GATING_RATE_INCL - Reverse Pilot Channel Gating rate included flag.

The base station shall set this field to ‘1’ if the PILOT_GATING_RATE field is included; otherwise, it shall set this field to ‘0’.

PILOT_GATING_RATE - Reverse Pilot Channel Gating rate.

If the GATING_RATE_INCL field is set to ‘0’, the base station shall omit this field; otherwise, the base station shall set this field as follows: The base station shall set this field to the PILOT_GATING_RATE field shown in Table 3.7.5.20-1 corresponding to the gating rate on the Reverse Pilot Channel.
Table 3.7.5.20-1. Reverse Pilot Gating rate

<table>
<thead>
<tr>
<th>PILOT_GATING_RATE field (binary)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Gating rate 1</td>
</tr>
<tr>
<td>01</td>
<td>Gating rate ½</td>
</tr>
<tr>
<td>10</td>
<td>Gating rate ¼</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

RESERVED - Reserved bits.
The base station shall set this field to '00'.

LPM_IND - Logical to Physical Mapping indicator.
The base station shall set this field to the LPM_IND field value shown in Table 3.7.5.20-2 corresponding to the Logical to Physical Mapping indicator.

Table 3.7.5.20-2. Logical to Physical Mapping indicator

<table>
<thead>
<tr>
<th>LPM_IND Field (binary)</th>
<th>Logical to Physical Mapping indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Use the default Logic-to-Physical Mapping</td>
</tr>
<tr>
<td>01</td>
<td>Use the Logic-to-Physical Mapping included in this record</td>
</tr>
<tr>
<td>10</td>
<td>Use the previous stored Logic-to-Physical Mapping</td>
</tr>
<tr>
<td>11</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

NUM_LPM_ENTRIES - Number of Logical-to-Physical Mapping entries.
If the LPM IND field is set to ‘01’, the base station shall include this field and set is as follows; otherwise, the base station shall omit this field.
The base station shall set this field to the number of Logical-to-Physical Mapping entries that are included in this record.
If the NUM_LPM_ENTRIES field is included and is not equal to ‘0000’, the base station shall include NUM_LPM_ENTRIES occurrences of the following six-field record for each Logical-to-Physical Mapping entry:

SR_ID - Service reference identifier.
The base station shall set this field to the identifier of the service reference to which this Logical to Physical Mapping entry applies.
LOGICAL_RESOURCE - Logical resource identifier.

The base station shall set this field to the logical resource identifier shown in Table 3.7.5.20-3 which is to be mapped by this Logical to Physical Mapping entry.

<table>
<thead>
<tr>
<th>LOGICAL_RESOURCE (binary)</th>
<th>Logical Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>dtch</td>
</tr>
<tr>
<td>0001</td>
<td>dsch</td>
</tr>
<tr>
<td>0010 – 1111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

PHYSICALRESOURCE - Physical resource identifier.

The base station shall set this field to the physical resource identifier shown in Table 3.7.5.20-4 to which the logical channel specified in this Logical to Physical Mapping entry is to be mapped.

<table>
<thead>
<tr>
<th>PHYSICALRESOURCE (binary)</th>
<th>Physical Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>FCH</td>
</tr>
<tr>
<td>0001</td>
<td>DCCH</td>
</tr>
<tr>
<td>0010</td>
<td>SCH0</td>
</tr>
<tr>
<td>0011</td>
<td>SCH1</td>
</tr>
<tr>
<td>0100 – 1111</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

FORWARD_FLAG - Forward mapping indicator.

The base station shall set this field to ‘1’ if the logical to physical channel mapping specified in this record applies to forward logical channels; otherwise, the base station shall set this field to ‘0’.

REVERSE_FLAG - Reverse mapping indicator.

The base station shall set this field to ‘1’ if the logical to physical channel mapping specified in this record applies to reverse logical channels; otherwise, the base station shall set this field to ‘0’.

PRIORITY - Multiplexing priority.

The base station shall set this field to ‘0000’.

RESERVED - Reserved bits.
The base station shall add reserved bits as needed in order to make the length of the entire message equal to an integer number of octets. The base station shall set these bits to '0'.
1 No text.
1 ANNEX A RESERVED

2
No text.
ANNEX B  CDMA CALL FLOW EXAMPLES

This is an informative annex which contains examples of call flow. The diagrams follow these conventions:

- All messages are received without error
- Receipt of messages is not shown except in the handoff examples
- Acknowledgments are not shown
- Optional authentication procedures are not shown
- Optional private long code transitions are not shown

For the call flow diagrams B-22 through B-27, the following message acronyms will apply:

ERRM: Extended Release Response Message
ERRMM: Extended Release Response Mini Message
RRM: Resource Request Message
RRMM: Resource Request Mini Message
RRRM: Resource Release Request Message
RRRMM: Resource Release Request Mini Message
SCRM: Supplemental Channel Request Message
SCRMM: Supplemental Channel Request Mini Message
ERM: Extended Release Message
ERMM: Extended Release Mini Message
RAM: Resource Allocation Message
RAMM: Resource Allocation Mini Message
UHDM: Universal Handoff Direction Message
ESCAM: Extended Supplemental Channel Assignment Message
FSCAMM: Forward Supplemental Channel Assignment Mini Message
RSCAMM: Reverse Supplemental Channel Assignment Mini Message
HCM: Handoff Complete Message
<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Detects user-initiated call.</td>
<td>• Sets up Traffic Channel.</td>
</tr>
<tr>
<td>• Sends Origination Message.</td>
<td>• Begins sending null Traffic Channel data.</td>
</tr>
<tr>
<td>• Sets up Traffic Channel.</td>
<td>• Sends Channel Assignment Message.</td>
</tr>
<tr>
<td>• Receives N_{5m} consecutive valid frames.</td>
<td>• Acquires the Reverse Traffic Channel.</td>
</tr>
<tr>
<td>• Begins sending the Traffic Channel preamble.</td>
<td>• Sends Base Station Acknowledgment Order.</td>
</tr>
<tr>
<td>• Begins transmitting null Traffic Channel data.</td>
<td>• Sends Service Option Response Order.</td>
</tr>
<tr>
<td>• Begins processing primary traffic in accordance with Service Option 1.</td>
<td>Optional</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>• Sends Origination Continuation Message.</td>
<td>• Sends Alert With Information Message (tones off).</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>• Applies ring back in audio path.</td>
<td>• Sends Alert With Information Message (ring back tone).</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>• Removes ring back from audio path.</td>
<td>• Sends Alert With Information Message (tones off).</td>
</tr>
<tr>
<td>(User conversation)</td>
<td>Optional</td>
</tr>
</tbody>
</table>

**Figure B-1A. Simple Call Flow, Mobile Station Origination Example Using Service Option Negotiation with Service Option 1**
## Figure B-1B. Simple Call Flow, Mobile Station Origination Example Using Service Negotiation with Service Option 1

<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Detects user-initiated call.</td>
<td>• Sets up Traffic Channel.</td>
</tr>
<tr>
<td>• Sends <em>Origination Message</em>.</td>
<td>• Begins sending null Traffic Channel data.</td>
</tr>
<tr>
<td>• Sets up Traffic Channel.</td>
<td>• Sends <em>Channel Assignment Message</em>.</td>
</tr>
<tr>
<td>• Receives N_{5m} consecutive valid frames.</td>
<td>• Acquires the Reverse Traffic Channel.</td>
</tr>
<tr>
<td>• Begins sending the Traffic Channel preamble.</td>
<td>• Sends <em>Base Station Acknowledgment Order</em>.</td>
</tr>
<tr>
<td>• Begins transmitting null Traffic Channel data.</td>
<td>• Sends <em>Service Connect Message</em>.</td>
</tr>
<tr>
<td>• Begins processing primary traffic in accordance with Service Option 1.</td>
<td></td>
</tr>
<tr>
<td>• Sends <em>Service Connect Completion Message</em>.</td>
<td></td>
</tr>
<tr>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>• Sends <em>Origination Continuation Message</em>.</td>
<td>• Sends <em>Alert With Information Message</em> (ring back tone).</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>• Applies ring back in audio path.</td>
<td>• Sends <em>Alert With Information Message</em> (tones off).</td>
</tr>
<tr>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>• Removes ring back from audio path.</td>
<td></td>
</tr>
</tbody>
</table>

*(User conversation)*

| Optional                                                                       |                                                                              |
| • Sends *Alert With Information Message* (ring back tone).                    |                                                                              |
| Optional                                                                       |                                                                              |
| • Sends *Alert With Information Message* (tones off).                         |                                                                              |
### Mobile Station

- Sends *Page Response Message*.
- Sets up Traffic Channel.
- Receives N<sub>5m</sub> consecutive valid frames.
- Begins sending the Traffic Channel preamble.
- Begins transmitting null Traffic Channel data.
- Begins processing primary traffic in accordance with Service Option 1.
- Starts ringing.

- User answers call.
- Stops ringing.
- Sends *Connect Order*.
- Begins sending primary traffic packets from the Service Option 1 application.

*(User conversation)*

### Base Station

- Sends *General Page Message*.
- Sets up Traffic Channel.
- Begins sending null Traffic Channel data.
- Sends *Channel Assignment Message*.

- Acquires the Reverse Traffic Channel.
- Sends *Base Station Acknowledgment Order*.
- Sends *Service Option Response Order*.

- Sends *Alert With Information Message* (ring).

*(User conversation)*

---

**Figure B-2A. Simple Call Flow, Mobile Station Termination Example Using Service Option Negotiation with Service Option 1**
### Mobile Station

- Sends Page Response Message.
- Sets up Traffic Channel.
- Receives $N_{5m}$ consecutive valid frames.
- Begins sending the Traffic Channel preamble.
- Begins transmitting null Traffic Channel data.
- Begins processing primary traffic in accordance with Service Option 1.
- Sends Service Connect Completion Message.
- Starts ringing.
- User answers call.
- Stops ringing.
- Sends Connect Order.
- Begins sending primary traffic packets from the Service Option 1 application.

(User conversation)

### Base Station

- Sends General Page Message.
- Sets up Traffic Channel.
- Begins sending null Traffic Channel data.
- Sends Channel Assignment Message.
- Acquires the Reverse Traffic Channel.
- Sends Base Station Acknowledgment Order.
- Sends Service Connect Message.
- Sends Alert With Information Message (ring).

- Sends Service Connect Completion Message.
- Starts sending Primary Traffic Channel data.

(User conversation)

---

**Figure B-2B. Simple Call Flow, Mobile Station Termination Example Using Service Negotiation with Service Option 1**
Mobile Station

- Detects user-initiated disconnect.
- Sends Release Order.
- Enters the System Determination Substate of the Mobile Station Initialization State.

Base Station

> Reverse Traffic Channel

< Forward Traffic Channel

- Sends Release Order.

Figure B-3. Simple Call Flow, Mobile Station Initiated Call Disconnect Example

Mobile Station

- Sends Release Order.
- Enters the System Determination Substate of the Mobile Station Initialization State.

Base Station

< Forward Traffic Channel

> Reverse Traffic Channel

- Detects call disconnect.
- Sends Release Order.

Figure B-4. Simple Call Flow, Base Station Initiated Call Disconnect Example
**Mobile Station**

- Detects request for third party to be added to conversation.
- Sends *Flash With Information Message* (dialed digits).

**Base Station**

- MSC mutes speech.

Optional
- Applies ring back in audio path.

Optional
- Removes ring back tone from audio path.

**Figure B-5. Simple Call Flow, Three-Party Calling Example**

---

**Mobile Station**

**(User conversation)**

- Detects user request to establish three-way conversation.
- Sends *Flash With Information Message*.

**(Three-way conversation)**

**Base Station**

**(User conversation)**

- MSC reconnects original party.

**(Three-way conversation)**
### Mobile Station

<table>
<thead>
<tr>
<th>(User conversation with first party)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional</td>
</tr>
<tr>
<td>• Applies call waiting tone in audio path.</td>
</tr>
<tr>
<td>• Detects user request to change parties.</td>
</tr>
<tr>
<td>• Sends <strong>Flash With Information Message</strong>.</td>
</tr>
<tr>
<td>(User conversation with second party; first party held)</td>
</tr>
<tr>
<td>• Detects user request to change parties.</td>
</tr>
<tr>
<td>• Sends <strong>Flash With Information Message</strong>.</td>
</tr>
<tr>
<td>(User conversation with first party; second party held)</td>
</tr>
</tbody>
</table>

### Base Station

<table>
<thead>
<tr>
<th>(User conversation with first party)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional</td>
</tr>
<tr>
<td>• Detects incoming call.</td>
</tr>
<tr>
<td>• Sends <strong>Alert or Flash With Information Message</strong> (call waiting tone).</td>
</tr>
<tr>
<td>(User conversation with second party; first party held)</td>
</tr>
<tr>
<td>• MSC mutes speech path to first party, connects second party.</td>
</tr>
<tr>
<td>(User conversation with first party; second party held)</td>
</tr>
<tr>
<td>• MSC mutes speech path to second party, connects first party.</td>
</tr>
</tbody>
</table>

---

**Figure B-6. Simple Call Flow, Call-Waiting Example**

Figure B-7 illustrates call processing operations during a soft handoff from base station A to base station B. Figure B-8 illustrates call processing operations during a sequential soft handoff in which the mobile station is transferred from a pair of base stations A and B through a pair of base stations B and C to base station C.
**Mobile Station**

(User conversation using A)

- Pilot B strength exceeds T_ADD.
- Sends *Pilot Strength Measurement Message*.
- Receives *Extended Handoff Direction Message*.
- Acquires B; begins using Active Set {A,B}.
- Sends *Handoff Completion Message*.
- Handoff drop timer of pilot A expires.
- Sends *Pilot Strength Measurement Message*.
- Receives *Extended Handoff Direction Message*.
- Stops diversity combining; begins using Active Set {B}.
- Sends *Handoff Completion Message*.

(User conversation using B)

---

**Base Station**

(User conversation using A)

- A receives *Pilot Strength Measurement Message*.
- B begins transmitting traffic on the Forward Traffic Channel and acquires the Reverse Traffic Channel.
- A and B send *Extended Handoff Direction Message* to use A and B.
- A and B receive *Handoff Completion Message*.
- A and B receive *Pilot Strength Measurement Message*.
- A and B send *Extended Handoff Direction Message* to use B only.
- A and B receive *Handoff Completion Message*.
- A stops transmitting on the Forward Traffic Channel and receiving on the Reverse Traffic Channel.

(User conversation using B)

---

**Figure B-7. Call Processing During Soft Handoff**
**Mobile Station**

(User conversation using A and B)
- Handoff drop timer of pilot A expires and pilot C strength exceeds T_ADD.
- Sends *Pilot Strength Measurement Message*.
- Receives *Extended Handoff Direction Message*.
- Stops diversity combining A and B; starts diversity combining B and C.
- Sends *Handoff Completion Message*.

Handoff drop timer of pilot B expires.
- Sends *Pilot Strength Measurement Message*.

(Continued on next page)

**Base Station**

(User conversation using A and B)
- A and B receive *Pilot Strength Measurement Message*, determine that new Active Set should contain B and C.
- C begins transmitting traffic on the Forward Traffic Channel and acquires the Reverse Traffic Channel.
- A, B, and C send *Extended Handoff Direction Message* to use B and C.
- A, B, and C receive *Handoff Completion Message*.
- A stops transmitting on the Forward Traffic Channel and receiving on the Reverse Traffic Channel.
- B and C receive *Pilot Strength Measurement Message*.

(Continued on next page)

**Figure B-8. Call Processing During Sequential Soft Handoff (Part 1 of 2)**
Mobile Station

(Continued from previous page)

- Receives Extended Handoff Direction Message.
- Stops diversity combining; begins using Active Set [C].
- Sends Handoff Completion Message.

(User conversation using C)

<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; Forward Traffic Channel &lt; B and C send Extended Handoff Direction Message to use C only.</td>
<td></td>
</tr>
<tr>
<td>&gt; Reverse Traffic Channel &gt; B and C receive Handoff Completion Message.</td>
<td></td>
</tr>
<tr>
<td>B stops transmitting on the Forward Traffic Channel and receiving on the Reverse Traffic Channel.</td>
<td></td>
</tr>
</tbody>
</table>

(User conversation using C)

Figure B-8. Call Processing During Sequential Soft Handoff (Part 2 of 2)
**Mobile Station**

- User initiates priority call.
- Sends *Origination Message*.
- Indicates to user that priority call has been queued as a PACA call, and indicates queue position.
- Uses non-slotted mode operation while waiting for channel assignment.
- Indicates updated queue position to user.
- Sends *Origination Message* again.
- Indicates to user that PACA call is proceeding, sets up Traffic Channel.
- Receives N₅m consecutive valid frames.
- Begins sending Traffic Channel preamble.
- Begins transmitting null Traffic Channel data.
- Begins processing primary traffic in accordance with Service Option 1.
- Sends *Service Connect Completion Message*.

<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Access Channel &gt;</td>
<td>• Determines that no Traffic Channels are available and that call is a priority call.</td>
</tr>
<tr>
<td>&lt; Paging Channel &lt;</td>
<td>• Sends <em>PACA Message</em> to inform user that priority call has been queued as a PACA call, and to indicate queue position.</td>
</tr>
<tr>
<td>&lt; Paging Channel &lt;</td>
<td>• Sends <em>PACA Message</em> periodically to update PACA call queue position.</td>
</tr>
<tr>
<td>&lt; Paging Channel &lt;</td>
<td>• Sends <em>PACA Message</em> to instruct mobile station to re-originate PACA call.</td>
</tr>
<tr>
<td>&gt; Access Channel &gt;</td>
<td>• Sets up Traffic Channel.</td>
</tr>
<tr>
<td>&lt; Paging Channel &lt;</td>
<td>• Sends <em>Channel Assignment Message</em>.</td>
</tr>
<tr>
<td>&lt; Forward Traffic Channel</td>
<td>• Acquires the Reverse Traffic Channel.</td>
</tr>
<tr>
<td>&lt; Forward Traffic Channel</td>
<td>• Sends <em>Base Station Acknowledgment Order</em>.</td>
</tr>
<tr>
<td>&gt; Reverse Traffic Channel &gt;</td>
<td>• Sends <em>Service Connect Message</em>.</td>
</tr>
</tbody>
</table>

(Continued on next page)
### Mobile Station

<table>
<thead>
<tr>
<th>Optional</th>
<th>&gt; Reverse Traffic Channel</th>
<th>Optional</th>
<th>&gt; Reverse Traffic Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sends Origination Continuation Message.</td>
<td>&gt; Reverse Traffic Channel</td>
<td>• Sends Alert With Information Message (distinct PACA alert).</td>
<td></td>
</tr>
<tr>
<td>• Alerts user with distinct PACA alert.</td>
<td>&gt; Reverse Traffic Channel</td>
<td>• Dials out PACA call.</td>
<td></td>
</tr>
<tr>
<td>• User answers call.</td>
<td>&lt; Forward Traffic Channel</td>
<td>Optional</td>
<td>• Sends Alert With Information Message (ring back tone).</td>
</tr>
<tr>
<td>• Stops alerting.</td>
<td>&lt; Forward Traffic Channel</td>
<td>Optional</td>
<td>• Sends Alert With Information Message (tones off).</td>
</tr>
<tr>
<td>• Sends Connect Order.</td>
<td>&lt; Forward Traffic Channel</td>
<td>Optional</td>
<td>&lt; Forward Traffic Channel</td>
</tr>
</tbody>
</table>

**Optional**
- Applies ring back in audio path.

**Optional**
- Removes ring back from audio path.

*Figure B-9. PACA Call Processing (Part 2 of 2)*

---

Figure B-10 illustrates call processing operations for failure recovery for hard handoff on the same frequency. Figure B-11 illustrates call flow for failure recovery for inter-frequency handoff when the mobile station does not search the Candidate Frequency. Figures B-12 and B-13 show the call flow for mobile-assisted inter-frequency handoff (handoff preceded by searching of the Candidate Frequency Search Set by the mobile station), where the search is started by using the *Candidate Frequency Search Control Message*. Figures B-14 and B-15 illustrate call flow for inter-frequency handoff when failure recovery also includes searching the Candidate Frequency Search Set. In the periodic search examples (Figures B-13 and B-15), it is assumed that the mobile station performs a search of the Candidate Frequency Search Set in a single visit to the Candidate Frequency. Figures B-16 and B-17 illustrate the interaction of inter-frequency handoff operations with an ongoing periodic search of the Candidate Frequency Search Set.
**Mobile Station**

(Serving Frequency = F1)

- Receives General Handoff Direction Message. Saves current configuration. Discontinues use of serving Active Set.
- Attempts to hand off to target Active Set.
  *(Handoff attempt fails)*
- Restores old configuration. Resumes use of serving Active Set.
- Sends Candidate Frequency Search Report Message reporting pilots in target Active Set.
  *(Continues communication using serving Active Set)*

**Base Station**

(Serving Frequency = F1)

(Decides to hand off mobile station to new Active Set)

(Starts transmitting on Forward Traffic Channel corresponding to target Active Set)

- Sends General Handoff Direction Message
  (target Active Set disjoint from serving Active Set; RETURN_IF_HO_FAIL = ‘1’; Target Frequency = F1).
  *(Maintains Forward and Reverse Traffic Channels corresponding to serving Active Set)*

< Forward Traffic Channel

- Sends General Handoff Direction Message

> Reverse Traffic Channel

  *(Discontinues use of target Active Set)*

(Continues communication using serving Active Set)

**Figure B-10. Call Flow for Same Frequency Hard Handoff Failure Recovery**
**Mobile Station**

<table>
<thead>
<tr>
<th>(Serving Frequency = F1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Candidate Frequency Search Set is empty)</td>
</tr>
</tbody>
</table>
| - Receives General Handoff Direction Message.  
Saves current configuration.  
Discontinues use of serving Active Set. |
| - Tunes to F2.  
Attempts to hand off to target Active Set.  
(Handoff attempt fails) |
| - Re-tunes to F1.  
Restores old configuration.  
Resumes use of serving Active Set. |
| - Sends Candidate Frequency Search Report Message  
reporting pilots in target Active Set. |
| (Continues communication on F1) |

**Base Station**

<table>
<thead>
<tr>
<th>(Serving Frequency = F1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Decides to hand off mobile station to Active Set on F2)</td>
</tr>
<tr>
<td>(Starts transmitting on Forward Traffic Channel on F2)</td>
</tr>
</tbody>
</table>
| - Sends General Handoff Direction Message  
(target Active Set: RETURN_IF_HO_FAIL = ‘1’;  
Target Frequency = F2).  
(Maintains Forward and Reverse Traffic Channels on F1) |
| (Discontinues use of Active Set on F2) |
| (Continues communication on F1) |

**Figure B-11. Call Flow for Inter-Frequency Hard Handoff Failure Recovery without Search**
### Mobile Station

(Serving Frequency = F1)

- Receives Candidate Frequency Search Request Message.
- Computes search time for Candidate Frequency Search Set.
- Sends Candidate Frequency Search Response Message.
- Receives Candidate Frequency Search Control Message.
- Saves current configuration. Discontinues use of serving Active Set.
- Tunes to F2.
- Searches pilots in Candidate Frequency Search Set.
- Re-tunes to F1. Restores old configuration. Resumes use of serving Active Set.
- Sends Candidate Frequency Search Report Message reporting pilots in Candidate Frequency Search Set above CF_T_ADD.

(Continues communication on F1)

(Continued on next page)

### Base Station

(Serving Frequency = F1)

- Sends Candidate Frequency Search Request Message (non-empty Search Set; Candidate Frequency = F2).
- Receives Candidate Frequency Search Response Message.
  (Decides to initiate single search)
- Sends Candidate Frequency Search Control Message
  (perform single search; Candidate Frequency = F2).

(Continues communication on F1)

(Continued on next page)

---

**Figure B-12. Call Flow for Inter-Frequency Handoff (Single Search Using Candidate Frequency Search Control Message) (Part 1 of 2)**
Mobile Station

(Continued from previous page)

- Receives General Handoff Direction Message. Saves current configuration. Discontinues use of serving Active Set.
- Tunes to F2. Attempts to hand off to target Active Set.
  (Handoff attempt succeeds)
  (Starts transmitting on Reverse Traffic Channel on F2)
- Sends Handoff Completion Message.

(Continues communication on F2)

Base Station

(Continued from previous page)

- Sends General Handoff Direction Message
  (RETURN_IF_HO_FAIL = '1'; Target Frequency = F2).
- Maintains Forward and Reverse Traffic Channels on F1

(Starts receiving on Reverse Traffic Channel on F2)
- Receives Handoff Completion Message.
  (Discontinues use of Active Set on F1)
- Continues communication on F2

Figure B-12. Call Flow for Inter-Frequency Handoff (Single Search Using Candidate Frequency Search Control Message) (Part 2 of 2)
**Mobile Station**

*(Serving Frequency = F1)*
- Receives *Candidate Frequency Search Request Message*.
- Computes search time for Candidate Frequency Search Set.
  Sends *Candidate Frequency Search Response Message*.

*(Periodic search timer running)*

- Receives *Candidate Frequency Search Control Message*.
  Initializes and enables periodic search timer.

**Base Station**

*(Serving Frequency = F1)*
- Sends *Candidate Frequency Search Request Message* (non-empty Search Set; Candidate Frequency = F2).
- Receives *Candidate Frequency Search Response Message*.
  *(Decides to initiate periodic search)*
- Sends *Candidate Frequency Search Control Message* (start periodic search; Candidate Frequency = F2).

---

Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 1 of 3)
<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Continued from previous page)</em></td>
<td><em>(Continued from previous page)</em></td>
</tr>
<tr>
<td>− Re-tunes to F1. Restores old configuration. Resumes use of serving Active Set.</td>
<td>&gt; Reverse Traffic Channel on F1</td>
</tr>
<tr>
<td>− Sends <em>Candidate Frequency Search Report Message</em> reporting pilots in Candidate Frequency Search Set above CF_T_ADD.</td>
<td><em>(Continues communication on F1)</em></td>
</tr>
<tr>
<td><em>(Continues communication on F1)</em></td>
<td><em>(Continues communication on F1)</em></td>
</tr>
<tr>
<td><em>(Periodic search timer expires)</em></td>
<td><em>(Continues periodic search on F2 by repeating the search described above, once every search period)</em></td>
</tr>
<tr>
<td>• Initializes and enables periodic search timer.</td>
<td><em>(Decides to hand off mobile station to Active Set on F2)</em></td>
</tr>
<tr>
<td><em>(Continued on next page)</em></td>
<td><em>(Starts transmitting on Forward Traffic Channel on F2)</em></td>
</tr>
</tbody>
</table>

*Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 2 of 3)*
<table>
<thead>
<tr>
<th><strong>Mobile Station</strong></th>
<th><strong>Base Station</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Continued from previous page)</td>
<td>(Continued from previous page)</td>
</tr>
<tr>
<td>• Receives General Handoff Direction Message. Disables periodic search timer. Saves current configuration. Discontinues use of serving Active Set.</td>
<td>• Sends General Handoff Direction Message (RETURN_IF_HO_FAIL = ‘1’; Target Frequency = F2). (Maintains Forward and Reverse Traffic Channels on F1)</td>
</tr>
<tr>
<td>• Tunes to F2. Attempts to hand off to target Active Set. (Handoff attempt succeeds) (Starts transmitting on Reverse Traffic Channel on F2)</td>
<td>(Starts receiving on Reverse Traffic Channel on F2)</td>
</tr>
<tr>
<td>• Sends Handoff Completion Message. (Continues communication on F2)</td>
<td>• Receives Handoff Completion Message. (Discontinues use of Active Set on F1) (Continues communication on F2)</td>
</tr>
<tr>
<td>&gt; Reverse Traffic Channel on F2</td>
<td>&gt; Reverse Traffic Channel on F2</td>
</tr>
</tbody>
</table>

Figure B-13. Call Flow for Inter-Frequency Handoff (Periodic Search Using Candidate Frequency Search Control Message) (Part 3 of 3)
Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 1 of 3)
Mobile Station

(Continued from previous page)

- Re-tunes to F1. Restores old configuration. Resumes use of serving Active Set.
- Sends Candidate Frequency Search Report Message reporting pilots in target Active Set and pilots in Candidate Frequency Search Set above CF_T_ADD.

(Continues communication on F1)

- Saves current configuration. Discontinues use of serving Active Set.
- Tunes to F2. Attempts to hand off to target Active Set. (Handoff attempt succeeds)

(Continued on next page)

Base Station

(Continued from previous page)

> Reverse Traffic Channel on F1

- (Discontinues use of Active Set on F2)

(Continues communication on F1)

(Decides to hand off mobile station to new Active Set on F2)
(Starts transmitting on Forward Traffic Channel on F2)

< Forward Traffic Channel on F1

- Sends General Handoff Direction Message (new target Active Set; RETURN_IF_HO_FAIL = ‘1’; Target Frequency = F2).
- (Maintains Forward and Reverse Traffic Channels on F1)

(Continued on next page)

Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 2 of 3)
Figure B-14. Call Flow for Inter-Frequency Handoff (Single Search Using General Handoff Direction Message) (Part 3 of 3)
### Mobile Station

**(Serving Frequency = F1)**

- Receives *Candidate Frequency Search Request Message*.
- Computes search time for Candidate Frequency Search Set.
  
  Sends *Candidate Frequency Search Response Message*.
- Receives *General Handoff Direction Message*.  
  Saves current configuration. Discontinues use of serving Active Set.
- Tunes to F2. Attempts to hand off to target Active Set.  
  *(Handoff attempt fails)*
- Searches pilots in Candidate Frequency Search Set.
- Re-tunes to F1. Restores old configuration. Resumes use of serving Active Set.

*(Continued on next page)*

### Base Station

**(Serving Frequency = F1)**

- Sends *Candidate Frequency Search Request Message*  
  (non-empty Search Set; Candidate Frequency = F2).
- Receives *Candidate Frequency Search Response Message*.  
  *(Decides to hand off mobile station to Active Set on F2)*
  *(Starts transmitting on Forward Traffic Channel on F2)*
- Sends *General Handoff Direction Message*  
  (target Active Set; RETURN_IF_HO_FAIL = ‘1’; PERIODIC_SEARCH = ‘1’; Target Frequency = F2).
  *(Maintains Forward and Reverse Traffic Channels on F1)*

*(Continued on next page)*

---

**Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 1 of 4)**
**Mobile Station**

(Continued from previous page)

- Sends *Candidate Frequency Search Report Message* reporting pilots in target Active Set and pilots in Candidate Frequency Search Set above CF_T_ADD.
- Initializes and enables periodic search timer.

(Continues communication on F1)

(Periodic search timer running)

- Performs a search of Candidate Frequency Search Set by executing the following actions before periodic search timer expires:
  - Saves current configuration. Discontinues use of serving Active Set.
  - Tunes to F2.
  - Searches pilots in Candidate Frequency Search Set.
  - Re-tunes to F1. Restores old configuration. Resumes use of serving Active Set.

(Continued on next page)

**Base Station**

(Continued from previous page)

- Reverse Traffic Channel on F1

(Continues communication on F1)

(Discontinues use of Active Set on F2)

(Continued on next page)

---

**Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 2 of 4)**
Mobile Station

(Continued from previous page)

- Sends Candidate Frequency Search Report Message reporting pilots in Candidate Frequency Search Set above CF_T_ADD.

(Continues communication on F1)

(Periodic search timer expires)

- Initializes and enables periodic search timer.

(Continues periodic search on F2 by repeating the search described above, once every search period)

- Receives General Handoff Direction Message.
  Disables periodic search timer.
  Saves current configuration.
  Discontinues use of serving Active Set.

- Tunes to F2.
  Attempts to hand off to target Active Set.

(Continued on next page)

Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 3 of 4)

Base Station

(Continued from previous page)

> Reverse Traffic Channel on F1


(Continues communication on F1)

(Decides to hand off mobile station to new Active Set on F2)

(Starts transmitting on Forward Traffic Channel on F2)

- Sends General Handoff Direction Message
  (new target Active Set; RETURN_IF_HO_FAIL = ‘1’; Target Frequency = F2).

(Maintains Forward and Reverse Traffic Channels on F1)

(Continued on next page)
Figure B-15. Call Flow for Inter-Frequency Handoff (Periodic Search Using General Handoff Direction Message) (Part 4 of 4)
**Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 1 of 3)**
### Mobile Station

(Continued from previous page)

- Receives General Handoff Direction Message.
- Disables periodic search timer.
- Saves current configuration.
- Discontinues use of serving Active Set.

- Tunes to F3.
- Attempts to hand off to target Active Set.

(Handoff attempt fails)

- Re-tunes to F1.
- Restores old configuration.
- Resumes use of serving Active Set.
- Initializes and enables periodic search timer.

(Continued on next page)

### Base Station

(Continued from previous page)

- Sends General Handoff Direction Message
  - (target Active Set;
    RETURN_IF_HO_FAIL = '1';
    PERIODIC_SEARCH = '1';
    Target Frequency = F3).

(Continues on next page)

---

Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 2 of 3)
**Mobile Station**

(Continued from previous page)

- Sends Candidate Frequency Search Report Message reporting pilots in target Active Set.

(Continues communication on F1)

(Performs periodic search on F2)

(Continues communication on F1)

**Base Station**

(Continued from previous page)


(Discontinues use of Active Set on F3)

(Continues communication on F1)

---

**Figure B-16. Call Flow for Periodic Search on F2 from F1, Failed Handoff Attempt to F3, Continued Periodic Search of F2 from F1 (Part 3 of 3)**
**Mobile Station**

\[(\text{Serving Frequency} = F1)\]

- Receives Candidate Frequency Search Request Message.
- Computes search time for Candidate Frequency Search Set.
  Sends Candidate Frequency Search Response Message.
- Receives Candidate Frequency Search Control Message.
  Initializes and enables periodic search timer.
  (Performs periodic search on F2)
- Receives General Handoff Direction Message.
  Disables periodic search timer.
  Saves current configuration.
  Discontinues use of serving Active Set.

**Base Station**

\[(\text{Serving Frequency} = F1)\]

- Sends Candidate Frequency Search Request Message (non-empty Search Set; Candidate Frequency = F2).
- Receives Candidate Frequency Search Response Message.
  (Decides to initiate periodic search)
- Sends Candidate Frequency Search Control Message (start periodic search; Candidate Frequency = F2).
  (Decides to hand off mobile station to Active Set on F3)
  (Starts transmitting on Forward Traffic Channel on F3)
- Sends General Handoff Direction Message
  (target Active Set; RETURN_IF_HO_FAIL = ‘1’; PERIODIC_SEARCH = ‘1’; Target Frequency = F3).
  (Maintains Forward and Reverse Traffic Channels on F1)

(Continued on next page)

---

**Figure B-17. Call Flow for Periodic Search on F2 from F1, Successful Handoff to F3, Continued Periodic Search on F2 from F3 (Part 1 of 2)**
Mobile Station

(Continued from previous page)

- Tunes to F3.
  Attempts to hand off to target
  Active Set.

(Handoff attempt succeeds)

(Starts transmitting on Reverse
Traffic Channel on F3)

- Sends Handoff Completion
  Message.
  Initializes and enables
  periodic search timer.

(Continues communication
on F3)

- Reverse Traffic
  Channel on F3

(Performs periodic search
on F2)

- Reverse Traffic
  Channel on F3

(Continues communication
on F3)

---

Base Station

(Continued from previous page)

(Starts receiving on Reverse
Traffic Channel on F3)

- Receives Handoff Completion
  Message.

(Discontinues use of Active Set
on F1)

(Continues communication
on F3)

---

**Figure B-17. Call Flow for Periodic Search on F2 from F1, Successful Handoff

to F3, Continued Periodic Search on F2 from F3 (Part 2 of 2)**
Mobile Station

- Packet arrives.
- Sends *Origination Message* with “High Speed Packet Service Option.”
- Sets up Traffic Channel.
- Receives N₅ₘ consecutive valid frames.
- Begins sending the Traffic Channel preamble.
- Begins transmitting null Traffic Channel data.
- Sends *Service Request Message* (FOR_MUX_OPTION and REV_MUX_OPTION indicates max number of Supplemental Code Channels).
- Begins processing primary traffic in accordance with Service Option n.
- Sends *Service Connect Completion Message*.
- Sends packet.

Base Station

- Sets up Traffic Channel.
- Begins sending null Traffic Channel data.
- Sends *Channel Assignment Message* (GRANTED_MODE = ‘01’).
- Acquires the Reverse Traffic Channel.
- Sends *Base Station Acknowledgment Order*.
- Sends *Service Connect Message*.
- Sends packet.

*(Continued on next page)*

**Figure B-18. Simple Call Flow Mobile Station Origination Example with Transmission on Forward Supplemental Code Channels (Part 1 of 2)**
Mobile Station

(Continued from previous page)

- Base station decides that it requires to change the number of Supplemental Channels (e.g., it has a “large” packet to send).
- Send Supplemental Channel Assignment Message.
- Begin transmitting on the Supplemental Code Channels for the duration specified in Supplemental Channel Assignment Message.

Base Station

(Continued from previous page)

<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>(User traffic)</td>
<td>(User traffic)</td>
</tr>
<tr>
<td>&lt; Forward Fundamental Channel</td>
<td>&lt; Send Supplemental Channel Assignment Message.</td>
</tr>
<tr>
<td>&lt; Forward Fundamental and Supplemental Code Channels</td>
<td></td>
</tr>
</tbody>
</table>

Figure B-18. Simple Call Flow Mobile Station Origination Example with Transmission on Forward Supplemental Code Channels (Part 2 of 2)
**Mobile Station**

- Packet arrives.
- Sends *Origination Message* with “High Speed Packet Service Option.”
- Sets up Traffic Channel.
- Receives $N_{5m}$ consecutive valid frames.
- Begins sending the Traffic Channel preamble.
- Begins transmitting null Traffic Channel data.
- Sends *Service Request Message* (FOR_MUX_OPTION and REV_MUX_OPTION indicates max number of Supplemental Code Channels).
- Begins processing primary traffic in accordance with Service Option n.
- Sends *Service Connect Completion Message*.
- Sends packet.

**Base Station**

- Sets up Traffic Channel.
- Begins sending null Traffic Channel data.
- Sends *Channel Assignment Message* (GRANTED_MODE = ‘01’).
- Acquires the Reverse Traffic Channel.
- Sends *Base Station Acknowledgment Order*.
- Sends *Service Connect Message*.
- Sends packet.

- Sends packet.

*(Continued on next page)*

---

**Figure B-19. Simple Call Flow Mobile Station Origination Example with Transmission on Reverse Supplemental Code Channels (Part 1 of 2)**
Mobile Station

(Continued from previous page)

- Mobile station has a "large" packet to send.
- Continue transmitting on the Fundamental Channel.
- Sends Supplemental Channel Request Message.
- Begins transmitting on the Reverse Supplemental Code Channels.

(Base Station)

(User traffic)

Base Station

(Continued from previous page)

> Reverse Fundamental Channel
> Reverse Fundamental Channel
< Forward Fundamental Channel
< Reverse Fundamental & Supplemental Code Channels

(Continued from previous page)

> Reverse Fundamental Channel
> Reverse Fundamental Channel
< Forward Fundamental Channel
< Reverse Fundamental & Supplemental Code Channels

(User traffic)

Figure B-19. Simple Call Flow Mobile Station Origination Example with Transmission on Reverse Supplemental Code Channels (Part 2 of 2)
<table>
<thead>
<tr>
<th><strong>Mobile Station</strong></th>
<th><strong>Base Station</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets up Traffic Channel.</td>
<td>Sends General Page Message with “High Speed Packet Service Option.”</td>
</tr>
<tr>
<td>Receives N_{5m} consecutive valid frames.</td>
<td>Sets up Traffic Channel</td>
</tr>
<tr>
<td>Begins sending the Traffic Channel preamble.</td>
<td>Begins sending null Traffic Channel data.</td>
</tr>
<tr>
<td>Begins transmitting null Traffic Channel data.</td>
<td>Sends Extended Channel Assignment Message (GRANTED_MODE = '00').</td>
</tr>
<tr>
<td>Processes Service Request Message.</td>
<td>Acquires the Reverse Fundamental Channel.</td>
</tr>
<tr>
<td>(Continued on next page)</td>
<td>Sends Base Station Acknowledgment Order.</td>
</tr>
<tr>
<td>(Continued on next page)</td>
<td>Sends Service Request Message (FOR_MUX_OPTION and REV_MUX_OPTION indicates the maximum number of Supplemental Forward and Reverse Code Channels).</td>
</tr>
</tbody>
</table>

**Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 1 of 3)**
<table>
<thead>
<tr>
<th><strong>Mobile Station</strong></th>
<th><strong>Base Station</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Continued from previous page)</strong></td>
<td><strong>(Continued from previous page)</strong></td>
</tr>
<tr>
<td>• Sends Service Response Message to accept Service Option with FOR_MUX_OPTION and REV_MUX_OPTION to indicate the maximum number of Supplemental Forward and Reverse Code Channels supported by the mobile station.</td>
<td></td>
</tr>
<tr>
<td>• Begins processing primary traffic in accordance with Service Option and multiplex option.</td>
<td></td>
</tr>
<tr>
<td>• Sends Service Connect Completion Message.</td>
<td></td>
</tr>
<tr>
<td>• Sends packet, if any, on the Fundamental Channel.</td>
<td></td>
</tr>
<tr>
<td>(Continued on next page)</td>
<td>(Continued on next page)</td>
</tr>
</tbody>
</table>

**Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 2 of 3)**
<table>
<thead>
<tr>
<th>Mobile Station</th>
<th>Base Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Continued from previous page)</td>
<td>(Continued from previous page)</td>
</tr>
<tr>
<td>• Begins processing packet data received from Forward Fundamental and Supplemental Code Channel(s).</td>
<td>• Base station decides that it requires to use Supplemental Channels to send a “large” packet.</td>
</tr>
<tr>
<td></td>
<td>• Sends <em>Supplemental Channel Assignment Message</em>.</td>
</tr>
<tr>
<td></td>
<td>• Begins transmitting on the Supplemental Code Channel(s) for the duration specified in <em>Supplemental Channel Assignment Message</em>.</td>
</tr>
<tr>
<td>(User traffic)</td>
<td>(User traffic)</td>
</tr>
</tbody>
</table>

**Figure B-20. Simple Call Flow, Mobile Station Termination Example with Transmission on Forward Supplemental Code Channel(s) (Part 3 of 3)**
Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 1 of 3)
**Mobile Station**

(Continued from previous page)

- Sends *Service Response Message* to accept Service Option, with FOR_MUX_OPTION and REV_MUX_OPTION to indicate the maximum number of Supplemental Code Channels supported by the mobile station.

- Begins processing primary traffic in accordance with the service configuration.

- Sends *Service Connect Completion Message*.

- Sends packet data.

- Mobile station has a “large” packet to send, so begins transmitting packet.

(Continued on next page)

**Base Station**

(Continued from previous page)

> Reverse Fundamental Channel

> Reverse Fundamental Channel

> Reverse Fundamental Channel

> Reverse Fundamental Channel

< Forward Fundamental Channel

< Forward Fundamental Channel

< Forward Fundamental Channel

> Reverse Fundamental Channel

> Reverse Fundamental Channel

(Continued on next page)

**Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 2 of 3)**
Mobile Station

(Continued from previous page)

• Sends Supplemental Channel Request Message, and continues transmitting on the Reverse Fundamental Channel.

• Begins transmitting on the Reverse Supplemental Code Channel(s), in addition to continuing on the Reverse Fundamental Channel.

(User traffic)

Base Station

(Continued from previous page)

> Reverse Fundamental Channel

< Forward Fundamental Channel

> Reverse Fundamental and Supplemental Code Channels

(User traffic)

> Send Supplemental Channel Assignment Message.

Figure B-21. Simple Call Flow, Mobile Station Termination Example with Transmission on Reverse Supplemental Code Channel(s) (Part 3 of 3)
ERM (CH_IND) / ERMM (CH_IND) / Release Order

ERM / ERRMM / Release Order

MS releases the physical channels

BS releases the physical channels

CH_IND includes all channels currently being processed

Figure B-22. Active/Control Hold to Idle State Transition (BS Initiated)

Figure B-23. Active/Control Hold to Idle State Transition (MS Initiated)
MS stops transmitting/processing on the indicated channels and starts reverse pilot gating at the action time.

CH_IND is a subset of the channels currently being processed.

**Figure B-24. Active to Control Hold Mode Transition (BS Initiated)**

MS stops transmitting/processing on the indicated channels and starts reverse pilot gating at the action time.

CH_IND is a subset of the channels currently being processed.

**Figure B-25. Active to Control Hold Mode Transition (MS Initiated)**
MS starts transmitting/processing on the indicated channels and starts continuous reverse pilot at action time.

**Figure B-26. Control Hold to Active Mode Transition (BS Initiated)**
MS starts transmitting/processing on the indicated channels and starts continuous reverse pilot at the action time.

**Figure B-27. Control Hold to Active Mode Transition (MS Initiated)**
ANNEX C RESERVED
No text.
ANNEX D  CDMA CONSTANTS

Annex D is a normative annex which contains tables that give specific values for the constant identifiers. These identifiers take the forms such as $T_{20m}$ and $N_{5m}$. The subscripted numbers vary to identify the particular constant. Typically the subscripted letter “m” refers to the mobile station and the subscripted letter “b” refers to the base station. The following tables provide values for identifiers given in the text:

Table D-1. Time Limits
Table D-2. Other Constants

Table D-1. Time Limits (Part 1 of 4)

<table>
<thead>
<tr>
<th>Time Limit</th>
<th>Description</th>
<th>Value</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_{5m}$</td>
<td>Limit of the Forward Traffic Channel fade timer</td>
<td>5 s</td>
<td>2.6.4.1.8</td>
</tr>
<tr>
<td>$T_{20m}$</td>
<td>Maximum time to remain in the <strong>Pilot Channel Acquisition Substate</strong> of the <strong>Mobile Station Initialization State</strong></td>
<td>15 s</td>
<td>2.6.1.2</td>
</tr>
<tr>
<td>$T_{21m}$</td>
<td>Maximum time to receive a valid <strong>Sync Channel message</strong></td>
<td>1 s</td>
<td>2.6.1.3</td>
</tr>
<tr>
<td>$T_{30m}$</td>
<td>Maximum time to receive a valid <strong>Paging Channel message</strong></td>
<td>3 s</td>
<td>2.6.2.1.1.1</td>
</tr>
<tr>
<td>$T_{31m}$</td>
<td>Maximum time for which configuration parameters are considered valid</td>
<td>600 s</td>
<td>2.6.2.2</td>
</tr>
<tr>
<td>Time Limit</td>
<td>Description</td>
<td>Value</td>
<td>References</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>T32m</td>
<td>Maximum time to enter the <em>Update Overhead Information Substate</em> of the <em>System Access State</em> to respond to an <em>SSD Update Message, Base Station Challenge Confirmation Order, and Authentication Challenge Message</em></td>
<td>5 s</td>
<td>2.6.2.4, 2.6.4</td>
</tr>
<tr>
<td>T33m</td>
<td>Maximum time to enter the <em>Update Overhead Information Substate</em> of the <em>System Access State</em> (except in response to authentication messages)</td>
<td>0.3 s</td>
<td>2.6.2, 2.6.5.5.2.3</td>
</tr>
<tr>
<td>T34m</td>
<td>Maximum time to enter the <em>Update Overhead Information Substate</em> or the <em>Mobile Station Idle State</em> after receiving a <em>Channel Assignment Message</em> with ASSIGN_MODE_r equal to ‘001’ or ‘101’ or <em>Extended Channel Assignment Message</em> with ASSIGN_MODE_r equal to ‘001’.</td>
<td>3 s</td>
<td>2.6.3.3</td>
</tr>
<tr>
<td>T40m</td>
<td>Maximum time to receive a valid Paging Channel message before aborting an access attempt (see T72m)</td>
<td>3 s</td>
<td>2.6.3.1.8</td>
</tr>
<tr>
<td>T41m</td>
<td>Maximum time to obtain updated overhead messages arriving on the Paging Channel</td>
<td>4 s</td>
<td>2.6.3.2</td>
</tr>
<tr>
<td>T42m</td>
<td>Maximum time to receive a delayed <em>Layer Layer 3</em> response following the receipt of an acknowledgment for an access probe</td>
<td>12 s</td>
<td>2.6.3.1.1.2, 2.6.3.3, 2.6.3.5</td>
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<tr>
<td>T50m</td>
<td>Maximum time to obtain N5m consecutive good Forward Traffic Channel frames when in the <em>Traffic Channel Initialization Substate</em> of the <em>Mobile Station Control on the Traffic Channel State</em></td>
<td>1 s</td>
<td>2.6.4.2</td>
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<tr>
<td>T51m</td>
<td>Maximum time for the mobile station to receive a <em>Base Station Acknowledgment Order</em> after the first occurrence of receiving N5m consecutive good frames when in the <em>Traffic Channel Initialization Substate</em> of the <em>Mobile Station Control on the Traffic Channel State</em></td>
<td>2 s</td>
<td>2.6.4.2</td>
</tr>
<tr>
<td>T52m</td>
<td>Maximum time to receive a message in the <em>Waiting for Order Substate</em> of the <em>Mobile Station Control on the Traffic Channel State</em> that transits the mobile station to a different substate or state</td>
<td>5 s</td>
<td>2.6.4.3.1</td>
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<tr>
<td>Time Limit</td>
<td>Description</td>
<td>Value</td>
<td>References</td>
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<tr>
<td>T53m</td>
<td>Maximum time to receive a message in the Waiting for Mobile Station Answer Substate of the Mobile Station Control on the Traffic Channel State that transits the mobile station to a different substate or state</td>
<td>65 s</td>
<td>2.6.4.3.2</td>
</tr>
<tr>
<td>T54m</td>
<td>Maximum time for the mobile station to send an Origination Continuation Message upon entering the Conversation Substate of the Mobile Station Control on the Traffic Channel State</td>
<td>0.2 s</td>
<td>2.6.4.4</td>
</tr>
<tr>
<td>T55m</td>
<td>Maximum time to receive a message in the Release Substate of the Mobile Station Control on the Traffic Channel State that transits the mobile station to a different substate or state</td>
<td>2 s</td>
<td>2.6.4.5</td>
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<tr>
<td>T56m</td>
<td>Default maximum time to respond to a received message or order on the Forward Traffic Channel</td>
<td>0.2 s</td>
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<td>T57m</td>
<td>Limit of the power-up registration timer</td>
<td>20 s</td>
<td>2.6.5.1.1</td>
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<td>2.6.5.5.1.3</td>
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<tr>
<td>T58m</td>
<td>Maximum time for the mobile station to respond to a service option request</td>
<td>5 s</td>
<td>2.6.4.1.2.2</td>
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<tr>
<td>T59m</td>
<td>Maximum time for the mobile station to respond to a Service Request Message or a Service Response Message</td>
<td>5 s</td>
<td>2.6.4.1.2.2</td>
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<tr>
<td>T60m</td>
<td>Maximum time to execute a hard handoff without return on failure involving a new frequency assignment using the same base station</td>
<td>0.06 s</td>
<td>2.6.6.2.8.1</td>
</tr>
<tr>
<td>T61m</td>
<td>Maximum time to execute a hard handoff without return on failure involving a new frequency assignment using a different base station</td>
<td>0.08 s</td>
<td>2.6.6.2.8.1</td>
</tr>
<tr>
<td>T62m</td>
<td>Maximum time to execute a hard handoff without return on failure involving the same frequency assignment</td>
<td>0.02 s</td>
<td>2.6.6.2.8.1</td>
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<tr>
<td>T63m</td>
<td>Maximum time to execute a CDMA-to-Analog handoff</td>
<td>0.1 s</td>
<td>2.6.6.2.9</td>
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<tr>
<td>T64m</td>
<td>Maximum time to wait for a Base Station Challenge Confirmation Order</td>
<td>10 s</td>
<td>2.3.12.1.5</td>
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<tr>
<td>T65m</td>
<td>Maximum time for the mobile station to wait for a Service Connect Message while the Waiting for Service Connect Message Subfunction is active</td>
<td>5 s</td>
<td>2.6.4.1.2.2.4</td>
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### Table D-1. Time Limits (Part 4 of 4)

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<td>T66m</td>
<td>Maximum time for the mobile station to delete the TMSI after TMSI expiration time has exceeded the System Time</td>
<td>200 s</td>
<td>2.6.2</td>
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<tr>
<td>T68m</td>
<td>Maximum time for the mobile station to wait for a Service Request Message, Service Response Message, or Service Connect Message while the Waiting for Service Request Message Subfunction or Waiting for Service Response Message Subfunction is active</td>
<td>5 s</td>
<td>2.6.4.1.2.2.2, 2.6.4.1.2.2.3</td>
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<td>T69m</td>
<td>Fixed portion of the full-TMSI timer</td>
<td>24 s</td>
<td>2.6.3.1.6</td>
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<tr>
<td>T70m</td>
<td>Maximum time between the mobile station’s obtaining a measurement and sending a Candidate Frequency Search Report Message which contains that measurement</td>
<td>0.8 s</td>
<td>2.6.6.2.8.3, 2.6.6.2.10</td>
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<tr>
<td>T71m</td>
<td>Maximum time for the mobile station to send a Candidate Frequency Search Report Message after completing a search</td>
<td>0.04 s</td>
<td>2.6.6.2.8.3</td>
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<tr>
<td>T72m</td>
<td>Maximum time to receive a valid Paging Channel message before aborting an access attempt, when there exists at least one access handoff candidate pilot for the access attempt (see also T40m)</td>
<td>1 s</td>
<td>2.6.3.1.8</td>
</tr>
<tr>
<td>T73m</td>
<td>Maximum time for the mobile station to send a Handoff Completion Message after the action time of a received handoff message directing the mobile station to perform a hard handoff without return on failure</td>
<td>0.3 s</td>
<td>2.6.6.2.5.2</td>
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<tr>
<td>T74m</td>
<td>Default value of the slotted timer</td>
<td>0.0s</td>
<td>2.6.4.2</td>
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<tr>
<td>T1b</td>
<td>Maximum period between subsequent transmissions of an overhead message on the Paging Channel by the base station</td>
<td>1.28 s</td>
<td>3.6.2.2</td>
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<tr>
<td>T2b</td>
<td>Maximum time for the base station to send a Release Order after receiving a Release Order</td>
<td>0.8 s</td>
<td>3.6.4</td>
</tr>
<tr>
<td>T3b</td>
<td>Minimum time the base station continues to transmit on a code channel after sending or receiving a Release Order</td>
<td>0.3 s</td>
<td>3.6.4.5</td>
</tr>
<tr>
<td>T4b</td>
<td>Maximum time for the base station to respond to a service option request</td>
<td>5 s</td>
<td>3.6.4.1.2.2.1</td>
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### Table D-2. Other Constants

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<td>N2m</td>
<td>Number of received consecutive bad Forward Traffic Channel frames before a mobile station must disable its transmitter</td>
<td>12</td>
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<tr>
<td>N3m</td>
<td>Number of received consecutive good Forward Traffic Channel frames before a mobile station is allowed to re-enable its transmitter after disabling its transmitter</td>
<td>2</td>
<td>2.6.4.1.8</td>
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<tr>
<td>N4m</td>
<td>Reserved</td>
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</tr>
<tr>
<td>N5m</td>
<td>Number of received consecutive good Forward Traffic Channel frames before a mobile station is allowed to enable its transmitter after entering the <em>Traffic Channel Initialization Substate</em> of the <em>Mobile Station Control on the Traffic Channel State</em></td>
<td>2</td>
<td>2.6.4.2</td>
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<tr>
<td>N6m</td>
<td>Supported Traffic Channel Active Set size</td>
<td>6</td>
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<tr>
<td>N7m</td>
<td>Supported Traffic Channel Candidate Set size</td>
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<td>N8m</td>
<td>Minimum supported Neighbor Set size</td>
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<td>3.6.6.2.1.3</td>
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<td>N9m</td>
<td>Minimum supported zone list size</td>
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<td>2.6.5.1.5</td>
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<tr>
<td>N10m</td>
<td>SID/NID list size</td>
<td>4</td>
<td>2.6.5</td>
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<tr>
<td>N11m</td>
<td>The duration, of sufficient signal quality (e.g. good frames), in units of 20 ms, received on the Forward Traffic Channel before a mobile station re-enables its transmitter after disabling its transmitter during a CDMA-to-CDMA Hard Handoff</td>
<td>1</td>
<td>2.6.6.2.8</td>
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<tr>
<td>N12m</td>
<td>Number of frames over which the mobile station maintains a running average of the total received power</td>
<td>10</td>
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<tr>
<td>N13m</td>
<td>Maximum number of pilots reported in an Access Channel message</td>
<td>6</td>
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ANNEX E  CDMA RETRIEVABLE AND SETTABLE PARAMETERS

This is a normative annex which describes the parameters that can be retrieved and set in
the mobile station using the Retrieve Parameters Message, the Parameters Response
Message, and the Set Parameters Message.

PARAMETER_ID values from 0 through 32767 are reserved for definition by this standard
and shall not be defined by mobile station manufacturers. PARAMETER_ID values from
32768 through 65535 may be defined by mobile station manufacturers.
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<tr>
<th>Parameter Identifier</th>
<th>Value of PARAMETER_ID (decimal)</th>
<th>Length (bits) (PARAMETER_LEN is Length - 1)</th>
<th>Support Required? (Y or N)</th>
<th>Settable Parameter? (Y or N)</th>
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Table E-1. Retrievable and Settable Parameters (Part 3 of 10)

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Table E-1. Retrievable and Settable Parameters (Part 4 of 10)

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### Table E-1. Retrievable and Settable Parameters (Part 5 of 10)

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ANNEX F MOBILE STATION DATABASE

F.1 Introduction

This is an informative annex which lists the numeric indicators that are described by this document and stored in the mobile station’s permanent or semi-permanent memory. Some of these indicators are required; other indicators are optional and are so noted.

The indicators are organized in this annex according to two categories:

- Mobile station indicators These indicators are global to the mobile station and independent of the mobile station’s NAMs.
- NAM indicators These indicators specify parameters associated with the mobile station’s NAM.

The description of each indicator below includes the indicator’s name, the number of bits it contains, and the section in this document where it is defined. Permanent indicators are denoted by the “p” subscript; semi-permanent indicators are denoted by the “s-p” subscript.
F.2 Mobile Station Indicators

Mobile station indicators are organized into permanent mobile station indicators and semi-
permanent mobile station indicators.

F.2.1 Permanent Mobile Station Indicators

Permanent mobile station indicators specify physical station configuration and attributes,
-independent of NAM. The indicators are listed in Table F.2.1-1.

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For each band class supported:

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F.2.2 Semi-permanent Mobile Station Indicators

Semi-permanent mobile station indicators are retained when the mobile station power is turned off. These indicators are associated with mobile station registration and lock. They are independent of the NAM in use. CDMA indicators are listed in Table F.2.2-1.

**Table F.2.2-1. CDMA Semi-permanent Mobile Station Indicators**

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F.3 NAM Indicators

Each mobile station contains one or more NAMs. Table F.3-1 lists the permanent and semi-permanent values associated with each NAM.

Table F.3-1. NAM Indicators (Part 1 of 2)

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<td>Where Defined</td>
<td>Notes</td>
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