Interworking and Inter-Technology Handoff for UMB and UTRA/E-UTRA Technologies

Stage 1 Requirements
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REVISION HISTORY

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1 INTRODUCTION AND SCOPE

This document specifies the requirements for Interworking and Inter-
Technology Handoffs between 3GPP2 Ultra Mobile Broadband (UMB) and
access technologies supported on UTRAN (e.g. WCDMA) and EUTRAN
(e.g. LTE)

2 REFERENCES

Unless explicitly stated in the reference, references are to the latest
revision, addendum, version, or date. The document references which
are applicable to this specification include the following:

Interface Specification”

[2] 3GPP: TR 25.913, “Requirements for Evolved UTRA (E-UTRA) and
Evolved UTRAN (E-UTRAN)”

UTRA) and Evolved Universal Terrestrial Radio Access Network (E-
UTRAN); Overall description; Stage 2”

3 DEFINITIONS AND ABBREVIATIONS

The terms and abbreviations which are used within this specification are
defined as follows:
### Abbreviation/Term Description

<table>
<thead>
<tr>
<th>Abbreviation/Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>CS</td>
<td>Circuit-Switched</td>
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<tr>
<td>(E)UTRA(N)</td>
<td>(Evolved) UMTS Terrestrial Radio Access Network (UTRAN)</td>
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<tr>
<td>LTE</td>
<td>Long Term Evolution</td>
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<tr>
<td>UMB</td>
<td>Ultra Mobile Broadband</td>
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<tr>
<td>WCDMA</td>
<td>Wideband Code Division Multiple Access</td>
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<td>HSPA</td>
<td>High-Speed Packet Access</td>
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### GENERAL FEATURE DESCRIPTION

This feature enables interworking and inter-technology handoff between UMB (Ref. [1]) and radio access technologies supported by UTRAN and E-UTRAN (Ref. [2] and [3]). UTRA is also known as WCDMA. E-UTRA is also known as LTE.

### DETAILED REQUIREMENTS

**IT-01:** The system shall support service continuity for real-time (e.g. voice) services from UMB to WCDMA.

**IT-02:** Voice service continuity from UMB to WCDMA shall be provided for both the following handoff scenarios: VoIP on UMB to VoIP on WCDMA; VolP on UMB to CS Voice on WCDMA.

**IT-03:** The system shall support seamless bi-directional service continuity between UMB and LTE for real-time (e.g. voice) and delay-tolerant (e.g. multimedia streaming) services.

**IT-04:** The system shall support seamless bi-directional data service continuity for delay-tolerant applications between UMB and the following UTRA and EUTRA technologies: WCDMA and LTE.

**IT-05:** The above mentioned mobility scenarios shall be applicable for any combination of frequency bands supported by the relevant radio technologies.

**IT-06:** The system shall support each of the required mobility scenarios for dual-mode terminals equipped with a single radio.
IT-07: The inter-technology solution shall not have any impact on legacy UTRA terminals which do not support UMB.

IT-08: The inter-technology interworking solution should not have any adverse impact on the UMB-only or E-UTRA only terminals or networks.

IT-09: During inter-technology handoffs, adverse impact on service quality (e.g. interruption times) should be minimized.