



3RD GENERATION  
PARTNERSHIP  
PROJECT 2  
"3GPP2"

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## ULTRA MOBILE BROADBAND (UMB) SPECIFICATION IS PUBLISHED

*Evolution to UMB Marks World's First IP-based Mobile Broadband Solution to Enable Peak Data Rates of 288 Mbps with Average Latencies below 16 msec*

**COSTA MESA, CALIF. — September 24, 2007** — The CDMA Development Group (CDG) ([www.cdg.org](http://www.cdg.org)) and the Third Generation Partnership Project 2 (3GPP2) ([www.3GPP2.org](http://www.3GPP2.org)) announced today the publication of the **Ultra Mobile Broadband™ (UMB™)** air interface specification – 3GPP2 C.S0084-0 v2.0. It is expected that the UMB specification will be quickly converted into an official global standard by the 3GPP2 organizational partners, which include the Association of Radio Industries and Businesses (ARIB) in Japan, China Communications Standards Association (CCSA), Telecommunications Industry Association (TIA) in North America, Telecommunications Technology Association (TTA) in Korea, and the Telecommunications Technology Committee (TTC) in Japan. TIA plans to designate the UMB standard as TIA-1121. The publication of this specification marks the world's first IP-based mobile broadband standard to enable peak download data rates of **288 Mbps** in a 20 MHz bandwidth, while preserving large economies of scope and scale.

UMB represents a major break-through in next generation mobile broadband services by enabling the transfer of native IP, variable length, data packets at speeds that are orders of magnitude higher than what is commercially available today. It is the latest member

of the family of CDMA2000® standards that was designed from the ground up to improve the overall end user experience and strengthen an operator's earnings potential.

UMB is the leading Orthogonal Frequency Division Multiple Access (OFDMA) solution, using sophisticated control and signaling mechanisms, radio resource management (RRM), adaptive reverse link (RL) interference management, and advanced antenna techniques, such as Multiple Input Multiple Output (MIMO), Space Division Multiple Access (SDMA) and beamforming. The UMB solution universally addresses a large cross-section of advanced mobile broadband services by economically delivering low-rate, low latency voice traffic at one end of the spectrum, just as efficiently as ultra-high-speed, latency insensitive, broadband data traffic at the other. To support ubiquitous and universal access, UMB supports inter-technology hand-offs and seamless operation with existing CDMA2000 1X and 1xEV-DO systems.

Integrating and optimizing these and other advanced radio access techniques into a single, open, global standard represents a major technological break-through within the mobile communications industry. Thus, the UMB solution delivers a compelling user experience based on the strongest performance and economic value proposition available within the wireless industry, including:

- **High-Speed Data:** Peak download and upload speeds of **288 Mbps** and **75 Mbps**, respectively, in a mobile environment with a 20 MHz bandwidth.
- **Increased Data Capacity:** Ability to deliver both high-capacity voice and broadband data in all environments; fixed, pedestrian and fully-mobile in excess of 300 km/hr.
- **Low Latency:** An average latency of **14.3 msec** over-the-air to support VoIP, push-to-talk and other delay sensitive applications with minimal jitter.
- **Increased VoIP Capacity:** Up to **1000** simultaneous Voice over IP (VoIP) users within a single sector, 20 MHz of bandwidth in a mobile environment without degrading concurrent data throughput capacity.
- **Large Coverage:** Large wide area network (WAN) coverage areas equivalent to existing cellular networks; with either ubiquitous coverage for seamless roaming or non-contiguous coverage for hot zone applications.

- **Full Mobility:** Robust mobility support with seamless handoffs inherent in all aspects of the UMB design.
- **Converged Access Network:** Supports the deployment of a Converged Access Network (CAN), which is an advanced IP-based Radio Access Network (RAN) architecture being developed by 3GPP2 to support multiple access technologies and advanced network capabilities, such as enhanced QoS, with fewer network nodes and lower latencies.
- **Multicasting:** Support for high-speed multicast of rich multimedia content.
- **Deployment Flexibility:** Deployable in flexible bandwidth allocations between 1.25 MHz and 20 MHz, using incremental channel bandwidths allocations of around 150 kHz, within the 450 MHz, 700 MHz, 850 MHz, 1700 MHz, 1900 MHz, 1700/2100 MHz (AWS), 1900/2100 MHz (IMT) and 2500 MHz (3G extension) spectrum bands. The IP-based UMB radio access network is also designed to interoperate with legacy circuit-switched networks.
- **Device Availability:** Multi-mode, multi-band UMB devices will leverage the existing 3G CDMA device selection to preserve economies of scale.
- **Strong Ecosystem:** UMB leverages the existing ecosystem of 3G CDMA clients and experienced suppliers to achieve large economies of scope.
- **Time-to-market:** UMB is expected to become commercially available on a global basis in **1H2009**.

The comprehensiveness of the published specification and the above value proposition leverages the large 3GPP2 ecosystem and its economies of scope and scale to enable a substantial economic advantage and sustainable business case for both 2G and 3G operators worldwide. The technology is expected to leapfrog other wireless broadband technologies to become the leading standard adopted for next generation mobile telecommunications.

More information on the UMB air interface specification is available at [www.cdg.org](http://www.cdg.org) and [www.3gpp2.org](http://www.3gpp2.org).

### **About CDG**

The CDMA Development Group is a trade association formed to foster the worldwide development, implementation and use of CDMA2000 technologies. The more than 130

member companies of the CDG include many of the world's largest wireless carriers and equipment manufacturers. The primary activities of the CDG include development of CDMA2000 features and services, public relations, education and seminars, regulatory affairs and international support. Currently, there are more than 500 individuals working within various CDG subcommittees on CDMA2000-related matters. For more information about the CDG, contact the CDG News Bureau at +1-714-540-1030, or visit the CDG Web site at [www.cdg.org](http://www.cdg.org).

### **About 3GPP2**

The Third Generation Partnership Project 2 is a collaborative Third Generation (3G) telecommunications specification-setting project comprising North American and Asian interests. The five Organizational Partners of the Third Generation Partnership Project 2, which are nationally recognized Standards Development Organizations, are: Association of Radio Industries and Businesses (ARIB) – Japan, China Communications Standards Association (CCSA) – China, Telecommunications Industry Association (TIA) – USA, Telecommunications Technology Association (TTA) – Korea, and Telecommunication Technology Committee (TTC) – Japan. For more information about 3GPP2, contact Henry Cuschieri of the 3GPP2 Secretariat at + 1-703-907-7497, e-mail [secretariat@3gpp2.org](mailto:secretariat@3gpp2.org) or visit the 3GPP2 web site at [www.3gpp2.org](http://www.3gpp2.org).

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