

Radiocommunication Study Groups



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English only

Working Party 5D

LS TO EOs ON THE ROADMAP UPDATE

ITU-R WP 5D thanks EOs for their input during the last years that enable the continuous update of the “Roadmap for current work relevant to future updates of Recommendation ITU-R M.1457”.

This is key to allow the development of a coherent work plan for the ongoing development of IMT-2000, in order to facilitate the orderly enhancements of IMT-2000 capabilities.

EOs are reminded that the Roadmap is meant to focus on the work relevant to future updates of Rec. ITU-R M.1457. However, it is the understanding of WP 5D that the current version of the Roadmap (attached) contains also additional elements. Therefore, EOs are kindly invited to provide input to WP 5D toward an update of the Roadmap in line with its objective.

Dates of next ITU-R WP 5D meetings:

No	START	STOP
5	2009-06-10	2009-06-17
6	2009-10-14	2009-10-21

Attachment: Document 5D/327 (Attachment 6.11)

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ATTACHMENT 6.11

Source: Document 5D/327, Attachment 6.11

Roadmap for current work relevant to future updates of Recommendation ITU-R M.1457

1 IMT-2000 CDMA direct spread

Information on the Roadmap for IMT-2000 CDMA DS, with reference to the main technical improvements.

– Radio interface

It includes:

- UMTS in 1 500 MHz bands.
- UMTS in 700 MHz bands.
- UMTS in 2 300 MHz bands.
- UMTS in 3 500 MHz bands.

– RAN improvements

It includes:

- Combination of 64QAM and MIMO for HSDPA.
- Improved L2 for uplink.
- Enhanced Uplink for CELL_FACH State.
- Enhanced UE DRX.
- Enhancements for SRNS Relocation Procedure.
- Enhancements for FDD HSPA Evolution.
- HSPA VoIP to WCDMA/GSM CS continuity.
- HS-DSCH Serving Cell Change Enhancements.
- Support of UTRA HNB.
- FDD Home NodeB RF requirements.
- Support of WiMAX – UMTS Mobility.

– UE positioning

It includes:

- Evaluation of the inclusion of Path Loss Based Technology in the UTRAN.

– 3G Long Term Evolution

It includes:

- LTE FDD repeaters.
- LTE in 3500 MHz Bands.

– Support of WiMAX - LTE Mobility

– Evaluation of the inclusion of Path Loss Based Technology in the UTRAN

– **Dual-Cell HSDPA operation**

The most updated and complete list of all technical areas currently addressed within 3GPP, together with a description of the current status of the activities, can be found on the 3GPP website www.3gpp.org.

2 IMT-2000 CDMA multi-carrier

The following is an updated Roadmap for IMT-2000 CDMA multi-carrier.

The following air interface projects are currently being considered for inclusion in future updates of IMT-2000 CDMA multi-carrier.

- 3GPP2 Multimedia Services Evaluation Methodology.
- A new revision to the AN Minimum Performance Standard to support HRPD Rev. B and BCMCS Rev A access networks.
- A new revision to the AT Minimum Performance Standard to support HRPD Rev. B and BCMCS Rev A access terminals.
- GALILEO Support.
- Interface Flexibility Support (A-Flex).
- Alterations to cdma2000 HRPD AN Spurious Emission Minimum Performance Specifications (MPS).
- Alterations to cdma2000 HRPD AT Spurious Emission Minimum Performance Specifications (MPS).
- Band Class Cleanup.
- cdma2000 Evaluation Methodology Development.
- DSR Codec for Speech Enabled Services.
- Enhanced Call Recovery.
- Enhanced cdma2000 Air Interface.
- Enhanced cdma2000 System Requirements Document.
- Enhanced Message Service.
- Enhanced Security Services.
- Enhanced Variable Rate Codec – Wideband.
- Enhancements to IP based over-the-air Device Management.
- Expanded Removable User Identity Module Identifier.
- GBA_U support in 'cdma2000 Application on UICC' and ISIM.
- Guidelines for Evaluating the Quality of VoIP over HRPD Rev. A.
- H.263 Video Codec for 3GPP2 Multimedia Services.
- HRPD Emergency Call Support.
- Interoperability Test Specification for cdma2000 Air Interface – Rev. A.
- IOTA Device Management (IOTA-DM).
- IP Broadcast and IP Multicast (BCMCS).
- MEID for Pre Rev D cdma2000.
- MMD Codecs and Transport Protocols.
- Multi-Carrier Support for EV-DV.
- Multi-Mode System Selection.
- New revision of CDMA Card Application Toolkit (CCAT) Specification.
- Packet Data Access Network Evolution (PDANE).
- Packet Switched Video Telephony (a.k.a. Multimedia Conversational Services).
- Performance Characterization of Multimedia Streaming Services (MSS).
- Point Release of Over-the-Air Service Provisioning Specification.
- Priority Service for Next Generation Networks (PS-NGN).

- Proximity Mobility Gateway using the IETF RFC 3963 “Network Mobility (NEMO) Basic Support Protocol”.
- Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations.
- Revision A of Mobile Equipment (ME) Conformance Testing for cdma2000 Spread Spectrum Systems.
- Revision B of Signaling Conformance Specification to Support HRPD Rev. B and BCMCS Rev. A.
- Revision B of Test Application Specification for HRPD Rev. B and BCMCS Rev. A.
- Revision of Parameter Value Assignments.
- Signaling Conformance Specification for the Enhanced Multi-flow Packet Applications.
- Signaling Conformance Test Specification.
- Simulation Methodology for Multimedia Services.
- SMS Revision.
- Version update for ""CDMA Card Application Toolkit (CCAT)"" Specification".
- Vocoder Enhancements for Voice Quality and System Capacity Improvements.
- Wideband Speech Codec for CDMA2000 Systems Mode 5 Extension.

3 IMT-2000 CDMA TDD

Information on the Roadmap for IMT-2000 CDMA TDD, with reference to the main technical improvements.

– Radio interface

It includes:

- UMTS in 2300 MHz Bands.
- MBSFN Downlink Optimized Broadcast 3.84 Mcps TDD.

– RAN improvements

It includes:

- Improved L2 for uplink.
- 64QAM for 1.28Mcps TDD HSDPA.
- Enhanced CELL_FACH state in 1.28Mcps TDD.
- 1.28Mcps TDD Repeater.
- Continuous Connectivity for packet data users for 1.28Mcps TDD.
- Support of WiMAX – UMTS Mobility.

– 3G Long Term Evolution

It includes:

- Support of WiMAX – LTE Mobility.

– Scope of future HSPA Evolution for 1.28 Mcps TDD

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4 IMT-2000 TDMA single-carrier

Current activities which aim to further enhance the capabilities of TDMA-SC as well as provide service transparency with CDMA Direct Spread, include:

- Enhanced Power Control.
- GERAN MS and BTS Conformance tests for GERAN interface evolution.
- Multiple antenna receiver enhancement.
- Control channel signalling improvements.
- Reduction of PS service interruption in dual transfer mode.
- GERAN evolution including Dual Carrier mode.
- Increased Symbol rate
- EarlyTBF establishment.
- Latency reduction including initial access (no TBF assigned).
- DTM handover including A/Gb mode and inter-RAT handover.
- SMS to group calls.
- Support for Global Navigation Satellite Systems.
- Generic Access to A/Gb interface.
- Enhancements of Voice Group Call Service (VGCS) in public networks.
- Definition of MS Antenna minimum performance requirements.
- Location Services enhancements.
- Support for handover between GERAN/UTRAN and GAN mode.
- Support for GERAN/LTE interworking.
- Enhanced Uplink performance.
- Enhanced cell edge throughput

5 IMT-2000 FDMA/TDMA

ETSI Technical Committee DECT is working on the following topics that are relevant for IMT-2000 and beyond.

- Technical Reports describing the features of ‘New Generation DECT’ and defining the requirements for the different phases.
- Technical Specification for “New Generation DECT” part 4: Software Update Over The Air and Content Download.
- Update of the DECT base standard to cover the additional features of the new profiles.
- Update of the DECT packet radio standard.
- Test specifications for ‘New Generation DECT’.
- Update of Harmonized Standards for DECT.

6 IMT-2000 OFDMA TDD WMAN

The following amendment to IEEE Std 802.16 was approved as an IEEE Standard on 27 September 2007:

- * IEEE Std 802.16g: IEEE Standard for Local and Metropolitan Area Networks - Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems - Amendment 3: Management Plane Procedures and Services.

The IEEE 802.16 Working Group is developing the following projects as draft amendments to IEEE Std 802.16:

- * 802.16h: Amendment to IEEE Standard for Local and Metropolitan Area Networks – Part 16: Air Interface for Fixed Broadband Wireless Access Systems - Improved Coexistence Mechanisms for License-Exempt Operation.
- * P802.16i: Draft Amendment to IEEE Standard for Local and Metropolitan Area Networks – Part 16: Air Interface for Broadband Wireless Access Systems – Mobile Management Information Base.
- * P802.16j: Draft Amendment to IEEE Standard for Local and Metropolitan Area Networks – Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems – Multihop Relay Specification.
- * P802.16m: Draft IEEE Standard for Local and metropolitan area networks – Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems – Advanced Air Interface.

The IEEE 802.16 Working Group is developing the following project as a draft revision of IEEE Std 802.16:

- * P802.16 (Revision): Draft IEEE Standard for Local and Metropolitan Area Networks – Part 16: Air Interface for Broadband Wireless Access Systems.

This revision project will incorporate the material from IEEE Std 802.16-2004, IEEE 802.16e-2005, IEEE 802.16f-2005, and IEEE 802.16g-2007. Material from the P802.16i draft may also be included. The project will update the existing material regarding the air interface for both the TDD and FDD cases.