TSGR#10(00)0675

TSG RAN meeting #10
6 – 8 December 2000
Bangkok, Thailand

Agenda Item:	5.5
Source:	ITU Ad Hoc Contact Person
Title:	Update procedure for revisions of Recommendation ITU-R M.1457
Document for:	Information

This contribution contains Circular Letter 8/LCCE/85 addressing the update procedure for revisions of Recommendation M.1457 (Detailed specifications of the radio interfaces of IMT-2000) developed at the last meeting of ITU-R WP 8F.

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Circular Letter 8/LCCE/85*

10 November 2000

To Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of the Radiocommunication Working Party 8F

Subject: Update Procedure for Revisions of Recommendation ITU-R M.1457 (Detailed specifications of the radio interfaces of IMT-2000)

1 Introduction

Five terrestrial radio interfaces are included in the existing Recommendation ITU-R M.1457, which were already approved to meet the IMT-2000 Requirements and Objectives and Minimum Performance Capability specified in the various ITU Recommendations (see Attachment 4 to Circular-Letter 8/LCCE/47, "Summary of IMT-2000 Requirements and Objectives and Compliance Template").

Working Party 8F has received contributions proposing updates to the terrestrial radio interfaces in Recommendation ITU-R M.1457 (for information, see Document 8F/INFO/15 at http://www.itu.int/itudoc/itu-r/sg8/docs/wp8f/2000-02/info/index.html).

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This circular-letter describes the procedure that will be used by WP 8F for the revisions[1]. Three cases are considered in Sections 3, 4 and 5 below:

– *Section 3:* Proposed changes to Section 5.x.2 only of Recommendation ITU-R M.1457.

– *Section 4:* Proposed changes to Sections 5.x.1 and 5.x.2 of Recommendation ITU-R M.1457.

– *Section 5:* Proposed new Sections 5.y.1 and 5.y.2 (y≥6) in Recommendation ITU-R M.1457.

2 Frequency of revisions to Recommendation ITU-R M.1457

A yearly update cycle for the formal revision of Recommendation ITU-R M.1457 is envisaged (i.e., ITU-R approval according to Resolution ITU-R 1). This represents a good compromise between the need to maintain market stability (e.g., avoid frequent changes that would lead to market confusion) and the need to promote the advancement of technology and service capabilities available to the user.

3 Proposed changes to Section 5.x.2 only of Recommendation ITU-R M.1457

In the case that a proposed update is only a revision or an addition of Standard Development Organization (SDO) standards in Section 5.x.2, without modification of the overview part (Section 5.x.1 "Summary and technical parameters of the radio interface") and within the scope of the global core specification (GCS)[2] corresponding to that radio interface, the proponent must submit a document to WP 8F summarizing the changes and a self-declaration indicating that those changes are consistent with Section 5.x.1 and the GCS.

At each meeting of WP 8F, the Director, BR, is invited to provide a report of such proposed revisions he has received since the last meeting and WP 8F shall act on those proposals at each meeting.

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1 Note that the updating process described in Circular-Letter 8/LCCE/82 of 4 October 2000 is still valid and the procedure contained in this letter is intended to give more focus to the updating process. Comments are invited to be submitted to the 4th meeting of WP 8F (Rabat, Morocco, 21-27.2.2001) when the Working Party intends to conclude its deliberations on the updating process of Recommendation ITU-R M.1457 (RSPC).

In addition, WP 8F has invited the Director, BR, to report to its 4th meeting on the integrity of the electronic presentation of the specifications in the current version of Recommendation ITU-R M.1457 (RSPC), as well as to provide information on the current status of the arrangements between ITU and the External Organizations relative to RSPC and its revisions. This request was made to assist WP 8F in its future deliberations on RSPC.

2 The GCSs are the specifications provided to ITU by the External Organizations (EOs), upon which the SDOs standards are based. The GCSs are contained in the ITU website are indicated by hyperlinks at the beginning of each Section 5.x.2 of Recommendation ITU-R M.1457. Section 5.x.2 also contains hyperlinks to the SDO standards corresponding to a given GCS. The SDOs regularly transpose the jointly agreed specifications into published standards. The SDOs should formally certify to the ITU that their standards incorporated by reference into the revised and published Recommendation ITU-R M.1457 correspond to the set of specifications agreed by the SDOs to be transposed into standards. The SDOs should also certify that their standards are consistent with the relevant Section 5.x.1 of Recommendation ITU-R M.1457 as presented by WP 8F to SG 8. The process of transposition of those jointly agreed specifications into the SDOs standards, should not introduce any technical deviation from the jointly agreed specifications.

4 Proposed changes to Sections 5.x.1 and 5.x.2 of Recommendation ITU-R M.1457

In the case that a proposed update is a revision or an addition of SDO standards in Section 5.x.2 which require a modification of the overview part (Section 5.x.1) and/or to the global core specification, the following must be submitted to WP 8F:

1) the update of Section 5.x.2;

2) the proposed modification to Section 5.x.1, if applicable;

3) the modifications to the global core specification, if applicable;

4) a summary of the proposed update;

5) a self-evaluation of the proposed update against the evaluation criteria; and

6) a self-declaration that the proposed amendments are self-consistent between Section 5.x.1, Section 5.x.2 and the GCS.

This information may be submitted to WP 8F at any time and over more than one meeting; however, WP 8F will be unable to make a decision until all the required information is available. The transposition process used during the development of the first version of Recommendation ITU-R M.1457 applies.

5 Proposed new Sections 5.y.1 and 5.y.2 (y≥6) in Recommendation ITU-R M.1457

This case covers the addition of a new radio interface (i.e., addition of Sections 5.y.1 and 5.y.2, for y≥6) to Recommendation ITU-R M.1457.

The evaluation for this proposed update should follow a process similar to the one employed for the original evaluation and development of radio transmission technologies (Step 4 - 9 in Circular Letter 8/LCCE/47), including the evaluation criteria and other considerations in Sections 7, 8 and 9, particularly the need for harmonization with the existing IMT-2000 radio interfaces. The proposal must identify the added value (see Section 9) of having an additional radio interface.

New radio technologies are always encouraged; however, they should be directed towards the enhancement of the existing IMT-2000 radio interfaces, rather than the creation of a new radio interface. This will support one of the ITU primary goals of minimizing the number of different radio interfaces and maximizing their commonality, while incorporating the best possible performance capabilities in the various IMT-2000 radio operating environments.

6 Meeting cycle

The following meeting cycle (of WP 8F) will be used for the consideration of proposed new capabilities. The cycle applies for each proposal received. Suppose a proposal is received at meeting "x", then the following would occur:

Meeting "x" - The proposal is presented and discussed with a view to understand what is being proposed. Those proposals which are of such nature that WP 8F agrees that they meet the criteria and can be agreed immediately are adopted at this meeting and those that require further evaluation are carried forward for consideration at the next meeting together with contributions from external evaluation groups as required. WP 8F will notify the proponent of the proposal, and other organizations as required, of issues that require further clarification or additional material that may be required to resolve outstanding issues, in the context of the evaluation criteria (see Sections 7 and 8) and other considerations (see Section 9).

Meeting "x+1" - The proposal is further discussed and evaluated; including the involvement of external evaluation groups as required. Those proposals for which WP 8F agrees that they meet the criteria can be adopted at this meeting and those which WP 8F considers require further evaluation are carried forward to the next meeting. WP 8F will notify the proponent of the proposal, and other organizations as required, of issues that require further clarification or additional material that may be required to resolve outstanding issues, in the context of the evaluation criteria (see Sections 7 and 8) and other considerations (see Section 9).

Meeting "x+2" - The evaluation is completed for the proposed update to Recommendation ITU-R M.1457, except for exceptional circumstances. If the proposal is for a new radio interface, additional consideration at subsequent meetings will likely be necessary for completing this evaluation. Those proposals for which WP 8F agrees that they meet the criteria are adopted at this meeting for the next revision of Recommendation ITU-R M.1457.

7 The evaluation criteria

7.1 Modification of the existing radio interfaces in Recommendation ITU-R M.1457

The evaluation for this update should be based on whether the Recommendation including update proposal meets the "Requirements and Objectives of IMT-2000" and "Minimum Performance Capabilities for IMT-2000" or not, as a "total" radio interface (refer to Attachment 4 and 6 of Circular Letter 8/LCCE/47) and on consideration of the technical impact on the other radio interfaces, taking into account the objective of convergence between radio interfaces. The proposals should be assessed based on consideration of evaluations and consensus building, recognizing the need to minimize the number of different radio interfaces and maximize their commonality, while incorporating the best possible performance capabilities in the various IMT-2000 radio operating environments. The evaluation should be done in the context of the "total" radio interface, as described in the current or proposed revision of Section 5.x.1, under the guidance of the requirements of IMT-2000. The evaluation expertise gathered during the initial evaluation of for the original radio interfaces may be utilized as required.

7.2 Addition of new radio interface (addition of 5.y.1 and 5.y.2, y≥6) to Recommendation ITU-R M.1457

The evaluation for this proposed update should follow a process similar to the one employed for the original evaluation and development of radio transmission technologies (Step 4 - 9 in Circular Letter 8/LCCE/47), including the evaluation criteria and other considerations in Sections 7, 8 and 9, particularly the need for harmonization with the existing IMT-2000 radio interfaces. The proposal must identify the added value (see Section 9) of having an additional radio interface.

8 Additional evaluation criteria

The following additional criteria should be used to complement those in "The Evaluation Criteria" in Section 7 above, as well as taking into consideration the overview of the existing IMT-2000 radio interfaces in Section 5.x.1 of Recommendation ITU-R M.1457.

8.1 Compatibility with the existing IMT-2000 radio interfaces

This would help determine whether the proposal would fit well with the existing IMT-2000 radio interfaces (as per Recommendation ITU-R M.1457). In general this would be assessed through the elements of Section 5.1 of Recommendation ITU-R M.1225. The emphasis should be on evolutionary capabilities as much as possible.

9 Other considerations

9.1 Benefits of the proposed enhancement

The proponent should show the added value of going ahead with the enhancement. Specifically, additional service capabilities (e.g., bit rate, multimedia), QoS, performance capabilities, and reduction in complexity should be explained.

9.2 Harmonization and consensus building

The proponent should show the extent of harmonization and consensus building that was achieved during the development of the proposal and which will continue within WP 8F. This will ensure that the objectives of IMT-2000 in terms of high-degree of commonality and worldwide global roaming are achieved.

9.3 Enhanced performance capabilities

Consideration of the ongoing activities on the vision for the enhancement of IMT-2000, market trends, the results of the focus areas activities, etc., will be required. This will be based in part on radio technology focus areas established by WP 8F (see Section 10). The intention of the identification focus areas is to provide guidance to proponents of new or updated radio interfaces as they relate to technology areas that will enhance meeting the goals of IMT-2000.

10 Road map of planned enhancements

A road map of planned further enhancements will be maintained by WP 8F based on the input proposals with a clear indication of their status, including target dates for standardization, in order to facilitate the orderly enhancements of IMT-2000 capabilities (see the current version in the annex).

Robert W. Jones

Director, Radiocommunication Bureau

Annex: 1

Distribution:

- Administrations of Member States and Radiocommunication Sector Members participating in the work of Working Party 8F of Radiocommunication Study Group 8
- Chairman and Vice-Chairmen of Working Parties 8F
- Secretary General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

ANNEX

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

Representatives of External Organizations (EOs) were invited to submit information to develop a road map of planned enhancements to their radio systems.

1 IMT-2000 CDMA-DS and IMT-2000 CDMA-TDD

These Working Item (WI) references are taken from Documents 8F/103 and 8F/170. The complete list of 3GPP WIs can be found on the 3GPP web site www.3gpp.org. The table below contains the title of the WI and a provisional target date for completion:

Work item (WI) - Title	Provisional completion date
Terminal power saving features	March 2001
Radio link performance enhancements (feasibility study)	December 2001
High Speed downlink packet access (feasibility study)	March 2001
Node B Synchronization for TDD	March 2001
Radio Access Bearer support enhancements	March 2001
Smart Antenna	March 2001
Base Station classification	March 2001
Hybrid ARQ II/III	September 2001
UTRA FDD repeater Specifications	March 2001
UE (User Equipment) positioning	March 2001

2 IMT-2000 CDMA-MC

Based on Documents 8F/71 and 8F/100, cdma2000 1X Integrated Data and Voice Enhancement is relevant to the update of M.1457, in addition to the update that is being proposed in this meeting for IMT-2000 CDMA-MC for M.1457 (RSPC) (Revision 1).

Currently, 3GPP2 TSG-C plans to complete the work on cdma2000 1X Integrated Data and Voice Enhancement during the year 2001.

3 IMT-2000 FDMA/TDMA

DECT/UMTS interworking: end of 2001

DECT access to IP-networks: end of 2001

4 IMT-2000 TDMA-SC

Work item	Provisional completion date
Enhanced or hybrid access technologies	October/December 2001
Real-time IP-based Services	October/December 2001
Continuing Enhancements to QoS	October/December 2001
Improved User Throughput	October/December 2001
Enhanced UE positioning	October 2001
Enhanced Subscriber Authentication and encryption	October 2001
R-UIM application enhancements	October 2001

5 Focus areas for future studies

Based on input contributions, a key area for 2001 will be the development of fast packet access modes. WP 8F should consider setting expected performance requirements (e.g., for fast packet access) and criteria which will lead to continued harmonization and convergence among the IMT-2000 radio interfaces (e.g., refer to Document 8F/123).

However, there are different views on what constitutes a *"Focus Area"*. Another interpretation of "focus areas" is to define areas where new radio systems need to be prepared for inclusion in the set of IMT-2000 radio interfaces.

– An example of the above is taken from Document 8F/128 on IP Broadband Wireless Access. This proposes *"Optimized air-interface modules to serve market niches or market spheres"*. This proposal could lead to the development of a new IP Broadband Wireless Access standard at some stage, based on advanced technology.

It should be noted that at the 2nd meeting of WP 8F (San Diego, 21-25 August 2000), the following sentence on "Focus Areas" was agreed and was subsequently included in Circular-Letter 8/LCCE/82, *"Focus areas could perhaps be techniques to improve spectrum efficiency, increased data rates, changes to the radio interfaces to improve packet and/or IP based services and applications"*.

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