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**TECHNOLOGY**

Subject: [Question ITU-R 229-1/8](#)

## **Institute of Electrical and Electronics Engineers (IEEE)**

### REVISION OF M.1457 INTRODUCTION

#### **1 Source information**

This contribution was developed by IEEE Project 802, the Local and Metropolitan Area Network Standards Committee (“IEEE 802”), an international standards development committee organized under the IEEE and the IEEE Standards Association (“IEEE-SA”).

The content herein was prepared by a group of technical experts in IEEE 802 and industry and was approved for submission by the IEEE 802.16 Working Group on Wireless Metropolitan Area Networks, the IEEE 802.18 Radio Regulatory Technical Advisory Group, and the IEEE 802 Executive Committee, in accordance with the IEEE 802 policies and procedures, and represents the view of IEEE 802.

#### **2 Background**

Canada’s contribution 5D/32 (entitled “On the use of the term ‘4G’” and also denoted 5A/12), discusses the problem involved with defining “generations” of mobile wireless systems, arguing that the distinction between 3G and 4G systems may not be possible. That contribution therefore proposes that the term “4G” (for “fourth generation”) not be used in ITU-R documentation.

At WP 5D’s meeting of January 2008, Contribution 5D/32 was reviewed by Ad Hoc Group Vocabulary. According to the Chapter 8 of the Chairman’s Report, “The Ad Hoc Group reconfirmed the decision made at the opening plenary of WP 5D that the ITU should only use the term IMT(including IMT-2000 and IMT-Advanced). Further, ITU should recommend to governments, institutions and commercial to also use this terminology.” This report of Ad Hoc Group Vocabulary was favourably received at the WP 5D Closing Plenary meeting of 1 February.

In summary, Working Party 5D has decided that the terms “4G” and “fourth generation” should not be used in ITU-R documentation since this is an industry characterization and not clearly distinct from the term “3G.”

These same considerations, including the lack of a clear distinction between “3G” and “4G”, should lead WP 5D to avoid use of the term “3G” or “third generation.”

### **3 Issues involving Introduction to ITU-R M.1457**

In Recommendation ITU-R M.1457, the terms “3G” or “third generation” appear only once, other than in the descriptions of particular radio interfaces. That one appearance occurs in the first paragraph of the Introduction, which reads:

“IMT-2000’s are third generation mobile systems which are scheduled to start service around the year 2000, subject to market considerations. They will provide access, by means of one or more radio links, to a wide range of telecommunications services supported by the fixed telecommunication networks (e.g. PSTN/ISDN/Internet protocol (IP)), and to other services which are specific to mobile users.”

It is clear that this paragraph is far out of date. At the time it was written, future evolution beyond 3G was not taken into consideration. Even if the characterization of IMT-2000 as “3G” was valid in the late 1990’s, that designation cannot continue to hold. The IMT-2000 radio interfaces have grown dramatically in capability and in fundamental technology over the last decade, particularly with M.1457-7. RA-07 Resolution ITU-R 56 makes it clear that IMT-2000 will continue to be developed and enhanced in the future, specifically resolving “that the term ‘IMT-2000’ encompasses also its enhancements and future developments.”

Update of the Introduction is clearly warranted due to many obsolete statements, such as reference to the suppressed M.1455.

### **4 Proposal**

It is proposed to edit the Introduction to Recommendation ITU-R M.1457 as indicated in Annex 1, removing the reference to “3G” and bringing the content up to date with changes of the past decade.

This may conveniently be done during the development of M.1457 Revision 9 as announced in the “Liaison statement to external organizations on the schedule for updating recommendation ITU-R M.1457 to Revision 9” (5D/TEMP/34-E, 1 February 2008).

## Annex 1:

### Proposed edits to Introduction of ITU-R M.1457

#### 1 Introduction

IMT-2000<sup>2</sup>s ~~are third-generation mobile systems which are scheduled to start service around the year 2000, subject to market considerations. They will~~ provide access, by means of one or more radio links, to a wide range of telecommunications services supported by ~~the~~ fixed telecommunication networks (e.g. PSTN/ISDN/Internet protocol (IP)); and to other services ~~which are~~ specific to mobile users.

A range of mobile terminal types is encompassed, linking to terrestrial and/or satellite-based networks, ~~and t.~~ The terminals may be designed for mobile or fixed use.

Key features of IMT-2000 are:

- high degree of commonality of design worldwide;
- compatibility of services within IMT-2000 and with the fixed networks;
- high quality;
- small terminal for worldwide use;
- worldwide roaming capability;
- capability for multimedia applications, and a wide range of services and terminals.

IMT-2000 is defined by a set of interdependent Recommendations of which this one is a member.

~~Recommendation ITU-R M.1455 defines the original key characteristics of the IMT-2000 radio interfaces, and represents the results of the evaluation process by the ITU-R on IMT-2000 radio interface proposals submitted to the ITU to a set of defined requirements.~~

This Recommendation forms the final part of the process of specifying the radio interfaces of IMT-2000, as defined in Recommendation ITU-R M.1225. It identifies the detailed specifications for the IMT-2000 radio interfaces.

This Recommendation has been developed based on consideration of the evaluation results and consensus building, ~~continuing from the IMT-2000 key characteristics defined in Recommendation ITU-R M.1455 and 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.

Revisions to this Recommendation have been developed jointly by the ITU and the radio interface technology proponent organizations, global partnership projects, and regional and international standards development organizations. Updates ~~and~~ enhancements, and additions to the radio interfaces incorporated in this Recommendation have undergone a defined process of development and review to ensure consistency with the original goals and objectives established for IMT-2000 while acknowledging the obligation to accommodate the changing requirements of the global marketplace.

By updating the existing technologies, harmonizing existing interfaces, and entertaining new mechanisms, IMT-2000 remains at the forefront of mobile radio technology.

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