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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Planning for Development of IMT-Advanced Parameter** **Set for ITU-R JTG 4-5-6-7** | |
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| Re: |  | |
| Abstract | This document overviews the need for IEEE 802.16 to quickly plan the development of spectrum-related IMT-Advanced characterization parameters for use by ITU-R Working Party 5D and Joint Task Group 4-5-6-7 for use in studies related to IMT identifications by the 2015 World Radiocommunication Conference. | |
| Purpose | This purpose of this information document is to bring to the attention of the 802.16 Working Group the expectation that it will soon be asked to provide spectrum-related WirelessMAN-Advanced characterization parameters to ITU-R. | |
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Planning for Development of

IMT-Advanced Parameter Set

for ITU-R JTG 4-5-6-7

Roger B. Marks

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# Abstract

This document overviews the need for IEEE 802.16 to quickly plan the development of spectrum-related IMT-Advanced characterization parameters for use by ITU-R Working Party 5D and Joint Task Group 4-5-6-7 for use in studies related to IMT identifications by the 2015 World Radiocommunication Conference.

# Purpose

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# Background: IMT

The ITU term “International Mobile Telecommunications” (“IMT”) encompasses both IMT-2000 and IMT-Advanced collectively. IEEE Std 802.16 is one of six radio interfaces specified in Rec. ITU-R M.1457 (IMT-2000) and one of two radio interfaces specified in Rec. ITU-R M.2012 (IMT-Advanced). Therefore, IEEE Std 802.16 has a direct interest and role in IMT. ITU-R’s Working Party 5D (WP 5D) is responsible for IMT within ITU. The IEEE 802.16 Working has been actively engaged with WP 5D since 2006.

# Background: WRC-15 Preparations Regarding IMT

Resolution 807 <http://www.itu.int/oth/R0A0600004D/en> of the 2012 World Radiocommunication Conference (WRC‑12) addresses the “Agenda for the 2015 World Radiocommunication Conference” (WRC‑15). Resolution 807 includes the following agenda items that are of particular relevance to IMT and therefore to 802.16:

1 on the basis of proposals from administrations, taking account of the results of WRC 12 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the bands under consideration, to consider and take appropriate action in respect of the following items:

**1.1 to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with** **Resolution 233** [COM6/8] (WRC 12)

**1.2 to examine the results of ITU R studies, in accordance with Resolution 232** [COM5/10] (WRC 12)**, on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in** **[Region 1](http://life.itu.int/radioclub/rr/itureg.htm) and take the appropriate measures**

Agenda Item 1.1 references Resolution 233 (“Studies on frequency-related matters on International Mobile Telecommunications and other terrestrial mobile broadband applications”) <http://www.itu.int/oth/R0A0600004C/en>.

Agenda Item 1.2 references Resolution 232 (“Use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and related studies”) <http://www.itu.int/oth/R0A0600004B/en>. In Resolution 232, WRC-12 resolves “to allocate the frequency band 694-790 MHz in Region 1 to the mobile, except aeronautical mobile, service on a co-primary basis with other services to which this band is allocated on a primary basis and to identify it for IMT.”

# Background: Joint Task Group 4-5-6-7

In order to proceed with the preparations for Agendas Item 1.1 and 1.2, the Conference Preparatory Meeting for WRC 15 (CPM15) issued “CPM15-1 Decision on the Joint Task Group 4-5-6-7.” The crux of that decision was “to establish the Joint Task Group JTG 4-5-6-7 as the responsible group for the WRC-15 Agenda Items 1.1 and 1.2” and specify its terms of reference. [JTG 4-5-6-7](http://www.itu.int/ITU-R/index.asp?category=study-groups&rlink=jtg4-5-6-7) was assigned to consider, in accordance with WRC-12 Resolutions 232 and 233, “the results of studies from Working Party 5D on the spectrum requirements for the mobile service, including suitable frequency ranges, and other specific requirements as well as results of studies from any concerned Working Parties on technical and operational characteristics, spectrum requirements and performance objectives or protection requirements of other services.”

With respect to the sharing studies being undertaken by JTG 4-5-6-7 in relation to Agenda Item 1.2, “technical and operational characteristics and protection requirements from the concerned Working Parties, as well as spectrum requirements from Working Parties **5D** and 6A are to be submitted to the JTG before **31 December 2012**.”

With respect to the sharing studies being undertaken by JTG 4-5-6-7 in relation to Agenda Item 1.1, “technical and operational characteristics, protection requirements and information on current and planned use from the concerned Working Parties, as well as spectrum requirements from the Working Parties 5A and **5D** are to be submitted to the JTG preferably by **31 July 2013**.”

# ITU-R Working Party 5D Schedule and Plans

As noted, JTG 4-5-6-7 has been specified assigned to collect information from ITU-R Working Party 5D (WP 5D) and has established deadlines of 31 December 2012 (regarding Agenda Item 1.2) and 31 July 2013 (regarding Agenda Item 1.1). These deadlines, particular the earlier one, will be challenging to meet. WP 5D has two meetings scheduled in 2012. Meeting #13 (the first since WRC-12) is on 16-20 July 2012 (simultaneous with IEEE 802.16 Session #80). Meeting #14 is on 3-11 October 2012.

WP 5D will discuss, during Meeting #13, its plans to address JTG 4-5-6-7 according to the specified deadlines. In advance of Meeting #13, numerous contributions have proposed directions for how to proceed. Noteworthy are two documents (5D/72 and 5D/73) submitted by the “Management Team of Working Party 5D” outlining approaches and timelines to address WP 5D work on the two agenda items. One key proposal is to initiate development of “draft new Report ITU-R M.[IMT.ADV.PARAM] covering the sharing, compatibility & protection criteria for IMT-Advanced systems for WRC-15 studies.”

Another noteworthy proposal was put forth by AT&T in contribution ITU-R 5D/74 (“Plan for Development of Draft New Report ITU-R M.[IMT.ADV.PARAM] and Coordination With 3GPP and IEEE on IMT-Advanced Parameters”), which is attached in Attachment A. 5D/74 notes that relevant information on IMT-2000 technologies is currently available in Report ITU-R M.2039-2 (“Characteristics of terrestrial IMT-2000 systems for frequency sharing & interference analyses”). However for the case of IMT-Advanced technologies, no equivalent document exists. Citing the proposal of 5D/73 to address the issue by creating a draft new Report ITU-R M.[IMT.ADV.PARAM], 5D/74 suggest that “In order to develop draft new Report ITU-R M.[IMT.ADV.PARAM], WP 5D will need to liaise with the relevant external organizations 3GPP and **IEEE** who address the two technologies in Recommendation ITU-R M.2012.” The specific proposal suggests that WP 5D’s preference regarding Agenda Item 1.2 is to receive parameters for bands below 1 GHz in advance of Meeting #14 but recognizes that because of the limited notice that “the 26 September 2012 deadline might pose some difficulties for either 3GPP or IEEE.” It therefore suggests that both 3GPP and IEEE should be directly requested to respond to WP 5D and also to copy to JTG 4-5-6-7 with their respective preliminary responses before the 31 December 2012 deadline. Regarding Agenda Item 1.2, it suggests that parameters be provided in time for the July 2013 Meeting #16 of WP 5D. Templates for the submission of parameters are suggested in both cases, and a draft liaison to IEEE and 3GPP is proposed.

# Proposed IEEE 802.16 Working Group Actions

This contribution proposes the following actions by the IEEE 802.16 Working Group:

* Review the referenced documentation and become familiar with the issues.
* Develop a work plan to develop the first set of parameters in time to meet the deadline of 31 December 2012.
* Develop a work plan to develop the second set of parameters in time to meet the deadlines of July 2013. Note that the Meeting #16 is currently planned for 10-17 July 2013, with an input deadline of 3 July, prior to IEEE 802.16’s Session #86 of 15-18 July 2013 in Geneva. Therefore, a contribution to WP 5D Meeting #16 would normally need to be completed by Session #85 in May 2013 and could be reviewed by the 802 EC in its 4 June 2013 conference call.
* Consider a communication to WP 5D.

**Attachment A**

Contribution ITU-R 5D/74 (“Plan for Development of Draft New Report ITU-R M.[IMT.ADV.PARAM] and Coordination With 3GPP and IEEE on IMT-Advanced Parameters”), from AT&T.