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Re:		
Abstract	Report on June 2009 meeting of ITU-R Working Party 5D	
Purpose		
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# ***Report to IEEE 802.16 Working Group on ITU-R WP 5D Meeting #5***

Roger B. Marks

*19 June 2009*

## **Introduction**

Working Party 5D (WP 5D) held its Meeting #5 in Geneva on 10 - 17 June 2009. For reports on the previous four meetings, see IEEE C802.16-08/008, C802.16-08/015, C802.16-08/024r1, and C802.16-09/0002.

IEEE's delegates were Roger Marks of 802.16 and Mike Lynch of 802.18. Other 802.16 members (including Reza Arefi, Chair of the 802.16 Working Group's ITU-R Liaison Group) participated in the meeting on other delegations.

## **IEEE Contributions**

IEEE had submitted five contributions to this meeting. All were developed within the 802.16 Working Group. Three contributions were related to IMT-2000:

\* ITU-R 5D/442 [IEEE L802.16-09/0033r4]: *Update of OFDMA TDD WMAN in Revision 9 of Recommendation ITU-R M.1457*

\* ITU-R 5D/441 [IEEE L802.16-09/0048r3]: *Contribution to ITU-R Working Party 5D regarding Document 5D/421*

\* ITU-R 5D/440 [IEEE L802.16-09/0049r3]: *Contribution to ITU-R Working Party 5D regarding Document 5D/422R1*

One was related to IMT-Advanced:

\* ITU-R 5D/443 [IEEE L802.16-09/0031r1]: *On submission of candidate IMT-Advanced RIT based on IEEE Project 802.16m*

One was related to spectrum aspects:

\* ITU-R 5D/444 [IEEE L802.16-09/0027r2]: *Response to liaison statement from Working Party 5D on IMT parameters in the 790-862 MHz band*

## **IMT-2000**

IEEE submitted 5D/442 (“Update of OFDMA TDD WMAN in Revision 9 of Recommendation ITU-R M.1457”) as a proposed update of the IMT-2000 radio interface based on IEEE Std 802.16. A supporting document (ITU-R 5D/451, “On the optimum structure of Section 5.6 in the draft Revision 9 of Recommendation ITU-R M.1457”) was submitted by the WiMAX Forum, which supports the same radio interface. These contributions were needed due to an exceptional decision at the previous WP 5D meeting to defer a decision on the Revision 9 update beyond the expected three-meeting cycle, primarily because of the concerns of France and Germany to the IEEE/ WiMAX Forum proposal to add an FDD radio interface to the existing TDD radio interface.

During the February meeting, France and Germany agreed to articulate their concerns via contribution by 25 March. These contributions were later posted as ITU-R 5D/421 (“IEEE L802.16-09/0040”) and 5D/422R1 (“IEEE L802.16-09/0041”). IEEE responded with ITU-R 5D/442 and ITU-R 5D/441. The WiMAX Forum responded with ITU-R 5D/447 and ITU-R 5D/448. A number of Administrations submitted contributions in support of the IEEE position.

These contributions, and others related to the other six radio interfaces of M.1457, were reviewed by the M.1457 Sub-Working Group (SWG), which concluded with a meeting report 5D/TEMP/233R1. The key results are as follows:

- a) IEEE’s proposal was accepted, except for a naming issue. In spite of the fact that the radio interface includes both FDD and TDD modes (the radio interface is described as including a “set of radio interface FDD/TDD components”), WP 5D did not accept IEEE’s proposal to change the name of the radio interface from “OFDMA TDD WMAN” to “OFDMA WMAN”.
- b) WP 5D concluded its work on Revision 9 and agreed to forward it to Study Group 5 for adoption when it next meets, in late November. The meeting report will show that, “WP 5D reached consensus to allow Draft Revision 9 of Recommendation ITU-R M.1457 to go to SG5 without objections.”
- c) The German Administration entered a statement into the meeting report indicating that it does not object to the adoption of Revision 9 but stating its reservation.

d) A liaison statement (5D/TEMP/216) to IEEE and the WiMAX Forum was approved to notify them of the status and plans and request an input by 3 August regarding “transposition” of the referenced “GCS” documents. For IEEE, this means that the submitted GCS document, P802.16Rev2/D9a, will be “transposed” to the approved IEEE Std 802.16-2009. Although the requested input is primarily administrative, it also requests that IEEE confirm the editorial changes to the IEEE proposal for the edits of M.1457.

**RECOMMENDED ACTION: The 802.16 WG should draft the requested input during Session #62 and have it approved by the IEEE 802 EC.**

A liaison statement (5D/TEMP/230R1) was agreed to announce the development of M.1457 over another “three-meeting cycle.” Input deadlines are shown below, with associated target dates for IEEE 802.16:

Input	Group	Deadline	802.16 Completion
Contribution: Meeting X	WP 5D #6	7 Oct 2009	Session #62  July 2009
Contribution: Meeting X+1	WP 5D #7	10 Feb 2010	Session #64  November 2009
Contribution: Meeting X+2;  Letter of Conveyance	WP 5D #8	2 Jun 2010	Session #66  March 2010
Certification of references, and transposition		30 Oct 2010	
	SG 5	22 Nov 2010	Expected adoption of M.1457-10

**RECOMMENDED ACTION: The 802.16 WG should draft its Meeting X input during Session #62 and have it approved by the IEEE 802 EC. This input should reference IEEE Std 802.16j.**

The M.1457 “Roadmap” document describing expected future updates to the radio interfaces was routinely updated based on contributions received in response to the earlier “Liaison statement from ITU-R Working Party 5D regarding updating the roadmap for IMT-2000” (IEEE L802.16-09/0017). IEEE had not responded earlier, but updates to the roadmap are welcome at any meeting.

**RECOMMENDED ACTION: The 802.16 WG should draft a roadmap update contribution during Session #62 and have it approved by the IEEE 802 EC. This is not necessary but would be helpful.**

## **IMT-Advanced**

IEEE submitted 5D/443 (“On submission of candidate IMT-Advanced RIT based on IEEE Project 802.16m”) during the second of three meetings set aside for contributions related to IMT-Advanced proposals. This was a followup to IEEE’s 5D/356 (“Intention to Submit Candidate IMT-Advanced RIT based on IEEE Project 802.16m”) during the previous meeting.

In 5D/356, IEEE had made an inquiry regarding completeness of the proposal; this inquiry had not been directly answered. In 5D/443, IEEE referred, in addition to the items it had identified earlier, to a self-evaluation report. Significant discussion occurred regarding the need for and contents of the self-evaluation report. WP 5D agreed to a liaison statement to IEEE (5D/TEMP/206) agreeing that IEEE’s proposed list of elements “would, in principle, serve as a complete submission.” The ambiguity regarding the self-evaluation report was addressed by means of a separate document approved for posting on the IMT-Advanced web site (5D/TEMP/229, “Working Party 5D view on ‘self-evaluation’”).

In addition to the input from IEEE, WP 5D received one additional contribution indicating intent to submit a complete IMT-Advanced proposal. This contribution was a significantly-detailed (though admittedly incomplete) input from the “3GPP Proponent”), defined as “collectively the 3GPP Organizational Partners,” namely ARIB, ATIS, CCSA, ETSI, TTA and TTC. WP 5D responded with a liaison statement (5D/TEMP/205) indicating no difficulty with the proposed structure, which would consider FDD and TDD as components of an SRIT. However, the statement noted that this response “does not preclude other formats and structures.”

**RECOMMENDED ACTION: The 802.16 WG must conclude its IMT-Advanced proposal as planned during Session #63.**

A contribution from Japan (5D/466) said that “Japan basically endorses the works of 3GPP and IEEE 802.16 relating to the submission of proposals for candidate radio interface technologies for IMT-Advanced. Japan is now preparing for the submission of candidate radio interface technologies for IMT-Advanced.”

**RECOMMENDED ACTION: The 802.16 WG should continue its liaison with ARIB to ensure successful conclusion of coordination. Coordination with other supporting external organizations (including TTA and the WiMAX Forum) should also proceed.**

WP 5D agreed on a document (5D/TEMP/219R1) on “Correction of typographical errors and provision of missing texts of IMT-Advanced channel models in Report ITU-R M.2135.”

**RECOMMENDED ACTION: TGM should consider these corrections in its self-evaluation and EMD.**

Also, WP 5D prepared a document (5D/TEMP/226) on “Update of the ITU-R IMT-Advanced submission and evaluation process webpage with informative materials provided by Evaluation Groups and ITU-R Member.” This suggests that information received would be posted to the IMT-Advanced web site, without endorsing the contents of that information.

**RECOMMENDED ACTION: TGM should review this new information at the IMT-Advanced web site <<http://itu.int/ITU-R/go/rsg5-imt-advanced>> for its relevance to self-evaluation and the EMD.**

WP 5D approved a liaison statement (5D/TEMP/228R2) to IMT-Advanced candidate technology proponents (including IEEE) and the evaluation groups providing updated information on IMT-Advanced. Most of the information is addressed in other elements of this report.

**RECOMMENDED ACTION: The 802.16 WG should review this liaison statement during Session #63.**

WP 5D agreed to hold an IMT-Advanced workshop on 15 October during the WP 5D Meeting #6 in Dresden, Germany. As one of the two intended proponents, IEEE will be invited to participate and present, as will the evaluation groups.

IEEE is asked to accept the invitation before 1 September 2009. Presentations and supporting materials are due at the deadline for IMT-Advanced proposals and other contributions to the meeting (16:00 UTC on 7 October 2009). Presentations “may

refer to specific inputs to the WP 5D October meeting to avoid duplication of supporting materials.”

**RECOMMENDED ACTION: During Session #62, the 802.16 WG should prepare a notification accepting the invitation. The same document should include high-level information for the use of the convener of the workshop in introductory statements, etc.**

**RECOMMENDED ACTION: During Session #63.5, the 802.16 WG should prepare presentation materials regarding its submission. These should be sent to the 802.18 TAG for review during Session #63.5.**

## Future Meetings

The meeting schedule is currently as follows:

WP 5D Meeting # 6	14-21 Oct 2009	Dresden, Germany
WP 5D Meeting # 7	17-24 Feb 2010	location TBD; dates tentative
WP 5D Meeting # 8	9-16 June 2010	location TBD
WP 5D Meeting # 9	13-20 Oct 2010	China

## References

Available at <<http://ieee802.org/16/liaison>>:

- IEEE L802.16-09/0027r2: Response to liaison statement from Working Party 5D on IMT parameters in the 790-862 MHz band
- IEEE L802.16-09/0031r1: On submission of candidate IMT-Advanced RIT based on IEEE Project 802.16m
- IEEE L802.16-09/0033r4: Update of OFDMA TDD WMAN in Revision 9 of Recommendation ITU-R M.1457
- IEEE L802.16-09/0048r3: Contribution to ITU-R Working Party 5D regarding Document 5D/421
- IEEE L802.16-09/0049r3: Contribution to ITU-R Working Party 5D regarding Document 5D/422R1
- IEEE L802.16-09/0061 [ITU-R 5D/TEMP/206]: Draft reply liaison to IEEE on submission of IMT-Advanced candidate technology

- IEEE L802.16-09/0062 [ITU-R 5D/TEMP/216]: Draft liaison statement to IEEE and WiMAX Forum - Status of revision 9 of Recommendation ITU-R M.1457
- IEEE L802.16-09/0063 [ITU-R 5D/TEMP/219R1]: Correction of typographical errors and provision of missing texts of IMT-Advanced channel models in Report ITU-R M.2135
- IEEE L802.16-09/0064 [ITU-R 5D/TEMP/228R1]: Liaison to IMT-Advanced Candidate Technology Proponents and the Evaluation Groups on updated information on IMT-Advanced
- IEEE L802.16-09/0065 [ITU-R 5D/TEMP/230R1]: Liaison statement to external organizations on the schedule for updating Rec. ITU-R M.1457 to Revision 10
- IEEE L802.16-09/0066 [ITU-R 5D/TEMP/229]: Working Party 5D view on "self-evaluation"
- IEEE L802.16-09/0067 [ITU-R 5D/TEMP/226]: Update of the ITU-R IMT-Advanced submission and evaluation process webpage with informative materials provided by Evaluation Groups and ITU-R Member
- IEEE L802.16-09/0069 [ITU-R 5D/TEMP/190R2]: Proposed update of Section 5.6 of Recommendation ITU-R M.1457-8