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## IEEE 802.16 TGM Minutes Session #58, Dallas, TX, USA

*Hokyu Choi (Acting Secretary)  
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IEEE 802.16's Task Group m (TGM) held its eleventh session during the IEEE 802.16 Session #58 in the Hyatt Regency Dallas, Dallas, TX, USA, as part of the IEEE 802 LMSC plenary meeting. The session was chaired by Brian Kiernan, with Vice Chair Carl Eklund and acting Secretary Hokyu Choi. Approximately 300 people attended the meeting.

### 1) Monday, November 11, 2008

The Chair called the TGM Opening session to order at 4:15PM, and introduced the officers.

The five slides included within <http://standards.ieee.org/board/pat/pat-slideset.ppt> were shown and the patent policy information was provided to the task group.

The Chair then provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) that the participant believes may be essential for the use of that standard;

**No statements were received.**

The Chair presented the opening report, IEEE 802.16m-08/047, to explain the plan for the week and corresponding meeting room arrangements. The chair also presented a proposed agenda, IEEE 802.16m-08/048. It was pointed out that there would be a maximum of four parallel meetings, two TGM breakout and two Rapporteur Groups (RG) breakout meetings, during this session; Tracks TGM A & B would deal primarily with SDD PHY/MAC comments; Tracks TGM C&D would mainly be for the new RGs established during session #57, to permit them to create harmonized SDD text in their perspective areas.

**The proposed agenda was approved with no objections (Moved: Phil Barber, Seconded: Ken Stanwood)**

**The minutes from Session #57, IEEE 802.16m-08/039, were presented by the Chair and approved with no discussions or comments. (Moved: DJ Johnston, Seconded: Ron Murias)**

The Chair then announced the creation of three new RGs and their corresponding chairs. The Chair requested the RG chairs to develop and bring harmonized text to the Task Group no later than Thursday morning so that TGM can take a vote on the proposed text in the Thursday afternoon session. The three new RGs and corresponding Chairs are:

- **SON RG:** Changhoi Koo, Anshuman Nigam, Joey Chou
- **Femto RG:** Baowei Ji, Shashikant Maheshwari, Richard Li
- **Relay RG:** Jerry Sydir, Yousuf Saifullah, Ken Loa

The group then moved to resolve proposed Change Requests (CR)s to the System Requirement Document (SRD) captured in IEEE 802.16m-08/044r1.

- Motion:** To accept the following list of editorial comments in IEEE 802.16m-08/044r1: 1, 2, 3, 4, 5, 6, 7 and authorize the editor to implement those changes in the next issue of the SRD, IEEE 802.16m-07/002r7.

**Moved:** Mark Cudak, SRD editor  
**Seconded:** Roshni Srinivasan  
**Results:** Passed – Unanimously

The resolution of technical CR (comment) #8 is contained in SRD Commentary database, IEEE 802.16m-08/044r2.

Then the group moved to resolve proposed CRs to the Evaluation Methodology Document (EMD) captured in the TGM EMD Commentary database, IEEE 802.16m/045r1. All the technical comments related to Relay evaluation methodology were introduced and then tabled until the TGM Closing session on Thursday.

**Motion:** To accept the following list of editorial comments in the TGM EMD Commentary Database IEEE 802.16m/045r1: 1,2,3,4,5,7,8,9,10,11,12,18

**Moved:** Roshni Srinivasan, EMD editor  
**Seconded:** Ron Murias  
**Results:** Passed – Unanimously

The Task Group then moved to resolution of the TGM System Description Document (SDD), IEEE 802.16m-08/003r5, comments. Shkumbin Hamiti, the SDD editor, requested the group to give feedback on the list of the editorial comments on the TGM SDD captured in IEEE 802.16m-08/046, so that the group could vote on them on Thursday afternoon in the TGM Closing session.

At 5:35PM, the TGM Opening meeting recessed.

Dinner break 5:35PM – 7:00PM

### **Breakout sessions:**

**TGM Track A:** The SON Rapporteur Group and the Femto Rapporteur Group met jointly from 7:00-10:00 PM. The results are included in their closing reports, C802.16m-08/1485r1 and C802.16m-08/1503, respectively.

**TGM Track B:** The Relay Rapporteur Group met from 7:00 – 10:00 PM. The results are included in their closing report, C802.16m-08/1498.

**TGM Track C:** The Multicarrier Rapporteur Group met from 7:00 – 10:00 PM. The results are included in their closing report, C802.16m-08/1492.

## **2) Tuesday, November 11, 2008**

**TGM Track A** was called to order at 8:05AM by the TGM Chair to resolve the comments on Section 11 of the TGM SDD, captured in the Commentary database, IEEE 802.16m-08/046. Final comment resolutions are recorded in the Commentary database, IEEE 802.16m-08/046r4.

Lunch break at 12:15 – 1:30PM.

In the afternoon, various amendment text proposals were presented and discussed.

Amendment Section

- **11.1~11.4** Duplex mode, DL and UL Multiple Access, OFDMA Parameters, Frame structure
  - IEEE C802.16m-08/1339r1, IEEE C802.16m-08/1459r2, IEEE C802.16m-08/1462
- **11.5** DL-PHY Permutation
  - IEEE C802.16m-08/1441, IEEE C802.16m-08/1443r2, IEEE C802.16m-08/1445r1, IEEE C802.16m-08/1448r1, IEEE C802.16m-08/1449r1, IEEE C802.16m-08/1450r1, IEEE C802.16m-08/1464r2, IEEE C802.16m-08/1466r2, IEEE C802.16m-08/1468r1, IEEE C802.16m-08/1238r3
  - The contributions IEEE C802.16m-08/1239r3 was deferred until Relay RG finishes and the contributions IEEE C802.16m-08/1455r1 and IEEE C802.16m-08/1456r2 were identified as SDD contributions.
- **11.5** DL-PHY-Pilot Structure
  - IEEE C802.16m-08/1460, IEEE C802.16m-08/1461, IEEE C802.16m-08/1451r1, IEEE C802.16m-08/1453r1, IEEE C802.16m-08/1469
  - The contributions IEEE C802.16m-08/1451r1 and IEEE C802.16m-08/1453r1 were ruled out because they conflicted with the SDD and it was noted that IEEE C802.16m-08/1469 was identified as an SDD contribution.
- **11.6** UL-PHY Permutation
  - IEEE C802.16m-08/1442, IEEE C802.16m-08/1444r2, IEEE C802.16m-08/1447r2, IEEE C802.16m-08/1452, IEEE C802.16m-08/1457, IEEE C802.16m-08/1459, IEEE C802.16m-08/1467r1

The session was recessed for dinner break at 5:48 PM until 7:00 PM.

At 7:00PM, the Task Group continued to resolve comments on Section 11 of the TGm SDD.

The TGm Chair announced before recessing the session that it was possible that the Amendment text session on Wednesday morning would be finished early and that comment resolution on SDD comments-PHY would continue immediately after completion of the Amendment text discussions .

The meeting recessed at 10:05PM.

**TGm Track B** was called to order at 8:05AM by the TGm Vice Chair to resolve the comments received on Sections 4, 6, 8, and 10 of the TGm SDD as captured in the Commentary database, IEEE 802.16m-08/046. Comment resolutions are recorded in the final Commentary database, IEEE 802.16m-08/046r4.

Lunch Break 12:00 – 1:30 PM

In the afternoon, the TGm Vice Chair continued to resolve comments on the TGm SDD non-PHY sections. The session recessed at 5:30 PM.

7:00 – 10:00 PM: The LBS Rapporteur Group met. The results are included in their closing report, C802.16m-08/1501.

### **TGm Track C:**

8:00 AM – 12:00 PM: The MBS Rapporteur Group met. . The results are included in their closing report, C802.16m-08/1481.

1:30 – 5:55 PM: The Multicarrier Rapporteur Group met. The results are included in their closing report, C802.16m-08/1492.

7:00 PM – 10:00 PM: The UMAC ARQ Rapporteur Group met. The results are included in their closing report,

C802.16m-08/1506. (note: the text description on the 802.16 website indicates this is an opening report)

**TGm Track D:**

8:00 AM – 12:00 PM: The Security Rapporteur Group (RG) met.

1:30 – 5:55 PM: The Security RG met again. The results are included in their closing report, C802.16m-08/1488r1.

**3) Wednesday, November 12, 2008**

**TGm Track A** was called to order at 8:15AM by the TGm Chair to continue to discuss the few remaining amendment text proposals.

At 8:30AM, the TGm Chair returned to resolving comments on Section 11 of the TGm SDD. Final comment resolutions are recorded in the Commentary database, IEEE 802.16m-08/046r4.

Lunch Break: 12:00 – 13:30PM.

In the afternoon, the group continued to resolve SDD PHY comments.

The meeting recessed at 6:00PM for the Social Event.

**TGm Track B** was called to order at 8:00AM by the TGm Vice Chair to continue to resolve comments on Sections 4, 6, 8, and 10 of the TGm SDD. Final comment resolutions are recorded in the Commentary database, IEEE 802.16m-08/046r4.

Lunch Break: 12:00 – 13:30PM.

In the afternoon, the group continued to resolve SDD comments.

The meeting recessed at 6:00PM for the Social Event.

**TGm Track C:**

8:00 AM – 12:00 PM: The UMAC Handover Rapporteur Group met again. The results are included in their closing report, C802.16m-08/1506.

1:30 – 5:55 PM: The MBS Rapporteur Group met again. The results are included in their closing report, C802.16m-08/1481.

The meeting recessed at 6:00PM for the Social Event.

**TGm Track D:**

8:00 AM – 12:00 PM: The UL PHY CTRL Rapporteur Group met. The results are included in their closing report, C802.16m-08/1493.

1:30 – 5:55 PM: The Multicarrier Rapporteur Group met again. The results are included in their closing report, C802.16m-08/1492.

The meeting recessed at 6:00PM for the Social Event.

8-10:30 PM: The UL PHY CTRL Rapporteur Group met again and continued discussions. The results are included in their closing report, C802.16m-08/1493.

#### 4) Thursday, November 13, 2008 – Morning Session

**TGm Track A** was called to order at 8:15AM by the TGm Chair to continue to resolve comments on Section 11 of the TGm SDD. All comment resolutions are recorded in the final Commentary database, IEEE 802.16m-08/046r4.

End of Track at 12:00PM.

**TGm Track B** was called to order at 10:00AM by TGm Vice Chair to continue to resolve non-Section 11 comments on the TGm SDD. Final comment resolutions are recorded in the Commentary database, IEEE 802.16m-08/046r4.

End of Track at 12:00PM.

**TGm Track C:** The SON Rapporteur Group met at 8:00AM. The Femto Rapporteur Group met immediately following the SON Rapporteur Group. The results are included in their closing reports, C802.16m-08/1485r1 and C802.16m-08/1503, respectively.

End of Track at 12:00PM.

#### **TGm Track D: Did not meet**

#### 5) Thursday, November 13, 2008 – Afternoon Session

**TGm Session:** Since, per the agenda, no other groups were meeting in parallel the meeting continued as a full TGm session and was called to order by the TGm Chair at 1:00 PM.

As not all SDD comments assigned to TGm Track A had been resolved prior to lunch, the group continued to resolve Section 11 comments. All comment resolutions are recorded in the Commentary database, IEEE 802.16m-08/046r4.

After SDD comment resolution was completed, the TG moved on to reviewing the outputs of the different Rapporteur Groups. The LBS Rapporteur Group report IEEE C802.16m-08/1501 was presented. The proposed text from the RG was documented in C802.16m-08/1486r1 and accepted unanimously for inclusion in the SDD. The specifics were converted into a comment and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The MBS Rapporteur Group report IEEE C802.16m-08/1481 was presented. The proposed text from the RG was documented in C802.16m-08/1482r2 and accepted unanimously for inclusion in the SDD. The specifics were converted into a comment and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The Multicarrier Rapporteur Group report IEEE C802.16m-08/1492 was presented. The proposed text from the RG was documented in C802.16m-08/1491 and accepted for inclusion to the SDD. The specifics were converted into a comment and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The UL PHY CTRL Rapporteur Group report IEEE C802.16m-08/1493 was presented. The proposed text from the RG was documented in C802.16m-08/1494 and accepted for inclusion to the SDD except E-MBS feedback part. The specifics were converted into a comment and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The Security Rapporteur Group report IEEE C802.16m-08/1488r1 was presented. The proposed text from the RG was documented in C802.16m-08/1487r1 and 1504r1 and accepted for inclusion to the SDD. The specifics were converted into a comment and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The UMAC Rapporteur Group report IEEE C802.16m-08/1506 was presented (including 4 UMAC ad-hocs). The proposed texts from the four UMAC ad-hocs (Handover, Headers, Others, ARQ) were as follows:

- Handover - C80216m-08/1497 was accepted for inclusion to the SDD.
- Headers - C80216m-08/1410r2 was accepted for inclusion to the SDD.
- Others - C80216m-08/1440r3 was accepted for inclusion to the SDD.
- ARQ - C80216m-08/1409r2 was rejected (YES: 61 / NO: 77) and a revised version contained in C80216m-08/1490r4 was accepted. (YES: 83 / NO: 57)

The details were converted into comments and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The SON Rapporteur Group report IEEE C802.16m-08/1485r1 was presented. The proposed text was documented in IEEE C802.16m-08/1485r1 and accepted for inclusion to the SDD. The details were converted into comments and recorded in the Commentary database, IEEE 802.16m-08/046r4.

The Femto Rapporteur Group report IEEE C802.16m-08/1503 was presented. There was no proposed SDD text.

The Relay Rapporteur Group report IEEE C802.16m-08/1498 was presented. In the report, the agreed ToC was included.

**Motion:** To adopt the text (ToC) on page 4 of IEEE C802.16m-08/1498 into the SDD.

**Moved:** Ron Murias

**Seconded:** Carl Eklund

**Results:** Passed (YES: 35 / NO: 28)

The RG chairs didn't want to issue a call for comments with this ToC.

Then, the following motion was proposed to establish an amendment working document.

**Motion:** To adopt IEEE C802.16m-08/1339r3 as initial amendment text and authorize the amendment editor to issue a draft working document.

**Moved:** Ron Murias

**Seconded:** Jaeweon Cho

**Results:** Passed – Unanimously

A drafting group was also formed for DL/UL-PHY to consolidate and rationalize the different PHY amendment text proposals received at this session. This drafting group is to provide their text output to the amendment editor for incorporation into the draft working document.

**Motion:** To form a drafting group on DL-PHY and UL-PHY structure to create draft text based on contributions received in Session #58 (7 DL, 5 UL)

**Moved:** Mark Cudak

**Seconded:** Ron Murias

**Results:** Passed – Unanimously

The TGM Chair appointed Mark Cudak to chair this drafting group and specifically requested that he complete the work as quickly as possible so that the amendment working document can be completed by the amendment editor in time for comment prior to the January session.

The Relay RG was authorized to continue work until the January '09 meeting.

**Motion:** To authorize the TGM Relay Rapporteur Group to continue to work until the next session.  
**Moved:** Yousuf Saifullah  
**Seconded:** Jerry Sydir  
**Results:** Passed (YES: 40 / NO: 4)

The Chair authorized two additional RGs to continue to work until the January '09 session and to develop draft SDD text for inclusion into the document after the next session (assuming the text is approved at the session).

- Femto/SON RG :  
Chairs; Changhoi Koo, Baowei Ji, Shashikant Maheshwari
- Relay RG :  
Chairs; Jerry Sydir, Yousuf Saifullah, Ken Loa

Then the group moved to approve the SDD editorial comments..

**Motion:** To accept the following list of editorial comments in the SDD commentary database IEEE 802.16m-08/046r1,  
 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 21, 23, 24, 27, 28, 29, 32, 34, 35, 36, 37, 39, 40, 41, 42, 44, 45, 46, 47, 48, 50, 51, 52, 57, 58, 59, 60, 62, 64, 67, 73, 74, 83, 84, 87, 88, 90, 91, 96, 97, 98, 99, 100, 101, 105, 106, 112, 120, 122, 129, 140, 145, 147, 152, 153, 158, 160, 163, 164, 178, 179, 180, 182, 183, 184, 188, 193, 194, 198, 200, 201, 202, 203, 206, 208, 209, 210, 213, 214, 218, 219, 222, 223, 226, 228, 229, 230, 235, 239, 240, 244, 245, 246, 247, 250, 251, 253, 254, 255, 261, 264, 268, 269, 271, 278, 282, 284, 288, 289, 290, 291, 293, 297, 298, 304, 307, 309, 312, 313, 314, 315, 324, 327, 328, 329, 330, 331, 332, 334, 335, 336, 337, 340, 341, 342, 346, 349, 350, 388, 389, 390, 391, 392, 399, 400, 401, 413, 426, 438, 439, 441, 442, 443, 444, 445, 447, 448, 451, 452, 453, 454, 456, 459, 460, 461, 462, 464, 466, 468, 469, 492, 493, 494, 495, 502, 503, 504, 505, 506, 532, 576, 577, 580, 581, 582, 584, 588, 589, 591, 597, 601, 604, 610, 616, 617, 618, 619, 620, 621, 622, 623, 629, 631,

and authorize the editor to implement those changes in the next issue of the SDD.

**Moved:** Shkumbin Hamiti  
**Seconded:** Hokyu Choi  
**Results:** Passed – Unanimously

**Motion:** To approve the technical resolutions recorded in IEEE 802.16m-08/046r4 and authorize the SDD editor to implement those resolutions and issue a revision, IEEE 802.16m-08/003r6, of the SDD based on those resolutions.

**Moved:** Shkumbin Hamiti  
**Seconded:** Hokyu Choi  
**Results:** Passed – Unanimously

Then the group returned to resolving the remaining comments in the EMD Commentary database IEEE 802.16m/045r1, related to Relay, that had been tabled from the opening meeting. All comment resolutions are



recorded in the EMD Commentary database, IEEE 802.16m-08/045r2.

**Motion:** To approve the resolutions in IEEE 802.16m-08/045r2 and authorize the EMD editor to issue a revision, IEEE 802.16m-08/004r4, of the EMD based on those resolutions.  
**Moved:** Roshni Srinivasan  
**Seconded:** Ron Murias  
**Results:** Passed – Unanimously

Due to an error by the Vice Chair, there were a number of remaining unresolved comments on Section 20 of the SDD and in the interest of time, the group decided to reject them all.

**Motion:** To reject all unresolved 76 +11 (Late) comments.  
**Moved:** DJ Johnston  
**Seconded:** Yousuf Saifullah  
**Results:** Passed (YES: 41/ NO: 0)

The Chair then recommended that the commenters resubmit their comments when the new version of the SDD is issued for comment.

The Chair then announced the plan for the Calls for the next Session:

- Call for Comments on SDD (except Section 15 and 17)
- Call for Comments on amendment text (limited)

The Chair then asked for any New Business. There was none.

**Motion:** To adjourn the meeting.  
**Moved:** DJ Johnston  
**Seconded:** Roshni Srinivasan  
**Results:** Passed (YES: 41 / NO: 0)

Having no further business, the Group adjourned at 6:28 PM.