IEEE P802.11  
Wireless LANs

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| IEEE 802.11 TGax  May 2017 Daejeon Meeting Minutes | | | | |
| Date: 2017-05-31 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Yasuhiko Inoue | NTT | 1-1 Hikari-no-oka, Yokosuka, Kanagawa 239-0847 Japan | +81 46 859 5097 | inoue.yasuhiko@lab.ntt.co.jp |
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Abstract

TGax meeting minutes from the IEEE 802.11 Daejeon session, May 8th – 11th, 2017.

Minutes/Straw Polls from the ad hoc groups are contained in the following documents:

* PHY Ad Hoc
  + [11-17-0850-00](https://mentor.ieee.org/802.11/dcn/17/11-17-0850-00-00ax-may-2017-daejeon-phy-ad-hoc-meeting-minutes.docx), IEEE 802.11 TGax May 2017 Daejeon PHY Ad Hoc Meeting Minutes
* MAC Ad Hoc
  + [11-17-0829-00](https://mentor.ieee.org/802.11/dcn/17/11-17-0829-00-00ax-11ax-mac-ad-hoc-meeting-minutes.docx), May 2017 TGax MAC Ad hoc Meeting Minutes
* MU Ad Hoc
  + Submissions for the MU ad hoc were presented in the MAC ad hoc.
* SR Ad Hoc
  + [11-17-0817-00](https://mentor.ieee.org/802.11/dcn/17/11-17-0817-00-00ax-spatial-reuse-ad-hoc-group-meeting-minutes.docx), Minutes of the May 2017 meetings of the Spatial Reuse ad hoc group of IEEE Task Group AX (TGax)

**IEEE 802.11 Task Group ax**

**May 2017 Daejeon Meeting**

**Deajeon Convention Center, Daejeon, Korea**

**May 8th – 11th, 2017**

**TGax Chair Osama Aboul-Magd (Huawei Technologies)**

**Vice Chair Simone Merlin (Qualcomm)**

**Vice Chair Ron Porat (Broadcom)**

**TGax Secretary Yasuhiko Inoue (NTT)**

**TGax Technical Editor Robert Stacy (Intel)**

**Monday, May 8th, 2017, AM2 TGax full Session (10:30-12:30)**

1. **The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax,** **@10:30.**
   1. Introduction of front table.
2. **Announcement**
   1. Agenda Doc.11-17/0555r0 on the server. Rev. 1 is the working document.
   2. Meeting Protocol: Chair asked to state name and affiliation when speaking for the first time.
   3. Attendance reminder.
      1. The attendance server: https://imat.ieee.org/
3. **The chair reviewed the mandatory 6 slides of P&P.**
   1. Instructions for the WG Chair.
   2. Participants, Patents, and Duty to Inform.
   3. Patent Related Links.
   4. Call for potentially essential patents.
      1. Chair asked if anyone is aware of potentially essential patents.
      2. No potentially essential patents reported.
   5. Other Guidelines for IEEE WG Meetings.
   6. Participation in IEEE 802 Meetings
4. **Agenda items for the week**
   1. Approve meeting and teleconference minutes since March 2017.
   2. Continue with comment resolution on draft D1.0
   3. Schedule TG ad hoc meeting (possibly in Europe)
   4. Schedule TG telecons.
5. **General Flow of the meeting**
   1. Slides 14 and 15 of the 17/0555r0 contain general flow of the meeting.
   2. There are ten meeting slots planed for TGax.

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Monday | | Tuesday | | Wednesday | | Thursday |
| AM1 |  | |  | | TGax  (full session) | |  |
| AM2 | TGax  (full session) | | TGax  (full session) | |  | |  |
| PM1 |  | |  |  | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (full session) |
| PM2 | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (full session) |
| PM3 | TGax  (Ad Hoc) | TGax  (Ad Hoc) | TGax  (ad Hoc) | TGax  (ad Hoc) |  | |  |

1. **Call for submissions – 63 submissions**
   1. PHY – 19 submissions
      1. 11-17-0044, “NDP Feedback Report Design,” Ron Porat (Broadcom)
      2. 11-17-0232, “CR\_clause 28.3.6,” Xiaogang Chen (Intel)
      3. 11-17-0233, “CR\_4905,” Xiaogang Chen (Intel)
      4. 11-17-0288, “CRs on HE-SIG-B 28.3.10.8.4-5 part 1,” Yujin Noh (Newracom)
      5. 11-17-0289, “CRs on HE-SIG-B terminologies on 28.3.10.8.1-3,” Yujin Noh (Newracom)
      6. 11-17-0290, “CRs on TX specification,” Yujin Noh (Newracom)
      7. 11-17-0465, “CR on TXTIME and PSDU\_LENGTH,” Youhan Kim (Qualcomm)
      8. 11-17-0648, “CR on HE-SIG-A,” Ron Porat (Broadcom)
      9. 11-17-0650, “LB 225 - Cluase 18.2 Comment Resolution,” Osama Aboul-Magd (Huawei Technologies)
      10. 11-17-0678, “Discussion of CID 9021,” Sigurd Schelstraete (Quantenna)
      11. 11-17-0690, “CRs on 28.3.10.7.3,” Yujin Noh (Newracom)
      12. 11-17-0694, “CRs for packet extension in 28.3.12,” Sungeun Lee (Cypress)
      13. 11-17-0698, “CRS on Miscellaneous PHY CIDs,” Bin Tian (Qualcomm)
      14. 11-17-0714, “CSD update for 28.3.6,” Dongguk Lim (LG Electronics)
      15. 11-17-0734, “Doppler Discussions,” Hongyuan Zhang (Marvell)
      16. 11-17-0736, “HE Link Adaptation,” Xiaogang Chen (Intel)
      17. 11-17-0769, “CRs for 20MHz-only STA - Part 3,” Sungeun Lee (Cypress)
      18. 11-17-0773, “Thoughts on Doppler Design in 802.11ax,” Lochan Verma (Qualcomm)
      19. 11-17-0774, “CID8975 resolution,” Hongyuan Zhang (Marvell)
   2. MAC – 28 submissions
      1. 11-17-0073, “CR for 27.5.2.7 NDP feedback report,” Laurent Cariou (Intel)
      2. 11-17-0088, “CR on 10.22.2.8 TXOP limits, ” Woojin Ahn (Wilus Institute)
      3. 11-17-0340, “CR for 11-1-3-10,” Yonggang Fang (ZTE)
      4. 11-17-0360, “LB225 CR for Subclause 27.3.3-Part 1,” Ming Gan (Huawei Technologies)
      5. 11-17-0389, “CIDs-for-27-2-1-part1,” Kaiying Lv (ZTE)
      6. 11-17-0553, “LB225 11ax D1.0 Comment Resolution 27.10.4 Part 1,” Liwen Chu (Marvell)
      7. 11-17-0576, “Resolutions for Comments related to Extended Range Beacon,” Tomoko Adachi (Toshiba)
      8. 11-17-0581, “LB225-MAC-CR-Miscellaneous,” Alfred Asterjadhi (Qualcomm)
      9. 11-17-0586, “lb225-cr-mac\_miscellaneous\_part2,” Yongho Seok (Newracom)
      10. 11-17-0602, “Misc 27\_12,” Alfred Asterjadhi (Qualcomm)
      11. 11-17-0603, “Misc 27\_15,” Alfred Asterjadhi (Qualcomm)
      12. 11-17-0604, “Misc RDP Control,” Alfred Asterjadhi (Qualcomm)
      13. 11-17-0607, “LB225-MAC-CR-Misc BSR Control,” Alfred Asterjadhi (Qualcomm)
      14. 11-17-0621, “CRs for Section 27.4 - part 2,” George Cherian (Qualcomm)
      15. 11-17-0677, “CRs for Section 9.3.1.9 block ack - part 2,” George Cherian (Qualcomm)
      16. 11-17-0688, “LB225 11ax D1.0 Comment Resolution 27.10.4 - Part II,” Chittabrata Ghosh (Intel)
      17. 11-17-0702, “CR for CID 9574,” Kaiying Lv (ZTE)
      18. 11-17-0727, “LB225 MAC CR for Clause 10-9,” James Yee (MediaTek)
      19. 11-17-0729,” CR for CID7250 7251 and 7252,” Kiseon Ryu (LG Electronics)
      20. 11-17-0730, “CR for CID7255,” Kiseon Ryu (LG Electronics)
      21. 11-17-0733, “Comment Resolution on TIM broadcast,” Jason Yuchen Guo (Huawei Technologies)
      22. 11-17-0735, “CR to CID4850 and CID8153 on TWT,” Jarkko Kneckt (Apple)
      23. 11-17-0744, “CR for 10.3.2.4 and 27.2.2 Part II,” Po-Kai Huang (Intel)
      24. 11-17-0759, “Comment Resolution on CID 9333 and 9969,” Jason Yuchen Guo (Huawei Technologies)
      25. 11-17-0765, “follow up unify queue size report,” Zhou Lan (Broadcom)
      26. 11-17-0766, “spec text unify queue size report,” Zhou Lan (Broadcom)
      27. 11-17-0775, “Non-HT definition,” Matthew Fischer (Broadcom)
      28. 11-17-0777, “CR TWT IE,” Matthew Fischer (Broadcom)
   3. MU – 1 submission
      1. 11-17-0751, “Comment Resolution on retransmission of OFDMA random access,” Yunbo Li (Huawei Technologies)
   4. SR – 5 submissions
      1. 11-17-0633, “CR 27.9 spatial reuse updates,” Matthew Fischer (Broadcom)
      2. 11-17-0640, “CR 27.2 SRG updates,” Matthew Fischer (Broadcom)
      3. 11-17-0669, “CR for CID 4928,” Kaiying Lv (ZTE)
      4. 11-17-0724, “LBS2 various,” Matthew Fischer (Broadcom)
      5. 11-17-0748, “Supplementary instructions related to OBSS\_PD spatial reuse Disallow / Prohibit” Sean Coffey (RealTek)
   5. TG – 10 submissions
      1. 11-17-0112, “Link Transmit Power,” Matthew Fischer (Broadcom)
      2. 11-17-0123, “Link Transmit Power Text,” Matthew Fischer (Broadcom)
      3. 11-17-0308, “CR for section 9.4.2 BSS load PPT,” Frank Hsu (MediaTek)
      4. 11-17-0336, “CR for CID 8555 - Virtual CS during UL MU CS,” Rojan Chitrakar (Panasonic)
      5. 11-17-0337, “Explanation of CR for CID 8555,” Rojan Chitrakar (Panasonic)
      6. 11-17-0361, “BSS Load Information in 802.11ax,” Ming Gan (Huawei Technologies)
      7. 11-17-0582, “OBSS\_PD/TPC Examined,” Graham Smith (SR Technologies)
      8. 11-17-0665, “Proposed Resolutions to CID 6901 and 7690,” Osama Aboul-Magd (Huawei Technologies)
      9. 11-17-0707, “CR for CID 8555,” Po-Kai Huang (Intel)
      10. 11-17-0711, “CR for PHY-CCA.indication,” Rojan Chitrakar (Panasonic)
   6. **Ad Hoc meeting scheduling**
      1. Ad Hoc slot assignment
         1. MAC & MU … 6, PHY … 4, SR … 2.
      2. Chair asked if there are any objections to approve the TGax schedule as follow.
         1. There are no objections. The TGax schedule is approved.

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|  | Monday | | Tuesday | | Wednesday | | Thursday |
| AM1 |  | |  | | TGax  (full session) | |  |
| AM2 | TGax  (full session) | | TGax  (full session) | |  | |  |
| PM1 |  | |  |  | TGax  (PHY) | TGax  (MAC) | TGax  (full session) |
| PM2 | TGax  (PHY) | TGax  (MAC) | TGax  (SR) | TGax  (MAC) | TGax  (PHY) | TGax  (MAC) | TGax  (full session) |
| PM3 | TGax  (MAC) | TGax  (MAC) | TGax  (SR) | TGax  (MAC) |  | |  |

1. **Agenda for Monday, May 8th, AM2 (10:30 – 12:30).**
   1. Proposed Agenda for Monday PM1:
      1. Call meeting to order
      2. Patent policy, etc.
      3. Call for submissions
      4. Set Ad Hoc Groups schedule and approve agenda
      5. Summary from March 2017 meeting
      6. TG motions
         1. Approve TG meeting and Telecon minutes since November meeting.
      7. Editor Report – Robert Stacey
      8. Timeline
      9. Options for the next TGax ad hoc meeting
      10. Reference 802.11ax Waveform Generator
      11. Presentations and Comment Resolution
          1. 11-17/0655 Proposed Resolutions to CID 6901 and 7690
          2. 11-17/0112 Link Transmit Power
          3. others
      12. Recess
   2. Chair asked if there are any other items – No items proposed.
   3. Meeting will be conducted based on this order.
2. **Summary from March 2017 Meeting**
   1. **Completed the resolution of 1355 CIDs during the March ad hoc and IEEE 802.11 meetings.**
   2. **Adjusted the TG timeline to account for the large number of comments received on draft D1.0. Draft D2.0 is now due after September 2017 meeting.**
   3. **Draft 1.2 incorporates most of those resolutions and is available in the member area.**
   4. **Held a number of telecons with little progress on the comment resolution.**
   5. **Held an ad hoc meeting last week in Seoul Korea. Close to 550 CIDs are ready for motion (11-17/0616r4 and 11-17/701r1 for agenda and straw polls).**
3. **TG Motions**
   1. **Motion: Approve TGax minutes of meetings and teleconferences from March 2017 plenary meeting to today:** 
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0454-01-00ax-tgax-march-2017-vancouver-meeting-minutes.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0454-01-00ax-tgax-march-2017-vancouver-meeting-minutes.docx)
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0544-03-00ax-tgax-teleconference-minutes-from-march-to-april-2017.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0544-03-00ax-tgax-teleconference-minutes-from-march-to-april-2017.docx)
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0504-00-00ax-spatial-reuse-ad-hoc-group-march-2017-minutes.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0504-00-00ax-spatial-reuse-ad-hoc-group-march-2017-minutes.docx)
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0495-00-00ax-tgax-mu-ad-hoc-minutes-march-2017.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0495-00-00ax-tgax-mu-ad-hoc-minutes-march-2017.docx)
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0494-00-00ax-march-2017-vancouver-phy-ad-hoc-meeting-minutes.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0494-00-00ax-march-2017-vancouver-phy-ad-hoc-meeting-minutes.docx)
      * [**https://mentor.ieee.org/802.11/dcn/17/11-17-0155-01-00ax-11ax-mac-ad-hoc-minutes.docx**](https://mentor.ieee.org/802.11/dcn/17/11-17-0155-01-00ax-11ax-mac-ad-hoc-minutes.docx)
      1. **Moved by Robert Stacy, Seconded by Al Petrick.**
      2. **Discussion – No discussion.**
      3. **Result: Motion accepted with no objection.**
4. **Editor’s Report**
   1. Email from Robert Stacy, the TGax editor, contains current status of the comment resolution for 802.11ax draft 1.0 (WG LB 225).

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| **Count of CID** | **Column Labels** |  |  |  |  |  |
| **Owning Ad-hoc** | Unassigned | Assigned | Resolution Drafted | Approved | Duplicate | Grand Total |
| **EDITOR** | 1658 | 59 | 484 | 1606 | 1102 | 4909 |
| **Approved Edits in D1.1** |  |  |  | 251 | 11 | 262 |
| **CA Doc** | 10 |  |  |  |  | 10 |
| **Duplicates** |  |  |  |  | 1090 | 1090 |
| **Editorials** | 1623 |  |  |  |  | 1623 |
| **Editorials in D1.1** |  |  | 96 |  |  | 96 |
| **Editorials in D1.2** |  |  | 366 |  |  | 366 |
| **Revist** |  |  | 8 |  |  | 8 |
| **(blank)** | 25 | 59 | 14 | 1355 | 1 | 1454 |
| **MAC** | 15 | **1440** |  | 1 |  | 1456 |
| **Editorials** | 15 |  |  |  |  | 15 |
| **(blank)** |  | 1440 |  | 1 |  | 1441 |
| **MU** | 3 | **373** |  | 1 |  | 377 |
| **Editorials** | 3 |  |  |  |  | 3 |
| **(blank)** |  | 373 |  | 1 |  | 374 |
| **SR** |  | **139** |  |  |  | 139 |
| **(blank)** |  | 139 |  |  |  | 139 |
| **PHY** | 3 | **526** | 4 | 4 |  | 537 |
| **Editorials** | 3 |  |  |  |  | 3 |
| **OFDMA and non-OFDMA** |  |  | 1 |  |  | 1 |
| **(blank)** |  | 526 | 3 | 4 |  | 533 |
| **Grand Total** | 1679 | 2537 | 488 | 1612 | 1102 | 7418 |

1. **Timeline**
   1. Slide 25 of the agenda document (17/0555) contains the modified timeline.
      1. The modification is based on the comment from a member that the ballot on D2.0 is a WG letter Ballot since D1.0 did not pass.
   2. Modified Timeline
      1. **May 2014: start of the TG**
      2. **Nov. 2014: First draft of the TG SFD was approved**
      3. **Jan. 2016: proposed TG draft**
      4. **March 2016: Draft D0.1 was approved and CC started**
      5. **November 2016: Draft 1.0 and WG letter ballot**
      6. **September 2017: Draft 2.0 and ~~recirculation~~ WG letter ballot**
      7. **May 2018: MDR (Mandatory Document Review)**
      8. **May 2018: Formation of SB pool**
      9. **November 2018: Sponsor Ballot**
      10. **July 2019: RevCom**
   3. The modified timeline was approved with no objection.
2. **Ad Hoc Meeting in June/July**
   1. IEEE 802.11 meeting is scheduled for July 9-14
   2. Based on the summary table sent by the Editor, there are 1952 non-PHY comments and 526 PHY comments before the start of the ad hoc meeting last week.
   3. Options for Ad Hoc meeting:
      1. Option #1: Have a 3-day ad hoc meeting in the period June 26-28
         1. Room is already available in the Bay area.
         2. After the WFA meeting June 12
      2. Option #2: Have a 3-day ad hoc meeting the week before the IEEE 802.11 F2F meeting, in Europe during the period July (5-7) or July 6-8 or July 7-9
         1. Volunteers based in Europe are ready to check room availability
      3. Option #3: No ad hoc meeting
   4. Chair asked people to think about the plan.
3. **802.11ax Reference Waveform Generator**
   1. Rationale
      1. Annex O includes a reference to HT and VHT waveform generator tool.
      2. In 11ac the work was initiated in 11-11/0295r3 by Fei Tong and Wei Shi.
      3. The effort had attracted participation from other members.
   2. Discussion
      1. Do we need to do the same for 11ax?
         1. E.mail from Brian Hart suggests addition of HE waveform.
         2. Fei Tong is ready to lead the effort by need others participation.
      2. A member mentioned that we definitely need waveform generator for HE.
   3. Next step
      1. Chair asked people to send an email to him if interested in this work.
4. **Presentations**
   1. **Osama Aboul-Magd (Huawei Technologies) presented “Proposed Resolutions to CID 6901 and 7690,” based on the submission 11-17-0665-01.**
      1. Summary
         1. Proposed resolutions to CID 6901 and CID 7690 related to the dominance issue in TGax discussed at the 802.11 WG and the 802 EC and the related remedy are contained in the document.
         2. The resolutions for those CIDs are still “Rejected.” The rationale for the rejection is updated from r0 based on the feedback from members.
      2. Discussion
         1. A member suggested change to the first statement of the resolution to add that the dominance issue is related to the spatial reuse issue. 🡪 Osama is okay with it. Some members are not happy with it.
      3. Next Step
         1. Osama asked people for further comments and/or feedback.
   2. **Matthew Fischer (Broadcom) presented “Link Transmit Power (LTP),” based on the submission 11-17-0112-04.**
      1. Summary
         1. Resolution for CID 8098 is proposed.
         2. Transceivers can benefit from increased EVM when compared to EVM requirements.
         3. Proposal provides a means for TX Power modification per link.
      2. Discussion
         1. A member discussed fairness issue introduced by the increased EVM and the accuracy.
         2. Another member asked a question on calculation of EVM and also commented that EVM is decreased by 3 dB in the actual environment/implementation.
         3. There was a question whether MCS 9 can still be the default power. 🡪 It relates to the receiver.
         4. Time is up.
5. **AoB**
   1. PM2 and PM3 sessions on Monday May 8th are ad hoc sessions
      1. PM2
         1. Ad Hoc #1 – PHY: 201 .
         2. Ad Hoc #2 – MAC: 103.
      2. PM3
6. **TGax meeting recessed @ 12:30.**

The next TGax full session is AM2 tomorrow (Tuesday, May 9th, 10:30).

**Monday, May 8th, 2017, PM2 TGax Ad Hoc Sessions (16:00-18:00)**

* Ad Hoc #1: PHY @ Room 201
  + Agenda: 11-17-0783
* Ad hoc #2: MAC @ Room 103
  + Agenda: 11-17-0786

**Monday, May 8th, 2017, PM3 TGax Ad Hoc Sessions (19:30-21:30)**

* Ad Hoc #1: PHY @ Room 201
  + Agenda: 11-17-0783
* Ad hoc #2: MAC @ Room 103
  + Agenda: 11-17-0786

**Tuesday, May 9th, 2017, AM2 TGax full Sessions (10:30-12:30)**

1. **The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax,** **@10:30.**
   1. Introduction of front table.
2. **Reminder**
   1. Chair reminded that we are still operating under the IEEE-SA IPR Policy and Procedure.
3. **Announcement**
   1. Agenda Doc.11-17/0555r2 on the server. Rev. 3 is the working document.
   2. Meeting Protocol: Chair asked to state name and affiliation when speaking for the first time.
   3. Attendance reminder.
      1. The attendance server: https://imat.ieee.org/
4. **Agenda Setting**
   1. Proposed agenda for this session
      1. Call Meeting to order
      2. IEEE-SA IPR Policy and Procedure
      3. Progress Review
      4. Presentations
         1. 11-17/0112 Continue with the SP – 30 min (112 and 123)
         2. 11-17/0123 Text related to 11-17/0112 (depending on the SP)
         3. 11-17/0582 OBSS\_PD/TPC Examined - 45 min
         4. 11-17/0308 CR for section 9.4.2 BSS load PPT (if time allows)
         5. 11-17/0361 BSS Load Information in 802.11ax (if time allows)
      5. Recess
   2. Chair asked if there is any objection to proceed with this agenda. 🡪 No response.
   3. The agenda for Tuesday AM2 was approved.
5. **Progress Review**
   1. **PHY: Need two more slots.**
   2. **MAC: Not so much progress. Still have many submissions to go.**
   3. **SR: Not started yet.**
6. **Comment Resolution**
   1. **Matthew Fischer (Broadcom) conducted straw polls in his presentation 11-17-0112r4 Link Transmit Power.**
      1. **Straw Poll**
         1. **SP #1: Do you support the concept of Link Transmit Power as outlined in the previous slides, without the requirement to send an NDP?**
            1. **Discussion**

**A member mentioned that this is a new thing and people should be careful to make decision.**

* + - * 1. **Result: Y/N/A = 16/17/30**
      1. **Other straw polls in 17/112r4 are not conducted.**
  1. **Graham Smith (SR Technologies) presented “TG ax – Spatial Reuse OBSS\_PD/TPC Examined,” based on the submission 11-17-0582-02.**
     1. Summary
        1. Proposal to link OBSS\_PD adjustment with TPC was approved but no described scheme for selecting the OBSS\_PD level.
        2. Current scheme for OBBS\_PD and TPC adjustment has problems – better decision process is required.
        3. Examined DSC.
     2. Discussion
        1. A member mentioned that the SRG can solve the issue. Proposed solution may have fairness issue. Graham disagrees with the comment.
        2. Another member commented that he/she does not see much value to have additional procedure.
     3. **Straw Poll**
        1. **In response to 17/0582, which option(s) would you allow as the way ahead for spatial reuse in 11ax?**

***May vote for more than one to allow for combinations (see Straw Poll #2)***

**Option 1) Leave as is?**

**Option 2) Use DSC to make transmit decision but hard coupled to OBSS\_PD/TPC NON SRG PD, and SRG PD ?**

**Option 3) Use DSC independently (inter-BSS only)**

* + - 1. **Discussion**
         1. **A member asked if the use of DSC with OBSS\_PD/TCP is hard coupled. 🡪 DSC may be used to make decision of OBSS\_PD/TCP.**
      2. **Result: Option 1/Option 2/Option 3 = 39/10/5.**
  1. **Frank Hsu (MediaTek) presented “BSS Load Information Element for 11ax,” based on the submission 11-17-0308-02.**
     1. Summary
        1. This submission discusses resolutions for CIDs 5917 and 8165.
        2. 11ax introduces MU of OFDMA and UL MIMO, but current BSS load IEs cannot reflect true loading of 11ax HE BSSs.
        3. New information element contents are proposed to convey the HE BSS load information. These contents can be carried either in a new element or in the extension of the legacy BSS load element.
     2. Discussion
        1. A member asked a question how to think about the TXOP for the cascading case.
        2. Another member asked for clarification of MU capable STA.
        3. There was a comment that we should check the discussion of BSS Load in TGac.
     3. Straw Poll
        1. No straw poll at this point.
  2. **Ming Gan (Huawei Technologies) presented “BSS Load Information in 802.11ax,” based on the submission 11-17-0361-01.**
     1. Summary
        1. This submission also discusses resolutions for CIDs 5917 and 8165 on load unbalancing issue in high density environment.
        2. Proposed to consider resource utilization of each 20 MHz channel and Frequency and spatial stream underutilization of OFDMA and SU/MU-MIMO on each 20 MHz channel.
     2. Discussion
        1. A member commented that this is basically a right direction to go and that more study is needed for UL OFDMA case.
        2. Another member commented that DL and UL should be considered separately.
        3. There was a request for clarification of how a STA interprets information of per 20 MHz channel.
     3. Next step
        1. Chair suggested offline discussion.

1. **Recess for lunch @ 12:29.**

**Tuesday, May 9th, 2017, PM2 TGax Ad Hoc Sessions (16:00-18:00)**

* Ad hoc #1: SR @ Room 201
  + Agenda: 11-17-0797
* Ad hoc #2: MAC @ Room 103
  + Agenda: 11-17-0786

**Tuesday, May 9th 2017, PM3 TGax ad hoc Session (19:30-21:30)**

* Ad hoc #1: SR @ Room 201.
  + Agenda: 11-17-0797
* Ad hoc #2: MAC @ Room 103.
  + Agenda: 11-17-0786

**Wednesday, May 10th 2017, AM1 TGax full Sessions (8:00-10:00)**

1. **The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of the TGax, @8:00 AM**
   1. Agenda 17/0555r2 is on the server.
   2. Rev. x is the working document.
2. **Agenda Setting**
   1. Proposed agenda for this session
      1. Call Meeting to order
      2. IEEE 802 and 802.11 IPR Policy and procedure.
      3. Presentations
         1. 11-17/0665 Proposed Resolutions to CID 6901 and 7690
         2. 11-17/0336 CR for CID 8555 - Virtual CS during UL MU CS
         3. 11-17/0337 Explanation of CR for CID 8555
         4. 11-17/0707 CR for CID 8555
         5. 11-17/0711 CR for PHY-CCA.indication
         6. 11-17/0814 Frame Sequences
         7. Any MAC CR submissions – Time allows
      4. June/July – September ad hoc locations and dates – Straw polls
      5. Recess
   2. Chair asked if there any comments or suggestions on the proposed agenda. No response.
      1. The agenda for Wednesday AM1 is approved.
3. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and 802.11 Policies and Procedures.
   2. Chair asked to state name and affiliation when addressing for the first time in the session.
   3. Chair asked to put cellphone mute.
4. **Presentations**
   1. **Osama Aboul-Magd (Huawei Technologies) presented “Proposed Resolutions to CID 6901 and 7690,” based on the submission 11-17-0665-01.**
      1. Summary
         1. Osama presented the update from the one presented yesterday.
         2. The resolutions are still “Rejected” but the reason for the rejection is updated based the feedback from WG vice-chair.
      2. Discussion
         1. Some members are still not happy with the resolution.
         2. A member mentioned people should vote No for the straw poll.
      3. **Straw Poll: Do you agree to the resolutions of CIDs 6901 and 7690 in doc 11-17/0665r1?**
         1. **Discussion:**
            1. **A member asked a question to the commenter who said people should vote no for this SP whether he has alternative resolution.**
         2. **Result: Y/N/A = 29/4/6. To be converted to a motion.**
   2. **Rojan Chitrakar (Panasonic) presented “Virtual CS during UL MU,” based on the submission 11-17-0337-02.**
      1. Summary
         1. Resolution for CID #8555 related to virtual CS during UL MU.
         2. Proposed that a non-AP STA maintains the bandwidth of the OBSS transmission and the status of per 20 MHz channel virtual CS to improve the efficiency of UL transmissions.
      2. Discussion
         1. A member commented that per 20 MHz virtual CS is too complicated and he does not see benefit of doing this.
         2. Another member commented that we already have a similar mechanism for DL. Issues can be fixed.
      3. **Straw Poll: Do you agree that the UL MU CS mechanism should be enhanced as proposed in Slide 6?**
         1. **Result: Y/N/A = 19/18/17.**
         2. **Need more discussion on this topic.**
   3. **Po-Kai Huang (Intel) presented “11ax D1.2 MAC Comment Resolution for CID 8555,” based on the submission 11-17-0707-01.**
      1. Summary
         1. Resolution for CID #8555 is proposed.
         2. The resolution is “Reject”.
      2. Discussion
         1. A member mentioned that he would like to see the case that the per 20 MHz CCA is not useful. 🡪 E.g., all BSS operates in the same bandwidth.
         2. Another member asked for simulation result to show the reason. 🡪 There was a comment that it is not fair to ask the presenter to show simulation results since he does not proposing any new things.
      3. **Straw Poll: Do you accept the resolution to CID 8555 in doc 11-17-0707r1?**
         1. **Result: Y/N/A = 16/15/18.**
         2. **Need more discussion on this topic.**
5. **TGax ad hoc meetings**
   1. September ad hoc meeting
      1. September 6 to 8, in Bay Area (Santa Clara, CA).
         1. Discussion: No objection
   2. June/July ad hoc meeting
      1. Current options:
         1. Option #1) June 26 to 28, somewhere in CA
         2. Option #2) July 5 to 7, in Europe.
         3. Option #3) No ad hoc meeting.
      2. Information
         1. Before May ad hoc there are 1950 Non-PHY CIDs and 526 CIDs
         2. After May meeting, expectations are there will be 1200 Non-PHY CIDs and 300 PHY CIDs
      3. Discussion
         1. A member mentioned that ad hoc should have been scheduled earlier time.
         2. Another member mentioned that June meeting will be difficult.
         3. There was a request to increase the frequency of the conference call.
      4. **Straw Poll: Which option do you prefer?**
         1. **Option #1: June 26 and 27, somewhere in California**
         2. **Option #2: July 6 and 7, somewhere in Europe**
         3. **Option #3: No ad hoc meeting. Increase the frequency of the calls during two weeks before July.**
         4. **Result: Option #1/Option #2/Option #3 = 0/19/23.**
6. **Presentations**
   1. **Robert Stacy (Intel) presented “Frame Sequences,” based on the submission 11-17-0814-00.**
      1. Summary
         1. An overview of HE frame exchange sequences were provided in a slightly more coherent manner than is provided by the spec.
         2. The presentation is mostly a tutorial but introduces some terminology we may want to adopt in the spec.
      2. Discussion
         1. C (Slide 10): A member commented CTS to MU-RTS could be sent only on the secondary channels.
         2. C (Slide 11): Another member commented that the meaning of “Multiple unicast frame” is not clear enough.
         3. C (Slide 12): A member commented current definition of the QoS Null frame.
         4. Q: There was a question on the relationship with the Annex G.
         5. C (Slide 14): A member discussed the content of the SR PPDU.
      3. Robert’s presentation is not completed – to be continued tomorrow if time allows.
7. **Recess@10:00 AM.** 
   1. **There will be TGax ad hoc meetings this afternoon.**
   2. **Chair will send out an email.**

**Wednesday, May 10th 2017, PM1 TGax Ad Hoc Sessions (13:30-15:30)**

* Ad Hoc #1: PHY – Room 201
  + Agenda: 11-17-0783.
* Ad Hoc #2: MAC – Room 103
  + Agenda: 11-17-0786.

**Wednesday, May 10th 2017, PM2 TGax Ad Hoc Sessions (16:00-18:00)**

* Ad Hoc #1: PHY – Room 201
  + Agenda: 11-17-0783.
* Ad Hoc #2: MAC – Room 103
  + Agenda: 11-17-0786.

**Thursday, May 11th, 2017, PM1 TGax full Session (13:30-15:30)**

1. **The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of the TGax, @13:30.**
   1. Agenda 17/0555r4 is on the server. Rev. 5 is the working document.
   2. Introduction of front table.
2. **Agenda for this session**
   1. Thursday PM1 and PM2
      1. Call Meeting to order
      2. Agenda Setting
      3. Announcement/Reminder
         1. IEEE 802 and 802.11 IPR Policy and procedure.
         2. Attendance
      4. Teleconferences
      5. TG Motions
      6. Goals for July 2017
      7. Ad hoc meeting
      8. Additional presentations (if time allows).
      9. Adjourn
   2. Chair asked if there are any modifications to the agenda.
   3. Agenda approved without objections.
3. **Announcement/Reminder**
   1. Chair reminded IEEE 802 and 802.11 IPR P&P.
   2. Chair asked people to state name and affiliation when addressing for the first time in the session.
   3. Chair reminded people to do attendance.
4. **Teleconference schedule**
   1. **Slide 42 of the agenda file contains the teleconference**
   2. **Already approved**
      1. **May 25: 10:00 – 12:00 ET**
      2. **May 18: 20:00 – 22:00 ET**
   3. **New set of teleconferences**
      1. **June 1 , June 15, June 26, June 28: 20:00 – 22:00 ET**
      2. **June 8, June 22, June 27, June 29, July 20: 10:00 – 12:00 ET**
5. **Motions – TG documents**
   1. **PHY Motions**
      1. **PHY Motion # 191: Move to accept the proposed spec text changes to P802.11ax D1.2 as in 11-17/721r0.**
         1. **Moved by Hongyuan Zhang, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      2. **PHY Motion #192: Move to accept the proposed spec text modification to clause 28.3.6 of P802.11ax D1.2 as in 11-17/714r4.**
         1. **Moved by Dongguk Lim, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
   2. **CR Motions**
      1. **CR Motion #251 (PHY): Move to accept comment resolution to CID 7512 and the corresponding spec text modification to clause 28.3.6.7 as in 11-17/608r0.**
         1. **Moved by Yujin Noh, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      2. **CR Motion #252 (PHY): Move to accept the comment resolution to the following CID 10045 and the corresponding spec text modification to clause 28.3.10.7.3 as in 11-17/690r1.** 
         1. **Moved by Yujin Noh, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      3. **CR Motion #253 (PHY):Move to accept the proposed comment resolutions to the CIDs 4971, 4972, 7046, 7852, 7853, 8611, 8612, 8613, 10088, and 9794 and the corresponding spec text modification to clause 28.3.3 as in 11-17/614r3.**
         1. **Moved by Jung Hoon Suh, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      4. **CR Motion #254 (PHY): Move to accept the proposed comment resolutions to the CIDs 4969, 7505, 7851, 8116, 8564, 8598, 8603, 8605, 8606, 8607, 8608, 8610, 9787, 9790, 9791, 9792, 10085 and the corresponding spec text modification to clause 28.3.3.2 as in 11-17/663r4.**
         1. **Moved by Jianhan Liu, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      5. **CR Motion #255 (PHY): Move to accept the proposed comment resolutions to the following CIDs 10377, 4974, 10380, 10381 of clause 28.3.3.5 and 28.3.3.6 as in 11-17/692r1.**
         1. **Moved by Sungeun Lee, Seconded by Ron Porat.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      6. **CR Motion #256 (PHY): Move to accept the proposed comment resolution to the following CIDs and the corresponding spec text modification to clause 28.3.3 as in 11-17/664r1**
         1. **CID 4895, 4978, 4981, 5252, 7143, 7511, 8814, 8823, 8824, 8825, 8826, 8827, 8828, 8829, 8831, 8832, 8833, 9207, 10108, 10200, 10389, 10390, 10391, 10392, 10393**
         2. **Moved by Jinsoo Choi, Seconded by Ron Porat.**
         3. **Discussion: No discussion.**
         4. **Result: Motion was accepted with no objection.**
      7. **CR Motion #257 (PHY): Move to accept the proposed comment resolution to the following 4 CIDs and the corresponding spec text modification to clause 28.3.15 as in 11-17/0699r2**
         1. **CID 7518, 9030, 9029, 10126**
         2. **Moved by Kome Oteri, Seconded by Ron Porat.**
         3. **Discussion: No discussion.**
         4. **Result: Motion was accepted with no objection.**
      8. **CR Motion #258 (PHY): Move to accept the proposed comment resolution to the following CIDs and the corresponding spec text modification to clause 28.3.10.10 as in 11-17/0720r1**
         1. **CID 7860, 5107, 5108, 8976, 4892, 6119, 9489, 8978, 8979, 8982, 8983, 8984, 4893, 8577, 8573, 9065, 9189, 9190, 9485, 9486, 5274, 8986, 9067, 8989, 8990, 9752**
         2. **Moved by Hongyuan Zhang, Seconded by Ron Porat.**
         3. **Discussion: No discussion.**
         4. **Result: Motion was accepted with no objection.**
      9. **CR Motion #259 (MAC): Move to accept resolutions to CIDs; 9495, 6260, 7051, 7193 in doc 11-17/601r5.**
         1. **Moved by Alfred Asterjadhi, Seconded by Matthew Fischer.**
         2. **Discussion: No discussion.**
         3. **Result: Motion was accepted with no objection.**
      10. **CR Motion #260 (MAC): Move to accept resolutions to CIDs; 5851, 7249, 9803, 7192 in doc 11-17/601r5.**
          1. **Moved by Alfred Asterjadhi, Seconded by Matthew Fischer.**
          2. **Discussion: There was a request for count.**
          3. **Result: Y/N/A = 11/17/15, motion fails.**
      11. **CR Motion #261 (MAC): Move to accept resolutions to CIDs; 4839, 4840, 4841, 4842, 5033, 5657, 5658, 5659, 5660, 5661, 5907, 5966, 5967, 6033, 6745, 6747, 7171, 7188, 7620, 7621, 7622, 7623, 7624, 7625, 7626, 7820, 7821, 8097, 8224, 8285, 9743, 9931, 9932, 9933, 9934, 5890, 6739, 6740, 6741, 6742, 6743, 6744, 7112, 7113, 10278, 10279 in doc 11-17/0295r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      12. **CR Motion #262 (MAC):Move to accept resolutions to CIDs; 4575, 4581, 5134, 5135, 5837, 6368, 6369, 6370, 6371, 7759, 7760, 8159, 9371 in doc 11-17/0362r1.**
          1. **Moved by Ming Gan, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      13. **CR Motion #263 (MAC): Move to accept resolutions to CIDs; 5928 3302 8158 8535 8544 7539 8545 9118 8546 8160 7544 5802 in doc 11-17/0689r2.**
          1. **Moved by Ming Gan, Seconded by Jae Seung Lee.**
          2. **Discussion: .**
          3. **Result: Motion was accepted with no objection.**
      14. **CR Motion #264 (MAC): Move to accept resolutions to CID; 4843, 4844, 5065, 5662, 5964, 6954, 7397, 7401, 7402, 7627, 7628, 8108, 8143, 8153, 8225, 8226, 8594, 9659, 6748 in doc 11-17/0296r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      15. **CR Motion #265 (MAC): Move to accept resolutions to CIDs; 5656, 5963, 7395, 7396, 7400, 7618, 7619, 8067, 10277, 8322, 9978 in doc 11-17/0298r0.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      16. **CR Motion #266 (MAC): Move to accept resolutions to CIDs; 5957, 8223 in doc 11-17/0682r0.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      17. **CR Motion #267 (MAC): Move to accept resolutions to CIDs; 4845, 4848, 4849, 4851, 5663, 5665, 6044, 7189, 7398, 7399, 7629, 7630, 7631, 7632, 8132, 8595, 9313, 9979, 5084, 5664, 9576, 10280, 7635, 4847 in doc 11-17/683r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: CID 4850 was excluded..**
          3. **Result: Motion was accepted with no objection.**
      18. **CR Motion #268 (MAC): Move to accept resolutions to CIDs; 5670, 5852, 6751, 7633, 7634, 7822, 8086, 8089, 8090, 8229, 8286, 8287, 9314, 9744, 9745, 9746, 9935, 9936, 9980, 5666, 5667, 5669, 6749, 6750, 6752, 7114 in doc 11-17/0686r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      19. **CR Motion #269 (MAC): Move to accept resolutions to CIDs; 3076, 5671, 5672, 8125, 8126, 8145, 8154, 9577, 9981, 4846, 8130 in doc 11-17/0687r0.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      20. **CR Motion #270 (MAC): Move to accept resolutions to CIDs; 3048, 3049, 5349, 5351, 3038, and 4472 in doc 11-17/0693r4.**
          1. **Moved by Chao-Chun Wang, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      21. **CR Motion #271 (MAC): Move to accept resolutions to CIDs; 3028, 3029, 4452, 4460, 4686, 4697, 7918, 7919, 9660, 9841, 9842, 3093, 5509, 5510, 5674, 5675, 5782, 6041, 6045, 6046, 7593, 7594, 7595, 7596, 7597, 9753, 9959, 9960, 3046, 8316 in doc 11-17/0325r4**
          1. **Moved by Po-Kai Huang, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      22. **CR Motion #272 (SR): Move to accept resolutions to CIDs; 3198, 3199, 3200, 5204, 5205, 5207, 5208, 5484, 5489, 5494, , 5496, 5497, 5499, 5500, 5501, 5502, 5503, 5690, 5691, 5870, 7122, 7123, 7129, 7406, 7612, 8073, 8104, 8232, 8239, 9315,9540, 9944, 9946, 9947, 10031, 10032, 7125, 3197, 5689, 9541, , 3196, 6025, 7823, 8233 in doc 11-17/0267r5.**
          1. **Moved by Po-Kai Huang, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      23. **CR Motion #273 (MU): Move to accept resolutions to CIDs; 5411, 9406, 6188, 9405, 7417, 7418, 9404, 9408, 3238, 7652, 8301, 9105, 9326, 9493, 9581, 10175 in doc 11-17/0643r1.**
          1. **Moved by Kiseon Ryu, Seconded by Ming Gan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      24. **CR Motion #274 (MAC): Move to accept resolution to CID 6052 in doc 11-17/0644r1.**
          1. **Moved by Kiseon Ryu, Seconded by Ming Gan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      25. **CR Motion #275 (MU): Move to accept resolutions to CIDs; 8220, 7411, 5399, 6181, 9417, 8278, 9919, 5395, 5396, 6180, 9416, 8527 in doc 11-17/0708r3.**
          1. **Moved by Abhishek Patil, Seconded by Ming Gan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      26. **CR Motion #276 (MAC): Move to accept resolutions to CIDs; 8700, 8057, 8274, 8298, 7645, 5913, 9294, 7180, 7646, 9899, 9478, 10266, 3226, 3225, 7094, 8553, 9527, 9900, 9903, 3227, 7227, 8172, 6101, 7973, 9296, 4826, 4827, 8704, 8277, 3233, 5718, 5989, 9096, 9097, 3234, 9590, 5719, 5192, 8218, 8345, 5995, 8219, 5996, 7974, 10015, 6699, 5017, 9915 in doc 11-17/0249r2.**
          1. **Moved by Abhishek Patil, Seconded by Ming Gan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      27. **CR Motion #277 (MAC): Move to accept resolutions to CIDs; 8194, 5426, 7469, 7704, 7470, 5427, 7294, 8366, 7706, 3021, 8515, 8516, 8517, 8518, 9368, 5827, 7914, 7915, 7916, 7754, 7277, 9369, 5828, 7332, 6001, 6003, 9649, 7333, 5758, 8521, 8522, 3026, 4741, 7009, 3128 in doc 11-17/0140r0.**
          1. **Moved by Abhishek Patil, Seconded by Yasuhiko Inoue.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      28. **CR Motion #278 (MAC): Move to accept resolutions to CIDs; 3030, 3122, 5326, 5919, 6088, 6347, 6348, 7357, 7381, 8541 in doc 11-17/0631r2.**
          1. **Moved by Ming Gan, Seconded by Zhou Lan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      29. **CR Motion #279 (MU): Move to accept resolutions to CIDs; 3237, 6005, 6007, 7104, 7105, 7415, 7416, 7426, 7545, 9918, 10176 in doc 11-17/0646r4.**
          1. **Moved by Patrice Nezou, Seconded by Alfred Asterjadhi.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      30. **CR Motion #280 (MU): Move to accept resolutions to CIDs; 6106, 9571,10173 in doc 11-17/0646r4.**
          1. **Moved by Patrice Nezou, Seconded by Alfred Asterjadhi.**
          2. **Discussion:**
             1. **A member commented he does not see enough benefit.**
             2. **Another member mentioned that information on preferred AC is not enough.**
             3. **There was a comment that no evidence to improve the efficiency is shown.**
          3. **Result: Y/N/A = 16/10/73, motion fails.**
      31. **CR Motion #281 (MAC): Move to accept resolutions to CIDs; 3240, 4847, 7403, 7636, 8109, 3248, 3257, 3266, 4176, 4187, 4196, 6753, 9982, 10281 in doc 11-17/0297r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      32. **CR Motion #282 (MU): Move to accept resolutions to CIDs; 5386, 5401, 5722, 6182, 7043, 7410, 7414, 8282, 8300, 8557 in doc 11-17/0645r3.**
          1. **Moved by Stephane Baron, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      33. **CR Motion #283 (MAC): Move to accept resolutions to CIDs; 5344 , 5339, 6466 , 6794 ,7183 ,5744 ,6793 ,10302 ,6797, 6799, 6801, 6802 ,6803, 6806 ,9107 ,6809 ,6810 and 6813 in doc 11-17/0700r1.**
          1. **Moved by Chao-Chun Wang, Seconded by Alfred Asterjadhi.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      34. **CR Motion #284 (MAC): Move to accept resolutions to CIDs; 3187, 5756, 8266, 9431, 9432, 9691, 9857, 9858, 9859, 9860, in doc 11-17/0723r2.**
          1. **Moved by Kiseon Ryu, Seconded by Alfred Asterjadhi.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      35. **CR Motion #285 (General): Move to accept resolutions of CIDs 6901 and 7690 in doc 11-17/0665r1.**
          1. **Moved by Jung Hoon Suh, Seconded by Robert Stacy.**
          2. **Discussion:**
             1. **A member mentioned that the resolution is good, however, he is not happy with the result.**
          3. **Result: Y/N/A = 41/6/4, motion passes.**
      36. **CR Motion #286 (SR): Move to accept the text proposed by 11-17/0748r1 and to treat this as the resolution to CID 6768 and modify TGax D1.2 as proposed by the contribution.**
          1. **Moved by Sean Coffey, Seconded by Sigurd Schelstraete.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      37. **CR Motion #287 (SR): Move to accept the resolutions provided in 11-17/0633r2 for the comments with CIDs 5941 and 5873.**
          1. **Moved by Matthew Fischer, Seconded by Zhou Lan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      38. **CR Motion #288 (SR): Move to accept the resolutions provided in 11-17/0640r2 for the comment with CID 8111.**
          1. **Moved by Matthew Fischer, Seconded by Zhou Lan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      39. **CR Motion #289 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0603r0 (11 CIDs)**
          1. **5111, 5512, 5513, 5514, 5515, 5516, 5517, 7153, 8327, 9317, 7583**
          2. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      40. **CR Motion #290 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0604r1 (4 CIDs)**
          1. **3156, 3160, 9812, 8246**
          2. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      41. **CR Motion #291 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0621r2 6098, 6648, 6645, 6644, 5807, 7078, 7087, 3070, 3069, 3214, 5037, 9525, 9443, 9447, 9446, 9445, 9567, 9288, 9330, 9876, 9887, 9886, 9885, 9884, 9883, 9881, 9880, 9879, 9878, 9877, 8150, 9719, 8551, 8550, 8215, 7657, 7939, 7938, 8050, 7804, 7799, 7800, 7801, 7803, 7805, 8695, 8471, 8466, 8465, 8462, 8461, 8549, 10328, 10331.**
          1. **Moved by George Cherian, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      42. **CR Motion #292 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0729r0.**
          1. **Moved by Kiseon Ryu, Seconded by Abhishek Patil.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      43. **CR Motion #293 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0730r1.**
          1. **CID: 7255.**
          2. **Moved by Kiseon Ryu, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      44. **CR Motion #294 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0733r2**
          1. **Moved by Jason Yuchen Guo, Seconded by Ming Gan.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      45. **CR Motion #295 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0735r4.**
          1. **CID: 8153.**
          2. **Moved by Jarkko Kneckt, Seconded by Sean Coffey.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      46. **CR Motion #296 (MAC): Move to accept resolutions to following CID in doc 11-17/0735r4.**
          1. **CID: 4850.**
          2. **Moved by Jarkko Kneckt, Seconded by Sean Coffey.**
          3. **Discussion:** 
             1. **A member mentioned that more clarification is needed and he asked for deferral of this motion. Jarkko would like to proceed with this motion.**
          4. **Result: Motion was accepted with no objection.**
      47. **CR Motion #297 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0677r1.**
          1. **CIDs: 6275, 5824, 5880, 5764, 7474, 7309, 7391, 7526, 6951, 6950, 7133, 3109, 3161, 3008, 3007, 3009, 3446, 5450, 5451, 5452, 5057, 5128, 9624, 9623, 9622, 9361, 7732, 7731, 7728, 7726, 8480, 10191**
          2. **Moved by George Cherian, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      48. **CR Motion #298 (MU): Move to accept resolutions to following CIDs in doc 11-17/0751r2.**
          1. **CIDs: 3239 , 5724, 7152 , 8281, 8305, 9714, 6006, 6007, 7427, 9572.**
          2. **Moved by Yunbo Li, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      49. **CR Motion #299 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0340r6.**
          1. **Clause 11.1.3.10 (15): 3055, 5165, 5797, 5905, 6554, 6556, 6560, 7961, 7977, 7978, 7979, 9334, 9561, 9696, 9868,**
          2. **Clause 3.2 (5): 6228, 6223, 4708, 6917, 6918**
          3. **Clause 9.4.2.219 (3): 7997, 9562, 9563**
          4. **Moved by Yonggang Fang, Seconded by Ross Jian Yu..**
          5. **Discussion: No discussion.**
          6. **Result: Motion was accepted with no objection.**
      50. **CR Motion #300 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0809r1.**
          1. **CIDs: 3054, 5392, 5393, 9415, 5390, 5391, 6179, 7042**
          2. **Moved by Abhishek Patil, Seconded by Po-Kai Huang.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      51. **CR Motion #301 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0744r3.**
          1. **CIDs: 3182, 3192, 5160, 5170, 5457, 5458, 5459, 5460, 5464, 5465, 5467, 5558, 5794, 5800, 6593, 7567, 7568, 7662, 7794, 8139, 8146, 8148, 8353, 8402, 9273, 9284, 9419, 9420, 9421, 9680, 9700, 9701, 9847, 9874, 10325, 10326, 6132.**
          2. **Moved by Po-Kai Huang, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      52. **CR Motion #302 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0727r1.**
          1. **CIDs: 4750, 5947, 5960, 7253, 7666, 7763 (clause 9.4.2.218.2), 7885.**
          2. **Moved by James Yee, Seconded by Chao-Chun Wang.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      53. **CR Motion #303 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0607r1.**
          1. **CIDs: 8427, 5000, 7132, 7304, 9358, 3105, 4735.**
          2. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      54. **CR Motion #304 (MAC): Move to accept resolutions to following CIDs in doc 11-17/0073r5.**
          1. **CIDs: 7387, 6144, 7386, 9101, 9573, 8304.**
          2. **Moved by Po-Kai Huang, Seconded by Robert Stacy..**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      55. **CR Motion #305 (PHY): Move to accept resolutions to the following CIDs and the corresponding spec text modification as in 11-17/0232r4.**
          1. **CIDs: 5101, 5102, 5103, 5297, 5298, 5299, 7513, 8848, 8849, 8850, 8851, 8852, 8853, 8854, 8855, 8856, 8857, 8858, 8985, 9158, 9159, 9160, 9166, 9167, 10114, 10395.**
          2. **Moved by Qingha Li, Seconded by Po-Kai Huang.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      56. **CR Motion #306 (PHY): Move to accept comment resolution to the CID 4905 in clause 28.2 and the corresponding spec text modification as in 11-17/233r5.**
          1. **Moved by Qingha Li, Seconded by Po-Kai Huang.**
          2. **Discussion: No discussion.**
          3. **Result: Motion was accepted with no objection.**
      57. **CR Motion #307 (MAC):Move to accept comment resolution to the CID 9619 for clause 9.2.4 and 6.4.4 and the corresponding spec text modification as in 11-17/736r0.**
          1. **Moved by Qingha Li, Seconded by Po-Kai Huang.**
          2. **Discussion: No objection.**
          3. **Result: Motion was accepted with no objection.**
      58. **CR Motion #308 (PHY):Move to accept comment resolution to the following and the corresponding spec text modification to clause 28.3.10 as in 11-17/0288r2.**
          1. **CIDs: 8951, 4890, 4922, 8952, 4923, 8953, 4924, 8954, 5271, 8955,   
             9554, 4891, 6118, 8155, 10066, 10217, 5272, 8958, 8959, 8960,   
             5273, 8961, 8962, 8963, 10067, 8115, 8964, 3095, 8965, 8966,   
             8968, 10219.**
          2. **Moved by Yujin Noh, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      59. **CR Motion #309 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modification to clause 28.3.10.8 as in 11-17/0289r2.**
          1. **CIDs: 10060 and 10061.**
          2. **Moved by Yujin Noh, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      60. **CR Motion #310 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modification to clause 28.3.18 as in 11-17/0290r5.**
          1. **CIDs: 7231, 9037, 7835, 9038, 5070, 5071, 5072, 5073, 5074, 3314,   
             3392, 3659, 3746, 4127, 4230, 7836, 9039, 3560, 3724, 4122,   
             4256, 9079, 4877, 4878, 8572, 10069, 10070, 4879.**
          2. **Moved by Yujin Noh, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      61. **CR Motion #311 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modification to clause 3.2 and 28.3 as in 11-17/0698r2.**
          1. **CIDs: 10117, 9015, 9016, 9017, 9019, 9199, 9020, 9075, 4875, 6995, 6911, 7444, 10180, 6912, 6913.**
          2. **Moved by Bin Tian, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      62. **CR Motion #312 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modification to clause 9.3.1.23, 28.3.10.7.2 and 28.3.12 as in 11-17/0694r2.**
          1. **CIDs: 7519, 7672, 9022, 7520, 7676, 7673, 4880, 7675, 9023, 7521, 7674, 9488, 9024, 10072, 7522, 9323, 7523.**
          2. **Moved by Sungeun Lee, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      63. **CR Motion #313 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modification to clause 28.3.3.8.3 as in 11-17/0781r0.**
          1. **CIDs: 8820, 10093, 10094, 10096, 10097, 10098, 10100, 10102, 10105, 10107.**
          2. **Moved by Yujin Noh, Seconded by Ron Porat.**
          3. **Discussion: No discussion.**
          4. **Result: Motion was accepted with no objection.**
      64. **CR Motion #314 (PHY): Move to accept comment resolution to the CID 5251 and the corresponding spec text modification to clause 9.4.2.218.3 as in 11-17/0769r0.**
          1. **Moved by Sungeun Lee, Seconded by Ron Porat.**
          2. **Discussion: .**
          3. **Result: Motion was accepted with no objection.**

Chair asked for 5 minutes extension of this session to complete the TG Motions.

No objection.

* + 1. **CR Motion #315 (PHY): Move to accept comment resolution to the CID 8975 as in 11-17/0774r0.**
       1. **Moved by Hongyuan Zhang, Seconded by Ron Porat.**
       2. **Discussion: No discussion.**
       3. **Result: Motion was accepted with no objection.**
    2. **CR Motion #316 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modifications as in 11-17/0465r8.**
    3. **CIDs: 9490, 8566.**
       1. **Moved by Youhan Kim, Seconded by Ron Porat.**
       2. **Discussion: .**
       3. **Result: Motion was accepted with no objection.**
    4. **CR Motion #317 (PHY): Move to accept comment resolution to the CID 9769 and the corresponding spec text modifications as in 11-17/0813r1.**
       1. **Moved by Youhan Kim, Seconded by Ron Porat.**
       2. **Discussion: No discussion.**
       3. **Result: Motion was accepted with no objection.**
    5. **CR Motion #318 (PHY): Move to accept comment resolution to the following CIDs and the corresponding spec text modifications as in 11-17/0648r3.**
       1. **CIDs: 4889,6121,8923,8924,10046,4996,8910, 4912, 4913, 8919, 8921, 7242, 7243, 7679, 7829, 8903, 8904, 8905, 8906, 8911, 8913, 8915, 8916, 8917, 9551, 8926, 9177, 9178, 9179, 10211, 10212, 8918, 5262.**
       2. **Moved by Ron Porat, Seconded by Youhan Kim**
       3. **Discussion: No discussion.**
       4. **Result: Motion was accepted with no objection.**

1. **Adjournment**
   1. TGax adjourned for the week @ 15:35.

**Thursday, May 11th, 2017, PM2 TGax full Session (16:00-18:00)**

Thursday PM2 TGax session was cancelled.