IEEE P802.11  
Wireless LANs

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| TGax September 2018 Waikoloa Meeting Minutes | | | | |
| Date: 2018-10-04 | | | | |
| Author(s): | | | | |
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|  |  |  |  |  |

Abstract

This document contains minutes of TGax September 2018 Waikoloa Meeting.

Meeting minutes of TGax ad hoc groups are contained in separate documents:

TGax PHY ad hoc

<https://mentor.ieee.org/802.11/dcn/18/11-18-1589-02-00ax-tgax-sep-2018-meeting-agenda-phy-adhoc.pptx>

TGax MAC and MU ad hoc

<https://mentor.ieee.org/802.11/dcn/18/11-18-1657-00-00ax-mac-mu-ad-hoc-september-2018-tgax-meeting-minutes.docx>

TGax SR ad hoc:

<https://mentor.ieee.org/802.11/dcn/18/11-18-1682-00-00ax-spatial-reuse-ad-hoc-group-sept-2018-minutes.docx>

Rev. 0: Initial version.

**IEEE 802.11 Task Group AX,**

**The High Efficiency WLAN Standardization Task Group**

**September 2018 Waikoloa Meeting**

**Hilton Waikoloa Village, Big Island, HI**

**September 9th – 14th, 2018**

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

**1st Vice-Chair Ron Porat (Broadcom Ltd.)**

**2nd Vice-Chair Alfred Asterjadhi (Qualcomm)**

**Secretary Yasuhiko Inoue (NTT Corporation)**

**Technical Editor Robert Stacey (Intel Corporation)**

# Monday, September 10th, 2018, 13:30 – 15:30, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 13:30 (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies), the TGax secretary, Yasuhiko Inoue (NTT) and TGax Technical Editor, Robert Stacey (Intel).
   2. Agenda: 11-18-1036-01 is on the server and is the working document. Chair will upload the rev 2 shortly after this session.
2. **Agenda Setting**
   1. Proposed agenda for Monday PM1
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Submissions
      4. Summary from July 2018
      5. TG Motions
         1. Approve TG meeting and Teleconference minutes since July 2018 meeting.
      6. Timeline
      7. Editor Report – Robert Stacey
      8. Status of 802.19 comments and CA Document.
      9. Comment Assignment (if necessary)
      10. Presentations and Comment Resolution
      11. Recess
   2. Chair asked if there is any item to add to the agenda. 🡪 No response.
      1. Chair asked if there is any objection to proceed with this agenda. 🡪 No objection.
      2. The agenda was approved.
3. **Announcement**
   1. Please announce your affiliation when you first address the group during a meeting slot.
   2. Do NOT forget the attendance! (http://newton.meeting.verilan.com/)
4. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair read the 5 slides of IEEE 802 Policies and Procedures.
      1. Participants have a duty to inform the IEEE - done.
      2. Ways to inform IEEE - done
         1. Chair asked if there is any potentially essential patent that people are aware of.
            1. No potentially essential patent reported.
      3. Other guidelines for IEEE WG meetings - done
      4. Patent-related information - done
      5. Participation in IEEE 802 Meetings - done
5. **Plans for the week**
   1. Approve meeting and teleconference minutes since July 2018.
   2. Continue working on the resolving of comments received on draft D3.0.
   3. Schedule TG ad hoc meeting, if needed.
   4. Schedule TG teleconference times.
6. **Meeting Schedule**
   1. Slides 13 and 14 of the agenda contain the general flow of the meeting this week.
      1. TGax meeting schedule for September 2018:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Monday** | | **Tuesday** | | **Wednesday** | | **Thursday** |
| **AM1** |  | | TGax | | TGax | | TGax |
| **AM2** |  | | TGax  Ad Hoc | TGax  Ad Hoc |  | |  |
| **PM1** | TGax | |  | |  | | TGax |
| **PM2** |  | | TGax  Ad Hoc | TGax  Ad Hoc | TGax  Ad Hoc | TGax  Ad Hoc |  |
| **PM3** | TGax  Ad Hoc | TGax  Ad Hoc | TGax  Ad Hoc | TGax  Ad Hoc |  | |  |

1. **Call for submissions and ad hoc meeting scheduling**
   1. PHY submissions
      1. 11-18-1258, “Punctured NDP Comment Resolution,” Ron Porat (Broadcom Ltd.)
      2. 11-18-1434, “CR on HE-SIG-A and HE-SIG-B – Part 1,” Ross Jian Yu (Huawei Technologies)
      3. 11-18-1435, “CR on HE-SIG-A and HE-SIG-B – Part 2,” Ross Jian Yu (Huawei Technologies)
      4. 11-18-1436, “CR on HE-SIG-A and HE-SIG-B – Part 3,” Ross Jian Yu (Huawei Technologies)
      5. 11-18-1441, “CR on HE-SIG-A and HE-SIG-B – Part 4,” Xin Zuo (Huawei Technologies)
      6. 11-18-1442, “Spec Text Changes Regarding Single Stream Pilot,” Ross Jian Yu (Huawei Technologies)
      7. 11-18-1452, “CR on Packet Extension,” Yujin Noh (Newracom)
      8. 11-18-1453, “CR on PHY subcarriers and RU part 1,” Yujin Noh (Newracom)
      9. 11-18-1459, “Comment Resolution on PHY Introduction Part - 1,” Lochan Verma (Qualcomm)
      10. 11-18-1460, “Comment Resolution on PHY Introduction Part - 2,” Lochan Verma (Qualcomm)
      11. 11-18-1492, “Remaining PHY Math comment resolutions,” Yan Zhang (Marvell)
      12. 11-18-1493, “Changes to D3.0,” Xiaogang Chen (Intel)
      13. 11-18-1514, “Preamble Comment Resolution,” Ron Porat (Broadcom Ltd.)
      14. 11-18-1522, “Comment Resolution of Nominal Packet Padding Definition,” Hongyuan Zhang (Marvell)
      15. 11-18-1534, “D3.0 CR for PHY 28.3.4/28.3.16/28.3.17,” Tianyu Wu (Samsung)
      16. 11-18-1590, “D3.0 Comment Resolution – Part 1,” Youhan Kim (Qualcomm)
      17. 11-18-1591, “D3.0 Comment Resolution – Part 2,” Youhan Kim (Qualcomm)
      18. 11-18-1601, “CR on HE-SIG-A and HE-SIG-B – Part 5,” Ross Jian Yu (Huawei Technologies)
   2. MAC/MU submissions
      1. 11-18-0496, “Disallowed Subchannels,” Matthew Fischer (Broadcom Ltd.)
      2. 11-18-0946, “No Action frame in multi-TID A-MPDU,” Robert Stacey (Intel)
      3. 11-18-1181, “11ax D3.0 MAC Comment Resolution for FTM,” Jonathan Segev (Intel)
      4. 11-18-1189, “11ax D3.0 MAC Comment Resolution for NAV – Part I,” Po-Kai Huang (Intel)
      5. 11-18-1211, “Comment resolutions for 27.16.1 related to 6 Ghz band,” Alfred Asterjadhi (Qualcomm)
      6. 11-18-1246, “OM Control Comment Resolutions,” Jarkko Kneckt (Apple)
      7. 11-18-1266, “Resolution for CIDs related to Random Access,” Abhishek Patil (Qualcomm)
      8. 11-18-1320, “Resolution for CIDs related to Multiple BSSID,” Abhishek Patil (Qualcomm)
      9. 11-18-1415, “11ax D3.0 MAC Comment Resolution for SM Power Save,” Po-Kai Huang (Intel)
      10. 11-18-1418, “11ax D3.0 MAC Comment Resolution for MU-RTS/CTS – Part I,” Po-Kai Huang (Intel)
      11. 11-18-1432, “Doze Transition Signaling,” Matthew Fischer (Broadcom Ltd.)
      12. 11-18-1454, “Figure 27-12,” Abhishek Patil (Qualcomm)
      13. 11-18-1455, “Resolution for CIDs in 27.5.3.3,” Abhishek Patil (Qualcomm)
      14. 11-18-1458, “11ax D3.0 MAC Comment Resolution for Random Access with multiple BSS,” Pascal Vigar (Canon Research)
      15. 11-18-1465, “Comment resolutions for 9.4.2.200,” Alfred Asterjadhi (Qualcomm)
      16. 11-18-1466, “Comment resolutions for 10.43.1,” Alfred Asterjadhi (Qualcomm)
      17. 11-18-1467, “Comment resolutions for 27.16.1 not related to 6 GHz band,” Alfred Asterjadhi (Qualcomm)
      18. 11-18-1468, “Comment resolutions for 27.7.7,” Alfred Asterjadhi (Qualcomm)
      19. 11-18-1469, “Comment resolutions for 27.7.6,” Alfred Asterjadhi (Qualcomm)
      20. 11-18-1470, “Comment resolutions for 27.7.5,” Alfred Asterjadhi (Qualcomm)
      21. 11-18-1471, “Comment resolutions for 27.16.1 related to 6 Ghz band,” Alfred Asterjadhi (Qualcomm)
      22. 11-18-1484, “11ax D3.0 Comment Resolution 27.15.2,” Liwen Chu (Marvell Semiconductors)
      23. 11-18-1485, “11ax D3.0 Comment Resolution 27.5.3.2.1,” Liwen Chu (Marvell Semiconductors)
      24. 11-18-1486, “11ax D3.0 Comment Resolution 27.5.3.5,” Liwen Chu (Marvell Semiconductors)
      25. 11-18-1496, “CR for MU EDCA parameters,” Laurent Cariou (Intel)
      26. 11-18-1497, “CR for OPS,” Laurent Cariou (Intel)
      27. 11-18-1498, “CR for 27.5.6,” Laurent Cariou (Intel)
      28. 11-18-1501, “Remaining Ack related CRs on misc sections,” George Cheria (Qualcomm)
      29. 11-18-1502, “CR on differentiating non-TB and TB sounding,” Robert Stacey (Intel)
      30. 11-18-1504, “LB233 CR A-Control Subfield,” Yongho Seok (MediaTek)
      31. 11-18-1507, “11ax D3.0 MAC Comment Resolution for Co-located BSS,” Po-Kai Huang (Intel)
      32. 11-18-1511, “LB233 CR on CID 17024,” Ming Han (Huawei Technologies)
      33. 11-18-1512, “LB233 CR on MU Cascadingu,” Ming Han (Huawei Technologies)
      34. 11-18-1515, “11ax D3.0 MAC Comment Resolution for Bandwidth Queue Report,” Zhou Lan (Broadcom Ltd.)
      35. 11-18-1516, “11ax D3.0 MAC Comment Resolution for Bandwidth Queue Report,” Zhou Lan (Broadcom Ltd.)
      36. 11-18-1519, “11ax D3.0 MAC Comment Resolution for Control response,” Robert Stacey (Intel)
      37. 11-18-1548, “CR for CID 15105,” Kiseon Ryu (LG Electronics)
   3. SR submissions
      1. 11-18-1410, “LB233 CR Spatial Reuse,” Matthew Fischer (Broadcom Ltd.)
      2. 11-18-1495, “CR for OBSS\_PD,” Laurent Cariou (Intel)
      3. 11-18-1531, “TG ax Spatial Reuse DSC and TPC,” Graham Smith (SR Technologies)
   4. TG submissions
      1. 11-18-1211, “Comment resolutions for 27.16.1 related to 6 Ghz band,” Alfred Asterjadhi (Qualcomm)
      2. 11-18-1227, “CR for 6GHz - Discovery,” Laurent Cariou (Intel)
      3. 11-18-1229, “CR for 6GHz - Policy,” Laurent Cariou (Intel)
      4. 11-18-1256, “802.11ax operation in 6GHz band,” George Cherian (Qualcomm)
      5. 11-18-1489, “Operation at 6GHz Band,” Liwen Chu (Marvell)
      6. 11-18-1500, “CR for 6GHz – 6GHz Map,” Laurent Cariou (Intel)
      7. 11-18-1508, “11ax D3.0 MAC Comment Resolution for Multiple BSSID,” Po-Kai Huang (Intel)
      8. 11-18-1607, “6 GHz operation for 11ax,” Ravi Gidvani (Samsung)
      9. 11-18-1624, “Discovery Channels For 6 GHz Band,” Alfred Asterjadhi (Qualcomm)
   5. Meeting schedule for the week
      1. Considering the number of submissions, TGax meeting schedule for this week is agreed.

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|  | **Monday** | | **Tuesday** | | **Wednesday** | | **Thursday** |
| **AM1** |  | | TGax  (6 GHz discussion) | | TGax | | TGax |
| **AM2** |  | | PHY  Ad Hoc | MAC  Ad Hoc |  | |  |
| **PM1** | TGax | |  | |  | | TGax  (Coex discussion) |
| **PM2** |  | | PHY  Ad Hoc | MAC  Ad Hoc | TGax  Ad Hoc | TGax  Ad Hoc |  |
| **PM3** | SR  Ad Hoc | MAC  Ad Hoc | TGax  Ad Hoc | MAC Ad Hoc |  | |  |

1. **Summary from July 2018**
   1. The TG started the resolution of comments received on draft D3.0
   2. Members of 802.19 WG were invited to make a presentation on their concerns related to the TG Coexistence Assurance document.
   3. The TG approved the proposed the PAR extension request and the revised CSD accommodating comments received from 802.3 WG.
   4. The TG prepared and approved a liaison response to WBA
2. **TG Motion**
   1. **Approval of TG Minutes July 2018 Meeting and Telecon Minutes)**
      1. **Approve TGax minutes of meetings and teleconferences from July 2018 Plenary meeting to today:** 
         1. [**https://mentor.ieee.org/802.11/dcn/18/11-18-1093-00-00ax-tgax-july-2018-san-diego-meeting-minutes.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-1093-00-00ax-tgax-july-2018-san-diego-meeting-minutes.docx)
         2. [**https://mentor.ieee.org/802.11/dcn/18/11-18-1568-00-00ax-sept-2018-san-jose-phy-ad-hoc-meeting-minutes.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-1568-00-00ax-sept-2018-san-jose-phy-ad-hoc-meeting-minutes.docx)
         3. **Moved by Alan Jones, Seconded by Bin Tian.**
         4. **Result: Accepted with no objection.**
3. **Timeline – Updarted Timeline**
   1. **September 2014: start of the TG**
   2. **Nov. 2014: First draft of the TG SFD was approved**
   3. **Jan. 2016: proposed TG draft**
   4. **September 2016: Draft D0.1 was approved and CC started**
   5. **November 2016: Draft 1.0 and WG letter ballot – Failed (57.77%)**
      1. **LB-225: opened Dec. 1st 2016 and closed January 8th 2017**
   6. **September 2017: Draft 2.0 and WG letter ballot – Failed (62.84%)**
      1. **LB-230: opened Oct 5th and closed Nov 4th, 2017**
   7. **May 2018: Draft 3.0 and WG letter Ballot.**
   8. **LB-233: Opened June 1st and closed July 1st, 2018 – Passed (86.5%)**
   9. **November 2018: MDR (Mandatory Document Review)**
   10. **November 2018: Draft D4.0 and Recirculation**
   11. **February 2019: Formation of SB pool**
   12. **July 2019: Sponsor Ballot**
   13. **January 2020: RevCom and publication**
4. **Editor’s Report – Robert Stacey (Intel)**
   1. **Current status of comment resolution**
      1. The status of the comments as I gave in my verbal update is below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Owning Ad-hoc** | **Unassigned** | **Assigned** | **Resolution Drafted** | **Approved** | **Duplicate** | **Grand Total** |
| **EDITOR** | **298** | **228** | **697** | **25** | **1** | **1249** |
| 6 GHz |  | 1 |  |  |  | 1 |
| 802.19 |  | 31 |  |  |  | 31 |
| Approved Edits in D3.1 |  |  |  | 22 |  | 22 |
| Approved No Change |  |  |  | 3 |  | 3 |
| Editorials |  | 130 | 697 |  | 1 | 828 |
| MIB |  | 13 |  |  |  | 13 |
| PHY service interface |  | 6 |  |  |  | 6 |
| PICS |  | 6 |  |  |  | 6 |
| Submission Required |  | 11 |  |  |  | 11 |
| (blank) | 298 | 30 |  |  |  | 328 |
| **MAC** | **2** | **325** |  |  |  | **327** |
| 6 GHz | 2 | 8 |  |  |  | 10 |
| Acknowledgment procedure |  | 49 |  |  |  | 49 |
| A-MPDU operation |  | 55 |  |  |  | 55 |
| BSS Color |  | 1 |  |  |  | 1 |
| Clasue 4 |  | 12 |  |  |  | 12 |
| Duration-based RTS/CTS |  | 3 |  |  |  | 3 |
| Editorials |  | 1 |  |  |  | 1 |
| ER beacon |  | 5 |  |  |  | 5 |
| Fragmentation |  | 14 |  |  |  | 14 |
| HE BSS |  | 12 |  |  |  | 12 |
| MAC TXVECTOR |  | 5 |  |  |  | 5 |
| Multi-BSS |  | 8 |  |  |  | 8 |
| Multirate |  | 18 |  |  |  | 18 |
| OM Control |  | 23 |  |  |  | 23 |
| OPS |  | 29 |  |  |  | 29 |
| QTP |  | 8 |  |  |  | 8 |
| TSPEC |  | 6 |  |  |  | 6 |
| TWT |  | 68 |  |  |  | 68 |
| **MU** |  | **204** |  |  |  | **204** |
| BQR |  | 10 |  |  |  | 10 |
| MU Cascading |  | 3 |  |  |  | 3 |
| MU EDCA |  | 6 |  |  |  | 6 |
| MU operation |  | 1 |  |  |  | 1 |
| MU-RTS/CTS |  | 29 |  |  |  | 29 |
| NAV |  | 16 |  |  |  | 16 |
| NDP short feedback |  | 10 |  |  |  | 10 |
| Sounding procedure |  | 80 |  |  |  | 80 |
| Trigger frame format |  | 25 |  |  |  | 25 |
| UORA |  | 24 |  |  |  | 24 |
| **SR** |  | **86** |  |  |  | **86** |
| OBSS PD |  | 49 |  |  |  | 49 |
| Spatial Reuse |  | 37 |  |  |  | 37 |
| **PHY** |  | **288** |  |  |  | **288** |
| Editorials |  | 10 |  |  |  | 10 |
| HE-SIG-A |  | 23 |  |  |  | 23 |
| HE-SIG-B |  | 25 |  |  |  | 25 |
| MIB |  | 2 |  |  |  | 2 |
| Packet extension |  | 6 |  |  |  | 6 |
| PHY architecture |  | 5 |  |  |  | 5 |
| PHY Capabilities |  | 41 |  |  |  | 41 |
| PHY Intro |  | 18 |  |  |  | 18 |
| PHY Math Description |  | 14 |  |  |  | 14 |
| PHY subcarriers and RU |  | 16 |  |  |  | 16 |
| PHY Support for non-HT |  | 5 |  |  |  | 5 |
| PHY Tx/Rx procedure |  | 25 |  |  |  | 25 |
| PHY Tx/Rx spec |  | 24 |  |  |  | 24 |
| PHY TX/RXVECTOR |  | 21 |  |  |  | 21 |
| PPDU formats |  | 7 |  |  |  | 7 |
| (blank) |  | 46 |  |  |  | 46 |
| **Grand Total** | **300** | **1131** | **697** | **25** | **1** | **2154** |

1. **802.19 Comments**
   1. Possible resolutions to 802.19 comments were discussed during the TGax ad hoc meeting last week and a submission was uploaded.
      1. [https://mentor.ieee.org/802.11/dcn/18/11-18-1532-00-00ax-tgax-coexistence-assurance-document-comments.docx](https://mentor.ieee.org/802.11/dcn/18/11-18-1532-00-00ax-tgax-coexistence-assurance-document-comments.docx%20)
   2. A new revision of the CA assurance document was uploaded.
      1. <https://mentor.ieee.org/802.11/dcn/16/11-16-1348-04-00ax-coexistence-assurance.docx>
   3. A discussion is scheduled on Thursday PM 1 (after the TG completes its motions). Peter Ecclesine will present submission 11-18/1559r0.
      1. [https://mentor.ieee.org/802.11/dcn/18/11-18-1559-00-0000-rlan-and-uwb-regulatory-status.docx](https://mentor.ieee.org/802.11/dcn/18/11-18-1559-00-0000-rlan-and-uwb-regulatory-status.docx%20)
2. **Presentation/Comment Resolution – MAC/MU**
   1. **Jarkko Kneckt (Apple) presented “OM Control Comment Resolutions,” based on the submission 11-18-1246-03.**
      1. Summary
         1. Resolutions for the comments relates to OM Control with following CIDs are proposed:
            1. 15010, 15011, 15105, 15173, 15372, 15734, 15735, 15736, 15737, 15766, 15864, 15865, 15990, 16615, 16188, 16362, 16488, 16489, 17016, 17017, 17031, 17033 and 17034.
      2. Discussion
         1. A member commented the references in the document are not correct.
         2. There was a suggestion for additional edits.
         3. A member discussed the contents of Table 27-9.
      3. Next Step
         1. Discussions to be continued in the MAC ad hoc session.
   2. **George Cherian (Qualcomm) presented “Remaining Ack related CRs on misc sections,” based on the submission 11-18-1501-00.**
      1. Summary
         1. Resolutions for the following CIDs related to Ack procedure are proposed.
         2. Relevant CIDs: 15316, 15678, 15856, 15857, 15858, 16198, 16199, 16200, 16201, 16204, 16205, 16270, 16320, 16361, 16370, 16377, 16402, 16496, 16655, 16658, 16659, 16661, 16662, 16941, 16942, 16943, 16945, 17039, 17148, 17149, and 17150.
      2. Discussion
         1. No discussion due to lack of time (only 2 minutes left).
         2. Chair suggested offline and/or email discussions.
3. **AOB**
   1. None.
4. **Recess**
   1. TGax meeting is in recess @ 15:29.
   2. The next TGax session is in PM1.

# Monday, September 10th, 2018, 19:30 – 21:30, TGax ad hoc sessions

* SR ad hoc: Kona 4/5
* MAC ad hoc: Queens 5

# Tuesday, September 11th, 2018, 8:00 – 10:00 AM, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 8:02 AM (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the TGax secretary Yasuhiko Inoue (NTT), and the Vice chairs Ron Porat (Broadcom) and Alfred Asterjadhi (Qualcomm).
   2. Agenda: 11-18-1373-02 is on the server and r3 is the working document.
2. **Agenda Setting**
   1. Proposed agenda for Tuesday AM1
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Presentations and Comment Resolution
         1. 6 GHz related submissions.
      4. Recess
   2. Chair asked if there is any item to add to the agenda. 🡪 No response.
      1. Chair asked if there is any objection to proceed with this agenda. 🡪 No objection.
      2. The agenda was approved.
3. **Announcement**
   1. Please announce your affiliation when you first address the group during a meeting slot.
   2. Do NOT forget the attendance! (http://newton.meeting.verilan.com/)
4. **Presentations and Comment Resolutions**

There are 10 submissions related to the 6 GHz operation. We cannot finish all of them within this slot.

🡪 The evening slot (PM3) is converted to TGax full session for 6 GHz related discussion.

* 1. **Laurent Cariou (Intel) presented “CR for 6 GHz - Discovery,” based on the submission 11-18-1227-04.**
     1. Summary
        1. Assumed that all APs supporting the 6 GHz band are multi-band capable, proposed that the AP shall send discovery messages to other frequency bands for quick connection setup.
     2. Discussion
        1. Some members asked a question if the multi-band capability is a requirement for the AP supporting 6 GHz band and possibility of an AP supporting the only 6 GHz band.
        2. A member asked a question whether non-co-located case can be covered by the proposal. Another member memtioned that combination of co-located and non-co-located APs should be considered. 🡪 It could be covered.
  2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.16.1 related to 6 Ghz band,” based on the submission 11-18-1227-04.**
     1. Summary
        1. Resolutions for the comments related to TGax D3.0 subclause 27.16.1 with following CIDs (11 CIDs):
        2. CIDs: 15120, 15121, 15122, 15166, 15829, 15832, 16444, 16446, 15023, 15177 and 15178.
     2. Discussion
        1. Some people are concerned how to implement this proposal with the previous one.
        2. Some people discuused the advertising capability and scanning capability of the proposed scheme. Also consistency of the proposed information element with the existing element.
        3. Some people are concerned by the active scanning in the 6 GHz band.
  3. **Wookbong Lee (Samsung) presented “6 GHz operation for 11ax,” based on the submission 11-18-1607-01.**
     1. Summary
        1. Two set of channels are suggested for the 6 GHz band.
           1. Discovery channel: legacy 11ax mode of EDCA + triggered access (Mandatory Mode)
           2. Scheduled access channel: restricted EDCA access + triggered access (Optional Mode)
     2. Discussion
        1. A member asked for the relationship between the discovery channel and the primary channel.
        2. A member is concerned by the availability of the discovery channel.
        3. Some members would like more discussions for the use of two sets of channels.
     3. Next Step
        1. Need more discussion. No straw poll for now.
  4. **Po-Kai Huang (Intel) presented “11ax D3.0 MAC Comment Resolution for Multiple BSSID,” based on the submission 11-18-1508-01.**
     1. Summary
        1. This is a proposal related to 6 GHz operation.
        2. The point is to allow to send a Beacon in a HE SU format in the 6 GHz band.
     2. Discussion
        1. Some members mentioned that the 20 MHz channel bandwidth for the HE Beacon frame is too restrictive and 80 MHz will be more appropriate for this frequency band.
        2. Another member discussed the spatial reuse in the 6 GHz band.
        3. People also discussed Multi-BSSID feature and possibility to send Beacons in the HE MU format.
     3. Next Step
        1. Need more discussions. No straw poll for now.

1. **AoB**
   1. Is anybody ready to present? 🡪 No response.
   2. 28 minutes left.
2. **Recess @10:00 AM.**
   1. **The next TGax session is in AM2 ( PHY and MAC ad hocs)**
   2. **The next TGax full session is in PM3 today. 6 GHz related topics will be discussed.**

# Tuesday, September 11th, 2018, 10:30 – 12:30, TGax ad hoc sessions

* PHY: Kona 4/5
* MAC: Queens 5

# Tuesday, September 11th, 2018, 16:00 – 18:00, TGax ad hoc sessions

* PHY: Kona 4/5
* MAC: Queens 5

# Tuesday, September 11th, 2018, 19:30 – 21:30, TGax full session

1. **Meeting called to order @ 19:30 AM by Osama Aboul-Magd, the TGax chairperson.**
   1. Introduction of the people at the front table.
2. **Announcement**
   1. Chair reminded people that we are still operating under the IEEE-SA IPR Policy and Procedure.
   2. Chair asked people to state name and affiliation when speaking for the first time during the session.
   3. Chair reminded people to do the attendance.s
3. **Agenda Setting**
   1. Proposed agenda for this session:
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Presentations and Comment Resolution
         1. 6 GHz related submissions.
      4. Recess
   2. Chair asked if there is any item to add to the agenda. – No response.
   3. Chair asked if there is any objection to proceed with this agenda. – No objection.
      1. The agenda for Tuesday PM3 is approved.
4. **Prensetations and Comment Resolution – 6 GHz related submissions**
   1. **Laurent Cariou (Intel) presented “CR for 6 GHz – 6 GHz Map,” based on the submission 11-18-1500-00.**
      1. Summary
         1. Resolution for CID 15833 received from WGLB 233 on 6 GHz operation is proposed.
         2. The point is to define an advertising mechanism to signal the availability of the 6 GHz channels. Related information elements are proposed.
      2. Discussion
         1. Some members are not happy with this proposal since they do not see enough benefit in the proposed scheme.
         2. Some other people find benefits not only for the 6 GHz band but also other frequency bands in which DFS is required.
         3. People discussed the scanning mechanism to check the availability of the channel. Also, the frames to carry the 6 GHz Map information is discussed.
         4. Some people are concerned by the condition to implement this feature – it should not be mandated for some types of APs such as the mobile AP.
      3. Next Step
         1. Need more offline discussions.
   2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.16.1 related to 6 Ghz band,” based on the submission 11-18-1471-00.**
      1. Summary
         1. Resolutions for the comments related to TGax D3.0 with the following CIDs (2 CIDs) are proposed.
            1. Relevant CIDs: 15121 and 15122.
      2. Discussion
         1. People discussed the existing rules for discovery using Probe Request/Response. People also discussed broadcast Probe Request and the directed Probe Request.
         2. Some members are concerned if active scanning is disallowed in the 6 GHz band.
         3. A member commented that we should understand the positive and negative impacts of the proposed changes in this document.
   3. **Liwen Chu (Marvell Semiconductors) presented “Operation at 6 GHz Band,” based on the submission 11-18-1489-00.**
      1. Summary
         1. Two proposals related to 6 GHz operation are discussed.
            1. Disallowing low MCSs
            2. Bandwidth restriction within a TXOP
      2. Discussion
         1. A member is concerned to disallow low MCSs in a BSS and asked for more offline discussion. People discussed the consistency of disallowing low MCSs with the base standard. 🡪 VHT has this feature.
         2. People discussed setting of the CS Required field.
      3. Next Step
         1. To be converted to a motion.
5. **AoB** – none.
6. **Recess**
   1. **TGax session is in recess @21:16 until start of the Wednesday AM1 (8:00 AM).**

# Wednesday, September 12th, 2018, 8:00 – 10:00 AM, TGax full session

1. **Meeting called to order @ 8:00 AM by Osama Aboul-Magd, the TGax chairperson.**
   1. Introduction of the people at the front table.
2. **Agenda Setting**
   1. Proposed agenda for this session:
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Presentations and Comment Resolution
         1. 6 GHz related submissions – continuation.
         2. Comment Resolutions
            1. 11-18/1181 CR for FTM
            2. others
      4. Recess
   2. Chair asked if there is any item to add to the agenda. – No response.
   3. Chair asked if there is any objection to proceed with this agenda. – No objection.
      1. The agenda for Wednesday AM1 is approved.
3. **Announcement**
   1. Chair reminded people that we are still operating under the IEEE-SA IPR Policy and Procedure.
   2. Chair asked people to state name and affiliation when speaking for the first time during the session.
   3. Chair reminded people to do the attendance.
4. **Presentation**
   1. **Jonathan Segev (Intel) presented “11ax D3.0 MAC Comment Resolution for FTM,” based on the submission 11-18-1181-04.**
      1. Summary
         1. Jonathan updated the document 18/1181 which contains proposed resolutions for FTM related comments.
            1. Relevant CIDs: 15796, 16603, 15797, 15798, 17020, 17021, 17022, 15799, 16598, 17023, 15800, 16599, 16967, 15801, 16600, 15802, 16601, and 16966.
      2. Discussion
         1. People discussed the use of HE format to transmit an FTM frame.
         2. A member mentioned that the proposal basically removes FTM using HE format, however, some people are mixing the discussion of FTM and HE.
      3. **Straw Poll: Do you accept resolutions to CIDs 15796, 16603, 15797, 15798, 17020, 17021, 17022, 15799, 16598, 17023, 15800, 16599, 16967, 15801, 16600, 15802, 16601, 16966 in doc 11-18/1181r4?**
         1. **Result: No objection.**
   2. **Matthew Fischer (Broadcom Ltd.) proposed a straw poll on the submission 11-18-1410-02 (“LB233 CR Spatial Reuse”)** 
      1. Summary
         1. Matt updated the document after the discusseion in the SR ad hoc yesterday.
      2. Discussion
         1. Some people asked for more changes such as some text in 27.9.3 and RSSI measurement related specifications.
      3. Next Step
         1. No straw Poll considered. Matt to come back with further update.
5. **TGax ad hoc meeting November 2018**
   1. There will be a three-day ad hoc meeting in Shenzen before the week of IEEE 802 Plenary.
   2. Coordinator: Joss Jian Yu (Huawei Technologies)
   3. Details to be announced.
6. **Comment Resolutions**
   1. **Alfred Asterjadhi (Qualcomm) presented “Discovery Channels For 6 GHz Band,” based on the submission 11-18-1624-00.**
      1. Summary
         1. Proposed to define 6 GHz channelization for quick discovery.
         2. Proposed to allocate a subset of channels as discovery channel
      2. Discussion
   2. **Kiseon Ryu (LG Electronics) presented “Clarification of the unsolicited BSR,” based on the submission 11-18-1650-00.**
      1. Summary
         1. This submission is not CR, but clarification of the unsolicited BSR.
         2. The CID15074 to be resolved in 18/1515r2 as below, which clairifies that the unsolicited BQR can’t be sent in response to an NFRP Trigger frame.
         3. The same change should be applied to BSR.
      2. Discussion
         1. No discussion.
      3. Next Step
         1. CID 15074 has been resolved in the Zhou’s document.
         2. We will find the way to proceed.
   3. **Youham Kim (Qualcomm) presented “D3.0 Comment Resolution – Part 1,” based on the submission 11-18-1590-01.**
      1. Summary
         1. Resolutions for the following comments from the letter ballot on P802.11ax D3.0 are proposed.
            1. Relevant CIDs: 17085, 16455, 17092, 16815, 17093, 17094, 16976, 17096, 16816, 16031, 16978, 17099, 16818, 16819.
      2. Discussion
         1. Some people are concerned by the resolutions for CID 17085.
      3. **Straw Poll: DO you accept resolutions to CIDs 17085, 16455, 17092, 16815, 17093, 17094, 16976, 17096, 16816, 16031, 16978, 17099, 16818, 16819 in doc 11-18/1590r2?**
         1. **Result: Resolutions to CIDs written in black are approved with no objection.**
7. **AoB**
   1. Time is up.
8. **Recess**
   1. **TGax meeting is in recess @ 9:54 AM..**
   2. **There are TGax ad hoc sessions in PM1 today.**
   3. **The next TGax full session is Thursday AM1.**

# Wednesday, September 12th, 2018, 13:30 – 15:30, TGax ad hoc sessions

* PHY: Kona 4/5
* MAC: Queens 5

# Thursday, September 13th, 2018, 8:00 – 10:00, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 08:00 (Local Time).**
   1. Introduction of the TGax leadership.
2. **Agenda Setting**
   1. Proposed Agenda for Thursday AM1
      1. Call meeting to order
      2. IEEE-SA IPR Policies and Procedures.
      3. TG Motions
      4. Ad hoc meeting motion
      5. Telecon schedule
      6. Presentations and Comment Resolution
      7. Recess
   2. Approval of the agenda
      1. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      2. The agenda for Thursday AM1 is approved.
3. **Announcement/Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
   2. Chair asked people to state name and affiliation when addressing for the first time in the session.
   3. Attendance.
4. **TG Motions**
   1. **PHY Motion**
      1. **PHY Motion #209: Move to accept the proposed spec text change to IEEE P802.11ax D3.0 as proposed in 11-18/1442r1.**
         1. **Moved by Ross Jian Yu, Seconded by Bin Tian**
         2. **Discussion – No discussion.**
         3. **Result: Approved with no objection.**
   2. **CR Motions**
      1. **CR Motion #663: Move to accept the proposed comment resolution to the following 10 CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1434r1.**
         1. **CIDs: 15490, 15664, 16626, 16627, 16628, 16629,, 16811, 16813, 16965, 17130.**
         2. **Moved by Ross Jian Yu, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      2. **CR Motion #664: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1435r1**
         1. **CIDs: 15661, 15918, 15919, 16056, 16277, 16381, 16804, and 16806.**
         2. **Moved by Ross Jian Yu, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      3. **CR Motion #665: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1436r1.**
         1. **CIDs: 15975, 16116, 16307, 16309, 16625, 16634, 16842, 16845.**
         2. **Moved by Ross Jian Yu, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      4. **CR Motion #666: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1459r1.**
         1. **CIDs: 15888, 15889, 15890, 15958, 15891, 15892, 16744, 16745, 16746, 16748, 16749, 17108, 17109, 15893, 15894, 15971,15983, 15986, 16019, 16020, 16145.**
         2. **Moved by Lochan Verma, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      5. **CR Motion #667: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1460r1.**
         1. **CIDs: 16178, 16185, 16238, 16239, 16240, 16316, 16593, 16922, 17144.**
         2. **Moved by Lochan Verma, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      6. **CR Motion #668: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1492r1.**
         1. **CIDs: 16245, 16794, 16795, 16796, 16837, 15568, 16797, 16798, 16799, 16800, 16991, 16801, 16814, 16319.**
         2. **Moved by Rui Cao, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      7. **CR Motion #669: Move to accept proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1492r3.**
         1. **CID: 16810.**
         2. **Moved by Rui Cao, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      8. **CR Motion #670: Move to accept the proposed comment resolution to the following CID and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1522r1.**
         1. **CID: 15659.**
         2. **Moved by Rui Cao, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      9. **CR Motion #671: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1452r1.**
         1. **CID: 16636, 16111, 16358, 16261, 16820 and 16980.**
         2. **Moved by Yujin Noh, Seconded by Bin Tian.**
         3. **Discussion – No discussion.**
         4. **Result: Approved with no objection.**
      10. **CR Motion #672: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1453r1.**
          1. **CID: 16485, 15974, 15977, 16836, 16790, 15645, 16691, 15467, 16439, 16973, 16988 and 16972.**
          2. **Moved by Yujin Noh, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      11. **CR Motion #673: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1514r1.**
          1. **CID: 15128, 15823, 15956, 16109, 16110, 16340, 16342, 16343, 16344, 16630, 16695, 15570, 16802, and 16850.**
          2. **Moved by Ron Porat, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      12. **CR Motion #674: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.1 as in 11-18/1534r1.**
          1. **CID: 16060, 16534, 16537, and 16792.**
          2. **Moved by Tianyu Wu, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      13. **CR Motion #675: Move to accept resolutions to CIDs 17085, 16455, 17092, 16815, 17093, 17094, 16976, 17096, 16816, 16031, 16978, 17099, 16818, 16819 in doc 11-18/1590r4.**
          1. **Moved by Youhan Kim, Seconded by Bin Tian.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      14. **CR Motion #676: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.1 as in 11-18/1591r1.**
          1. **CIDs: 16577, 16578, 15792, 16698, 16821, 16822, 15573, and 15155.**
          2. **Moved by Youhan Kim, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      15. **CR Motion #677: Move to accept the proposed comment resolution to the following CIDs and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1601r2.**
          1. **CIDs: 15946, 15978, 16059, 16805, 16062, 16058, 16063, 16085, 16803, 16844, 16308.**
          2. **Moved by Ross Jian Yu, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      16. **CR Motion #678: Move to accept the proposed comment resolution to the following CID and the corresponding modification proposal to IEEE P802.11ax D3.0 as in 11-18/1601r2.**
          1. **CID: 16488.**
          2. **Moved by Ross Jian Yu, Seconded by Bin Tian.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      17. **CR Motion #679: Move to accept resolutions to CIDs 15717, 16021, 16023, 16024, 17073, 15911, 15913, 15959, 16562, 16563, 16564, 16565, 16566, 16567, 16568, 16592, 16906, 17087, 16930 in doc 11-18/1418r1.**
          1. **Moved by Po-Kai Huang, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      18. **CR Motion #680: Move to accept resolutions to CIDs 15868, 16048, 15869, 16438, 16437, 16027, 16029, 16030, 16215, 16938, and 16422 in doc 11-18/1189r4.**
          1. **Moved by Po-Kai Huang, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      19. **CR Motion #681: Move to accept resolutions to CIDs 15059 15755 15756 16653 16939 16940 in doc 11-18/1496r1.**
          1. **Moved by Laurent Cariou, Seconded by Po-Kai Huang.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      20. **CR Motion #682: Move to accept resolutions to CIDs 5898, 16499, 15702, 15653, 15655, 15738, 15656, 15739, 15740, 17127, 15847, 15741, 15742, 15699, 17133, 17076, 15176, 16757, 17134, 15657, 15744, 16758, 17131, 16037, 16226, 16464, 15581, 15589, 15591, 16512, 16761, 16762, 16513, 17014, 15761, 16515, 16514, 16516, 15745, 15746, 15781, 15709, 15713, 15714, 15715, 16759, 16760, 16935, and 16936 in doc 11-18/1495r6.**
          1. **Moved by Laurent Cariou, Seconded by Matthew Fischer.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      21. **CR Motion #683: Move to accept resolutions to CIDs 17142, 16753, 16754, 16475, 16064, 16755, 16347, and 16016 in doc 11-18/1455r3.**
          1. **Moved by Abhishek Patil, Seconded by Kiseon Ryu.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      22. **CR Motion #684: Move to accept resolutions to CIDs 17124, 17125, 16506, 16498, 16507, 16539, 16538, 15091, 15686, 15092, 15109, 16545, 15111, 15812, 15114, 15112, 15113, 15813, 16544, 16546, 16468, 15872, 17103, 15057, 15060, and 16540 in doc 11-18/1266r6.**
          1. **Moved by Abhishek Patil, Seconded by Kiseon Ryu.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      23. **CR Motion #685: Move to accept resolutions to CIDs 15010, 15011, 15173, 15372, 15734, 15735, 15736, 15737, 15766, 15864, 15865, 16615, 16188, 16362, 16488, 16489, 17016, 17017 and 17034 in doc 11-18/1246r8.**
          1. **Moved by Jarkko Kneckt, Seconded by Matthew Fischer.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      24. **CR Motion #686: Move to accept resolutions to CIDs 15054, 15058, 15082, 16129, 15056, 16590, and 16591, in doc 11-18/1320r4.**
          1. **Moved by Abhishek Patil, Seconded by Po-Kai Huang.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      25. **CR Motion #687: Move to accept resolutions to comment resolutions to CIDs 15008, 16740, 16645, 16741, 15009, 15863, 17030, 16742, 17146, 15866, 16913, 16914, and 17065 in doc 11-18/1504r1.**
          1. **Moved by Abhishek Patil, Seconded by Ming Gan.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      26. **CR Motion #688: Move to accept resolutions to CIDs 15071, 15074, 15075, 15078, 15680, and 16547 in doc 11-18/1515r4.**
          1. **Moved by Zhou Lan, Seconded by Thomas Derham.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      27. **CR Motion #689: Do you accept resolutions to CIDs 16543 and 15867 in doc 11-18/1516r1.**
          1. **Moved by Zhou Lan, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      28. **CR Motion #690: Move to accept accept resolutions to CIDs 15025, 15030, 15031, 15032, 15242, 15243, 15880, 15881, 15882, 15883, 16436, 16445, 16459, and 16460 in doc 11-18/1465r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      29. **CR Motion #691: Move to accept resolutions to CIDs 15290, 15291, and 15292 in doc 11-18/1466r0.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      30. **CR Motion #692: Move to accept resolutions to CIDs 15414, 15415, 15416, 16039, 16074, 16227, 16251 16690, 17090 in doc 11-18/1467r1.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      31. **CR Motion #693: Move to accept resolutions to CIDs 15914, 16462, 17047 in doc 11-18/1468r2.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      32. **CR Motion #694: Move to accept resolution to CID 16466 in doc 11-18/1469r2.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      33. **CR Motion #695: Move to accept resolution to CID 15103 in doc 11-18/1470r0.**
          1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      34. **CR Motion #696: Move to accept resolutions to CIDs 17000, 15022, 17025, 15877, 15878, 17027, 15816, 15821, 15180, 15115, 15117, 15169, 16469, 15170, 15171, 17026, 15172, 16470, 16471, 15116, 16473, 15118, 16474, 15822, 15167, and 15168 in doc 11-18/1497r2.**
          1. **Moved by Laurent Cariou, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      35. **CR Motion #697: Move to accept resolutions to CIDs 16076, 16702, and 16869 in doc 11-18/1512r0.**
          1. **Moved by Ming Gan, Seconded by Alfred Asterjadhi.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      36. **CR Motion #698: Move to accept resolutions to following CIDs in doc 11-18/1485r1.**
          1. **CIDs: 15681, 16548, 16951, 16952, 17151, 17152.**
          2. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      37. **CR Motion #699: Move to accept resolutions to CIDs 16127, 16135, 16136 in doc 11-18/1484r2.**
          1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      38. **CR Motion #700: Move to accept resolution to CID 17024 in doc 11-18/1511r0.**
          1. **Moved by Ming Gan, Seconded by Sai Shankar Nandagopalan.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      39. **CR Motion #701: Move to accept resolution to CID 15915 in doc 11-18/1484r2.**
          1. **Moved by Liwen Chu, Seconded by Ming Gan.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      40. **CR Motion #702: Move to accept resolutions to following CIDs in doc 11-18/1501r1.**
          1. **CIDs: 15316, 15678, 15856, 15857, 15858, 16198, 16199, 16200, 16201, 16204, 16205, 16270, 16320, 16361, 16370, 16377, 16402, 16496, 16655, 16658, 16659, 16661, 16662, 16941, 16943, 16945, 17039, 17148, 17149.**
          2. **Moved by George Cherian, Seconded by Abhishek Patil.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
      41. **CR Motion #703: Move to accept resolutions to the CID 16595 in doc 11-18/1415r2.**
          1. **Moved by Po-Kai Huang, Seconded by Robert Stacey.**
          2. **Discussion – No discussion.**
          3. **Result: Approved with no objection.**
      42. **CR Motion #704: Move to accept resolutions to following CIDs in doc 11-18/1655r3.**
          1. **CIDs: 15669, 15728, 15907, 16182, 16456, 16457, 16933, 16934, 17061, and 17062.**
          2. **Moved by Kaiying Lv, Seconded by Bo Sun.**
          3. **Discussion: There was a request to check the result of straw poll.**
          4. **Result: Approved with no objection.**
      43. **CR Motion #705: Move to accept resolutions to the following CIDs in doc 11-18/1486r0.**
          1. **CIDs: 15758, 16173, 16505, 17138, and 17139.**
          2. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
          3. **Discussion – No discussion.**
          4. **Result: Approved with no objection.**
5. **Comment Resolution**
   1. **Laurent Cariou (Intel) presented “CR for OBSS\_PD,” based on the submission 11-18-1495-05.**
      1. Summary
         1. Laurent has gone through the update.
         2. Changes from the previous revision:
            1. Delay #16411 resolution
            2. Remove: “Class B device as defined in 28.3.14.3 (Pre correction accuracy requirements) shall not operate with the procedures defined in this subclause. (#16411)”
      2. Discussion
         1. People discussed partial BSSID related feature.
         2. Members requested further update. 🡪 will be r6.
   2. **Matthew Fischer (Broadcom Ltd.) presented “LB233 CR Spatial Reuse,” based on the submission 11-18-1410-03.**
      1. Summary
         1. CID 15707 – changed proposed text – removed L-SIG as a field that can be used to measure receive power level in several places.
         2. CID 15796 – found another FTM instance that needed to be stricken.
      2. Discussion
         1. A member asked why FTM related spec has been removed. 🡪 Because there are > 60 comments saying we do not have to have FTM related features.
         2. Another member expressed objection to remove the FTM related feature since it is covered by 802.11ac spec.
      3. **CR Motion #706: Move to accept resolutions to CIDs 15646, 15704, 15705, 15706, 15707, 15708, 15747, 15748, 15749, 15750, 15751, 15783, 15796, 15797, 15798, 15817, 15909, 15910, 16157, 16279, 16519, 16603, 16937, 17020, 17021, 17022, 17045, 17078, 17080, 17081, 17082, and 17083 in doc 11-18/1410r4**
      4. **Moved by Matthew Fischer, Seconded by Thomas Derham.**
      5. **Result: Approved with no objection.**
      6. **This motion was reconsidered. The new motion is CR Motion #711.**
6. **Discussion - TGax November 2018 Ad Hoc Meeting**
   1. **3-day ad hoc meeting suggested.**
      1. **People discussed the need for PHY ad hoc.**
         1. **Some people prefer 2-day PHY ad hoc while some other people prefer 1-day PHY ad hoc.**
   2. **Ad Hoc Meeting Motion: Motion: Authorize TGax to hold an ad-hoc meeting on 7-9 November in Shenzhen, China, for the purpose of working on comment resolution.**
      1. **The PHY ad hoc is planning a two-day meeting on Nov. 8-9.**
      2. **Moved by Ross Jian Yu, Seconded by Bo Sun**
      3. **Discussion – No discussion.**
      4. **Result: Y/N/A = 33/8/10, motion passes.**
7. **Teleconference Schedule**
   1. TGax chair person proposes the following schedule:
      1. September 20, Oct. 4, Oct. 18, Nov. 1 10:00 – 12:00 ET
      2. September 27, Oct. 11 20:00 – 22:00 ET
8. **AoB**
9. **Recess**
   1. **TGax meeting is in recess until start of PM1 session today.**

# Thursday, September 14th, 2018, 13:30 – 15:30, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 13:30 (Local Time).**
   1. Introduction of the TG leadership.
2. **Agenda Setting**
   1. Proposed Agenda for Thursday AM1 and PM1as approved during AM1 session.
      1. Call meeting to order
      2. IEEE-SA IPR Policies and Procedures.
      3. Coex discussion
         1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1559-00-0000-rlan-and-uwb-regulatory-status.docx>
         2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1532-00-00ax-tgax-coexistence-assurance-document-comments.docx>
         3. <https://mentor.ieee.org/802.11/dcn/16/11-16-1348-04-00ax-coexistence-assurance.docx>
      4. CR submissions and motions
         1. Robert Stacey
         2. Kiseon Ryu
         3. Xiaogang Chen
         4. Lochan Verma
         5. Who else?
      5. AoB
      6. Adjourn
3. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
   2. Attendance!
4. **CoX discussion**
   1. **Peter Ecclesine (Cisco Systems) presented “RLAN and UWB Regulatory Status,” based on the submission 11-18-1559-00.**
      1. Summary
         1. Administrations authorizing or licensing devices using UWB technology should ensure, pursuant to the provisions of the RR, that these devices do not cause interference to and do not claim protection from, or place constraints on, the radiocommunication services of other administrations as defined in the RR and operating in accordance with those Regulations.
         2. In ITU-R Radio Regulations, devices using UWB technology are the only ones with such complete requirements to ensure such devices do not cause interference or place constraints on the radiocommunication services of other administrations.
      2. Discussion
         1. A participant mentioned that we have a clear obligation to consider coexistence to promote the IEEE 802 brand.
         2. Another participant mentioned that coexistence of 802.11ax and UWB is a pretty big deal.
5. **Submission and comment resolution**
   1. **Robert Stacey (Intel) presented “CR on differentiating non-TB and TB sounding,” based on the submission 11-18-1502-02.**
      1. Summary
         1. Proposed resolutions to CIDs 16673, 16674, 16675, 16676, 16678 and 16681.
         2. Proposed spec changes:
            1. broadcast HE NDP Announcement frame with two or more STA Info fields 🡪 HE TB sounding sequence
            2. individually addressed HE NDP Announcement frame with one STA Info field 🡪 HE non-TB sounding sequence
      2. Discussion
         1. No discussion.
      3. **CR Motion #707: Move to accept resolutions to CIDs 16673, 16674, 16675, 16676, 16678 and 16681 in doc 11-18/1502r2.**
         1. **Moved by Robert Stacey, Seconded by Youhan Kim.**
         2. **Discussion – No discussion.**
         3. **Result: Approved with no objection.**
   2. **Robert Stacey (Intel) presented “11ax D3.0 MAC Comment Resolution for Control response,” based on the submission 11-18-1519-01.**
      1. Summary
         1. Resolutions for comments of TGax Draft D3.0 with CIDs 16687, 16688 and 16689 are proposed.
         2. Problems with using the HE ER SU PPDU for a control response frame have been identified.
      2. Discussion
         1. A member commented that there are some inconsistencies and it will be good to collect feedbacks for now. Robert agreed
      3. Next Step
         1. This submission will be discussed during a teleconference.
   3. **Kiseon Ryu (LG Electronics) presented “CR for CID 15105,” based on the submission 11-18-1548-02.**
      1. Summary
         1. The resolution for CID 15105 is proposed.
         2. The basic idea is:

When a STA suffers from a bad UL link (e.g., fails to send a frame by using the RU assigned by Trigger frame or an SU PPDU continuously), the STA should be able to request to AP to allocate a narrowband RU.

* + - 1. Proposed to modify the related figure and Table as contained in this submission.
    1. Discussion
       1. No discussion.
    2. **CR Motion #708: Move to accept resolution to CID 15105 in doc 1548r2.**
       1. **Moved by Kiseon Ryu, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: Approved with no objection.**
  1. **Xiaogang Chen (Intel) presented “Changes to D3.0,” based on the submission 11-18-1493-03.**
     1. Summary
        1. Resolutions to the comments with following CIDs for TGax Draft 3.0 are proposed.
           1. CIDs: 15436, 15457, 15458, 15459, 15460, 15470, 15577, 15579, 15582, 15583, 15584, 15585, 15586, 15587, 15854, 15860, 15921, 15945, 16042, 16055, 16177, 16476, 16477, 16478, 16479, 16480, 16481, 16482, 16483, 16708, 16710, 16793, 16863, 16864, 16865, 16866, and 17003.
     2. Discussion
        1. No discussion.
     3. **CR Motion #709: Move to accept resolutions to CIDs 15436, 15457, 15458, 15459, 15460, 15470, 15577, 15579, 15582, 15583, 15584, 15585, 15586, 15587, 15854, 15860, 15921, 15945, 16042, 16055, 16177, 16476, 16477, 16478, 16479, 16480, 16481, 16482, 16483, 16708, 16710, 16793, 16863, 16864, 16865, 16866, 17003 in doc 11-18/1493r3.**
        1. **Moved by Xaogang Chen, Seconded by Bin Tian**
        2. **Discussion – No discussion.**
        3. **Result: Approved with no objection.**
  2. **Lochan Verma (Qualcomm) presented “Comment Resolution on PHY Introduction Part - 1,” based on the submission 11-18-1459-03.**
     1. Summary
        1. The submission contains the resolutions for comments received for TGax D3.0 related to HE PHY Capabilities (9.4.2.237.3) are proposed.
           1. Comments with CIDs 16142, 15897, 16139, 16072, 16138 are to be approved.
        2. Resolution to the CID 16138 was discussed.
     2. Discussion
        1. No discussion.
     3. **CR Motion #710: Move to accept resolutions to CIDs 16142, 15897, 16139, 16072, 16138 in doc 11-18/1459r3.**
        1. **Moved by Lochan Verma, Seconded by Bin Tian**
        2. **Discussion – No discussion.**
        3. **Result: Aproved with no objection.**
  3. **Matthew Fischer (Broadcom Ltd.) presented “LB233 CR Spatial Reuse,” based on the submission 11-18-1410-05.**
     1. Summary
        1. Matt updated the submission 11-18-1410 incorporating FTM related sepc.
        2. Resolutions for two CIDs are updated.
     2. Discussion
        1. A member asked a question about the protection of an FTM frame.
        2. People discussed the purpose of FTM function and the PPDU format for each purpose. Matt updated the document to be consistent with the existing spec. 🡪 Now the revision is r6.
     3. **CR Motion #711: Move to accept resolutions to CIDs 15646, 15704, 15705, 15706, 15707, 15708, 15747, 15748, 15749, 15750, 15751, 15783, 15796, 15797, 15798, 15817, 15909, 15910, 16157, 16279, 16519, 16603, 16937, 17020, 17021, 17022, 17045, 17078, 17080, 17081, 17082, and 17083 in doc 11-18/1410r6.**
        1. **Moved by Matthew Fischer, Seconded by Janathan Segev**
        2. **Discussion – No discussion.**
        3. **Result: Approved with no objection.**
  4. **Xin Zuo (Huawei Technologies) presented “CR on HE-SIG-A and HE-SIG-B – Part 4,” based on the submission 11-18-1441-01.**
     1. Summary
        1. Resolutions to the comments submitted for IEEE 802.11ax D3.0 on HE-SIG-A and HE-SIG-B are proposed.
           1. CIDs: 15501, 16180, 16624, 16631, 16807, 16808, 16809, 16839, and 16840 (9 CIDs).
     2. Discussion
        1. Re: CID 16624: A member mentioned that current text for HE-SIG-B is out of order. The comment is valid and should not be rejected.
        2. A member responded that the commenter should submit the resolution. The proposed change is not correct.
        3. The document is updated to rev 2.
     3. **CR Motion #712: Move to accept resolutions to CIDs 15501, 16180, 16624, 16631, 16807, 16808, 16809, 16839, and 16840 in doc 11-18/1441r2.**
        1. **Moved by Xin Zuo, Seconded by Ross Jian Yu**
        2. **Discussion – No discussion.**
        3. **Result: Approved with no objection.**

1. **AoB**
   1. 10 minutes left.
   2. No business to conduct within the remaining 10 minutes..
2. **Adjournment**
   1. **TGax adjourned for the week@ 15:20 (Local Time)**