IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Minutes of TGax ad hoc (MAC-MU-SR) November 2018 in Shenzhen | | | | |
| Date: 2018-12-xx | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Yasuhiko Inoue | NTT | 1-1 Hikaro-no-oka, Yokosuka, Kanagawa 239-0847 Japan | ++81-46-859-5097 | inoue.yasuhiko@lab.ntt.co.jp |
|  |  |  |  |  |

Abstract

This document contains minutes of TGax ad hoc (MAC-MU-SR) November 2018 in Shenzhen.

Rev. 0: Initial version.

# Wednesday, November 7th, 2018, 9:00 – 18:00, TGax ad hoc (MAC, MU & SR)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 9:00 (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the secretary Yasuhiko Inoue (NTT).
2. **Agenda Setting**
   1. Proposed agenda for the week
      1. **Wednesday (9:00 am – 6:00 pm)**
         1. Comment Resolution
         2. Recess
      2. **Thursday (9:00 am – 6:00 pm)**
         1. Comment Resolution
         2. Recess
      3. **Friday (9:00 am – 6:00 pm)**
         1. Comment Resolution
         2. Adjourn
   2. Proposed agenda for day 1 (Wednesday)
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Recess
   3. Approval of the agenda
      1. Chair asked if there is any item to add to the agenda. 🡪 No item to add to the agenda.
      2. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      3. The agenda was approved.
3. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair reviewed the IEEE 802 and 802.11 Policy and Procedure.
   2. Relevant documents
      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
4. **Announcement**
   1. Chair asked the attendees to put name and affiliation on the sign-up sheet..
   2. Chair asked people to state name and affiliation when addressing for the first time during the session.
5. **Host Information**
   1. Thanks to Ross Jian Yu and Huawei for hosting the meeting
   2. Host announcements, if any.
6. **Call for submissions**
   1. Submissions are contained in excel files attached to the agenda file.
   2. Leftover submissions
      1. 11-18-0496, “Disallowed Sub-Channel,” Matthew Fischer (Broadcom Ltd.)
      2. 11-18-1363, “CD for CID 16597,” Po-Kai Huang (Intel)
      3. 11-18-1432, “Doze Transition Signaling,” Matthew Fischer (Broadcom Ltd.)
      4. 11-18-1454, “Figure 27-12,” Abhishek Patil (Qualcomm)
      5. 11-18-1456, “Resolution for CIDs in 9.3.1.23,” Abhishek Patil (Qualcomm)
      6. 11-18-1471, “Comment resolutions for 27.16.1 related to 6 Ghz band,” Alfred Asterjadhi (Qualcomm)
      7. 11-18-1472, “Comment resolutions for 27.7.4,” Alfred Asterjadhi (Qualcomm)
      8. 11-18-1473, “Comment resolutions for miscellaneous CIDs – Part 1,” Alfred Asterjadhi (Qualcomm)
      9. 11-18-1474, “Comment resolutions for 27.7.2,” Alfred Asterjadhi (Qualcomm)
      10. 11-18-1487, “11ax D3.0 Comment Resolution 27.5.3.2.3,” Liwen Chu (Marvell Semiconductor)
      11. 11-18-1488, “11ax D3.0 Comment Resolution 27.5.3.4,” Liwen Chu (Marvell Semiconductor)
      12. 11-18-1489, “Operation at 6GHz Band,” Liwen Chu (Marvell Semiconductor)
      13. 11-18-1492, “Remaining PHY Math comment resolutions,” Yan Zhang (Marvell Semiconductor)
      14. 11-18-1498, “CR for 27.5.6,” Laurent Cariou (Intel)
      15. 11-18-1500, “CR for 6 GHz – 6 GHz Map,” Laurent Cariou (Intel)
      16. 11-18-1503, “LB233 CR TUA Access Delay,” Yongho Seok (MediaTek)
      17. 11-18-1505, “LB233 CR MAC TXVECTOR,” Yongho Seok (MediaTek)
      18. 11-18-1506, “LB233 CR ER Beacon,” Yongho Seok (MediaTek)
      19. 11-18-1507, “11ax D3.0 MAC Comment Resolution for Co-located BSS,” Po-Kai Huang (Intel)
      20. 11-18-1508, “11ax D3.0 MAC Comment Resolution for Multiple BSSID,” Po-Kai Huang (Intel)
      21. 11-18-1519, “11ax D3.0 MAC Comment Resolution for Control response,” Robert Stacey (Intel)
      22. 11-18-1531, “Spatial Reuse DSC and TPC,” Graham Smith (SR Technologies)
      23. 11-18-1532, “TGax Coexistence Assurance Document Comments,” Eldad Perahia (HP Enterprize)
      24. 11-18-
   3. New submissions
      1. 11-18-0218, “Fragment Flushing BlockAckReq,” Matthew Fischer (Broadcom Ltd.)
      2. 11-18-0496, “Disallowed Sub-Channels,” Matthew Fischer (Broadcom Ltd.)
      3. 11-18-1454, “Figure 27-12,” Abhishek Patil (Qualcomm)
      4. 11-18-1508, “CR for multiple BSSID,” Po-Kai Huang (Intel)
      5. 11-18-1696, “Comment resolutions for 9.6.25,” Alfred Asterjadhi (Qualcomm)
      6. 11-18-1697, “Comment resolutions for 27.7.3,” Alfred Asterjadhi (Qualcomm)
      7. 11-18-1698, “Comment resolutions for miscellaneous CIDs part 2,” Alfred Asterjadhi (Qualcomm)
      8. 11-18-1699, “Comment resolutions for subclause 9.2.4,” Alfred Asterjadhi (Qualcomm)
      9. 11-18-1703, “Resolution to CID 17150,” Tomoko Adachi (Toshiba)
      10. 11-18-1733, “CID 16364 on Packet Extension,” Yujin Noh (Newracom)
      11. 11-18-1734, “PHY subcarriers and RU part 2,” Yujin Noh (Newracom)
      12. 11-18-1735, “CR on PHY Intro,” Yujin Noh (Newracom)
      13. 11-18-1759, “Comment Resolutions for xVECTORs,” Bo Sun (ZTE)
      14. 11-18-1762, “CR PHY Introduction,” Lochan Verma (Qualcomm)
      15. 11-18-1764, “HE-SIG CR Part6,” Ross Jian Yu (Huawei Technologies)
      16. 11-18-1767, “CR PHY Miscellaneous,” Lochan Verma (Qualcomm)
      17. 11-18-1774, “Resolution to CID 16624 (HE-SIG-B),” Brian Hart (Cisco Systems)
      18. 11-18-1775, “Comment resolutions for miscellaneous – Part 3,” Alfred Asterjadhi (Qualcomm)
      19. 11-18-1777, “Ack-related CIDs remaining,” George Cherian (Qualcomm)
      20. 11-18-1778, “LB233 CR subclause 27.15.2 and 27.15.3,” Yongho Seok (MediaTek)
      21. 11-18-1779, “LB233 CR Transmit Power Control,” Yongho Seok (MediaTek)
      22. 11-18-1780, “LB233 CR MAC Miscellaneous,” Yongho Seok (MediaTek)
      23. 11-18-1790, “CR on PHY Miscellaneous,” Yujin Noh (Newracom)
      24. 11-18-1799, “CR for 16668,” Po-Kai Huang (Intel)
      25. 11-18-1800, “CR for Miscelaneous CIDs,” Po-Kai Huang (Intel)
      26. 11-18-1803, “CR on MU-RTS/CTS part II,” Po-Kai Huang (Intel)
      27. 11-18-1807, “Proposed Resolutions for Miscellaneous CIDs,” Yasuhiko Inoue (NTT)
      28. 11-18-1808, “Proposed Resolutions for CIDs related to HE MAC Capabilities,” Yasuhiko Inoue (NTT)
      29. 11-18-1812, “Resolution for CIDs related to Random Access – Part 2,” Abhishek Patil (Qualcomm)
      30. 11-18-1814, “Resolution for CIDs related to Multiple BSSID – Part 2,” Abhishek Patil (Qualcomm)
      31. 11-18-1815, “Miscellaneous CIDs,” Abhishek Patil (Qualcomm)
      32. 11-18-1816, “CID 16668,” Abhishek Patil (Qualcomm)
      33. 11-18-1817, “Figure 9-63j1,” Abhishek Patil (Qualcomm)
      34. 11-18-1820, “Doze Transition Signaling MoreData,” Matthew Fischer (Broadcom Ltd.)
      35. 11-18-1821, “Maximum RX PPDU Duration Signaling,” Matthew Fischer (Broadcom Ltd.)
      36. 11-18-1822, “Temporarily Limited Connection,” Matthew Fischer (Broadcom Ltd.)
      37. 11-18-1827, “6 GHz operation for 11ax follow up,” Wook Bong Lee (Samsing)
      38. 11-18-1828, “D3.0 CR for 6GHz Post Association,” Wook Bong Lee (Samsing)
      39. 11-18-1830, “CR for TSPEC,” Jarkko Kneckt (Apple)
      40. 11-18-1831, “OMI comment resolution,” Jarkko Kneckt (Apple)
      41. 11-18-1832, “D3.0 Comment Resolution on CID for 28.4.3,” Jianhan Liu (MediaTek)
      42. 11-18-1841, “Comment Resolution on PHY Introduction,” Bin Tian (Qualcomm)
      43. 11-18-1842, “Comment Resolution on PHY Miscellaneous,” Bin Tian (Qualcomm)
      44. 11-18-1844, “LB233 CR on Fragmentation,” Ming Gan (Huawei Technologies)
      45. 11-18-1848, “CID 17100,” Youhan Kim (Qualcomm)
      46. 11-18-1849, “D3.0 Comment Resolution Part 3,” Youhan Kim (Qualcomm)
      47. 11-18-1850, “D3.0 Comment Resolution Part 4,” Youhan Kim (Qualcomm)
      48. 11-18-1851, “Resolutions to comments to subclause 9.3.1.9,” Tomoko Adachi (Toshiba)
      49. 11-18-1852, “General and Annex G Comment Resolution,” Osama Aboul-Magd (Huawei Technologies)
      50. 11-18-1853, “Resolutions to comments to subclauses 10.3.7, 3.1, 3.2, and 27.5.1.1,” Tomoko Adachi (Toshiba)
      51. 11-18-1855, “Comments Resolution – 27.16.4,” Chao-Chun Wang (MediaTek)
      52. 11-18-1856, “11ax D3.0 Comment Resolution 9.7.1,” Liwen Chu (Marvell)
      53. 11-18-1857, “11ax D3.0 Comment Resolution 27.10.1 27.10.3” Liwen Chu (Marvell)
      54. 11-18-1858, “11ax D3.0 Comment Resolution 9.7.3,” Liwen Chu (Marvell)
      55. 11-18-1859, “11ax D3.0 Comment Resolution 27.10.4,” Liwen Chu (Marvell)
      56. 11-18-1866, “CR for OBSS\_PD 2,” Laurent Cariou (Intel)
      57. 11-18-1867, “CR for OPS 2,” Laurent Cariou (Intel)
7. **Comment Resolution**
   1. **Osama Aboul-Magd (Huawei Technologies) presented “TGax Coexistence Assurance document comments,” based on the submission 11-18-1532-01 (on behalf of Eldad Perahia).**
      1. Summary
         1. Osama (Huawei Technologies) presented the submission 11-18-1532-01 on behalf of Eldad Perahia (HPE Aruba).
         2. Basically, all of the comments contained this document are rejected since they do not affect the draft.
         3. People discussed possibility of updating the CA document.
      2. Discussion
         1. People discussed how we should deal with a comment for the CA document.
         2. Re: CID 16876 – the comment is rejected since there is no LMSC requirement for analysis, simulations and/or testing.
      3. **Straw Poll: Do you accept resolutions to CIDs 16876, 16877, 16878, 16879, 16880, 16881, 16882, 16883, 16884, 16885, 16886, 16887, 16888, 16889, 16890,16891, 16892, 16893, 16894, 16895, 16896, 16897, 16898, 16899, 16900, 16901, 16902, 16903, 16904, 16905 in doc 11-18/1532r2?**
         1. **Rsult: No objection.**
   2. **Osama Aboul-Magd (Huawei Technologies) presented “General and Annex G Comment Resolutions,” based on the submission 11-18-1852-00.**
      1. Summary
         1. Resolutions for General and Annex G comments are proposed.
            1. General: 15183, 16081, and 16383,
            2. Annex G: 15912, 16075, 16701, 17054, 17055, and 17056.
      2. Discussion
         1. Re: CID 15183 – Patent related issue shall be considered in the IEEE-SA (PATCOM).
         2. Re: Annex G: People discussed whether the HTC should be included in legacy control frame.
         3. Some people asked for update to the proposed text.
      3. Next Step
         1. Osama to update the document.
      4. **Straw Poll: Do you accept resolutions to CIDs 15183, 16081, and 16383, 15912, 16075, 16701, 17054, 17055, and 17056 in doc 11-18/1852r1?**
         1. **Result: Accepted with no objection.**

**Recess for break @ 10:15 AM.**

**Break**

**Meeting reconvened @ 10:35 AM.**

* 1. **Po-Kai Huang (Intel) presented “11ax D3.2 MAC Comment resolution for Miscellaneous CIDs,” based on the submission 11-18-1800-00.**
     1. Summary
        1. Resolutions for comments of TGax Draft D3.2 with the following CIDs are proposed:
           1. CIDs: 15158, 15803, 15804, 16026, 16041, 16103, 16144, 16160, 16161, 16184, 16211, 16255
     2. Discussion
        1. Re: CID 16144: People discussed the prefix for GCR Block Ack. 🡪 there is no consensus.
        2. Re: CID 16160: People discussed the resolution for this comment. People also discussed the suggested change.
        3. Po-Kai updated the document incorporating the results of discussions. 🡪 R1.
     3. **Straw Poll: Do you accept resolutions to CIDs 15158, 15803, 15804, 16026, 16041, 16103, 16144, 16160, 16161, 16184, 16211, 16255 in doc 11-18/1800r1?**
        1. **Result: Accepted with no objection.**
  2. **Po-Kai Huang (Intel) presented “11ax D3.2 MAC Comment Resolution for CID 16668,” based on the submission 11-18-1799-00.**
     1. Summary
        1. A resolution for CID 16668 on subclause 27.5.3.3 (STA behaviour for UL MU operation) was proposed.
     2. Discussion
        1. No discussion.
     3. **Straw Poll: Do you accept resolution to CID 16668 in doc 11-18/1799r1?**
        1. **Result: Accepted with no objection.**
        2. Current revision is r3 based on minor changes.
  3. **Alfred Asterjadhi (Qualcomm) presented “Comment resolution for miscellaneous – Part 3,” based on the submission 11-18-1775-00.**
     1. Summary
        1. Resolutions for the following CIDs are proposed:
           1. CIDs: 16367, 15805, 15806, 16078, 16001, 16000, 16443, 15743, 15839, 16327, 16326, 15884, 15886

**Lunch Break @ 12:00 until 13:00.**

**Lunch Break**

**Meeting reconvened @ 13:06.**

* + 1. Discussion
       1. No discussion.
    2. **Straw Poll: Do you accept resolutions to CIDs 16367, 15805, 15806, 16078, 16001, 16000, 16443, 15743, 15839, 16327, 16326, 15884, 15886 in doc 11-18/1775r1?**
       1. **Result: Accepted with no objection.**
  1. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for subclause 9.2.4,” based on the submission 11-18-1699-00.**
     1. Summary
        1. Resolutions for comments related to TGax D3.0 subclause 9.2.4 (Frame fields)with the following 10 CIDs are proposed:
           1. CIDs: 15861, 15862, 15960, 15963, 16232, 16366, 16389, 16911, 16912, 16077
     2. Discussion
        1. A member is not satisfied with the resolutions for the comments submitted by him.
        2. Alfred to update the document based on the discussion.
  2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for miscellaneous CIDs – Part 1,” based on the submission 11-18-1473-00.**
     1. Summary
        1. Resolutions for the comments on the IEEE 802.11ax D3.0 with the following 11 CIDs are proposed:
           1. 15002, 15036, 15044, 15163, 15903, 16472, 16737, 16490, 16120, 15007, 17111.
     2. Discussion
        1. People discussed the HT Control field with Control subfield value of “ONES.”
        2. People also discussed the PPDU format and the type of a device (HT/VHT/HE).
        3. Some resolutions need more discussion.
     3. Straw Poll – deferred.
  3. **Liwen Chu (Marvell) presented “11ax D3.0 Comment Resolution 9.7.1,” based on the submission 11-18-1856-01.**
     1. Summary
        1. Resolutions for comments related to TGax D3.0 subclause 9.7.1 with the following CIDs:
           1. CIDs: 16264, 16266, 16267, 16294, 16647, 16908, 17040.
     2. Discussion
        1. Re: CID 16264 and 16647: People had a long discussion on the interpretation and possible setting of the EoF subfield, and the pre-EoF padding operation.

**Lunch Break @ 12:00 until 13:00.**

**Lunch Break**

**Meeting reconvened @ 13:06.**

* + 1. Straw Poll – deferred.
  1. **Straw Poll by Alfred Asterjadhi (Qualcomm) on the submission 11-18-1473-01.**
     1. Summary
        1. Alfred asked fot a straw poll on the 11-18-1473r1 which was updated to r2 during the discussion.
     2. **Straw Poll: Do you accept resolutions to CIDs 15002, 15036, 15044, 15163, 15903, 16472, 16737, 16490, 16120, 15007, 17111 in doc 11-18/1473r2?**
        1. **Result: Accepted with no objection.**
  2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.2,” based on the submission 11-18-1474-00.**
     1. Summary
        1. Resolutions for the comments related to TGax D3.0 subclause 27.7.2 (Individual TWT agreement) with the following 7 CIDs:
           1. CIDs: 15094, 15095, 15849, 16424, 16453, 16961, 16962
     2. Discussion
        1. No discussion.
     3. **Straw Poll: Do you accept resolutions to CIDs 15094, 15095, 15849, 16424, 16453, 16961, 16962 in doc 11-18/1474r1?**
        1. **Result: Accepted with no objection.**
        2. The CID written in red is waiting for feedback from a member.
  3. **Osama Aboul-Magd (Huawei Technologies) presented updated “General and Annex G Comment Resolution,” based on the submission 11-18-1852-01.**
     1. Summary
        1. Update:
           1. Annex G: attribute table
           2. Annex G: he-cascading sequence
     2. Discussion
        1. People still asked for some update to the proposed text.
     3. Straw Poll – deferred.
  4. **Discussion lead by Osama Aboul-Magd (Huawei Technologies) on MAC Transferred Comments from the editor**
     1. CID 15565 MIB
     2. CID 15933 - Broadcast RU 🡪 Transferred to Abhi
     3. CID 16224 - Rejected
     4. CID 16175 - Reject: Dynamic fragmentation is appropriate for the function.
     5. CID 15939 - BSS color in use event 🡪 Yongho is working on.
     6. CID 16360 “An HE STA may transmit HE SU PPDU to a peer HE STA” 🡪 Resolved in resolution to CID 15915
     7. CID 16487 🡪 Jarkko will take care of this one.
     8. CID 17009 - Text in 27.1 “Frame exchanges are still considered as initiated by the STA as defined in Clause 11, and Clause 12 even if the initiating frame of the frame exchange is sent in response to a Trigger frame as defined in the subclause below.”
* A successfully acknowledged frame transmitted by a non-AP STA in response to a Basic Trigger is a successful frame exchange initiated by the STA as referred to in Clause 11 and Clause 12.

1. **Recess**
   1. Meeting is in recess at 17:50 (local time).
2. **List of Attendees**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Stephane Baron | Canon Research |
| 4 | Laurent Cariou | Intel |
| 5 | Liwen Chu | Marvell |
| 6 | Matthew Fischer | Broadcom Ltd. |
| 7 | Ming Gan | Huawei Technologies |
| 8 | Jason Yuchen Guo | Huawei Technologies |
| 9 | Frank Hsu | MediaTek |
| 10 | Po-Kai Huang | Intel |
| 11 | Yasuhiko Inoue | NTT |
| 12 | Arik Klein | Intel |
| 13 | Jarkko Kneckt | Apple |
| 14 | Zhou Lan | Broadcom Ltd. |
| 15 | Wook Bong Lee | Samsung Electronics |
| 16 | Yunbo Li | Huawei Technologies |
| 17 | Pooya Monajemi | Cisco Systems |
| 18 | Patrice Nezou | Canon Research |
| 19 | Al Petrick | InterDigital |
| 20 | Kiseon Ryu | LG Electronics |
| 21 | Jung Hoon Suh | Huawei Technologies |
| 22 | Yinnie Ying Wang | Huawei Technologies |
| 23 | Tianyu Wu | Samsung Electronics |
| 24 | James Yee | MediaTek |
| 25 | Ross Jian Yu | Huawei Technologies |
| 26 |  |  |
|  |  |  |

# Thursday, November 8th, 2018, 9:00 – 18:00, TGax ad hoc (MAC-MU-SR)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 9:00 (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies), vice-chair Alfred Asterjadhi (Qualcomm) and the secretary Yasuhiko Inoue (NTT).
   2. Agenda: 11-18/1714r2 on the server.
2. **Agenda Setting**
   1. Proposed agenda for Thursday November 8th, 2018:
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Recess
   2. Chair asked if there is any item to add to the agenda.
   3. Chair asked if there is any objection to proceed with this agenda. – No objection.
      1. The agenda was approved.
3. **IPR Policy & Procedure**
   1. Chair reminded that we are still operating under the IEEE-SA, IEEE 802 Policies and Procedures.
   2. Chair also reminded people to state name and affiliation when speaking for the first time.
4. **Schedule for today**
   1. 9:00 - 9:10 Call the meeting to order and IPR slides
   2. 9:10 - 10:15 Comment Resolution
   3. 10:15 - 10:30 Break
   4. 10:30 - 12:00 Comment Resolution
   5. 12:00 - 13:00 Lunch
   6. 13:00 - 15:15 Comment Resolution
   7. 15:15 - 15:45 Break
   8. 15:45 - 18:00 Comment Resolution
   9. 18:00 Recess
5. **Progress Review** 
   1. 11-18/1532 (Coexistence Document):
      1. Resolutions to CIDs 16876, 16877, 16878, 16879, 16880, 16881, 16882, 16883, 16884, 16885, 16886, 16887, 16888, 16889, 16890,16891, 16892, 16893, 16894, 16895, 16896, 16897, 16898, 16899, 16900, 16901, 16902, 16903, 16904, 16905 in doc 11-18/1532r2 are accepted.
   2. 11-18/1852 (Osama Aboul-Magd):
      1. Resolutions to CIDs 15183, 16081, and 16383, 15912, 16075, 16701, 17054, 17055, and 17056 in doc 11-18/1852r1 are accepted.
   3. 11-18/1800 (Po-Kai Huang):
      1. Resolutions to CIDs 15158, 15803, 15804, 16026, 16041, 16103, 16144, 16160, 16161, 16184, 16211, 16255 in doc 11-18/1800r1 are accepted.
   4. 11-18/1799 (Po-Kai Huang):
      1. Resolution to CID 16668 in 11-18/1799r1 is accepted.
   5. 11-18/1775 (Alfred Asterjadhi): Resolutions to CIDs 16367, 15805, 15806, 16078, 16001, 16000, 16443, 15743, 15839, 16327, 16326, 15884, 15886 in doc 11-18/1775r1 are accepted.
   6. 11-18/1699 (Alfred Asterjadhi): Straw poll was deferred.
   7. 11-18/1473 (Alfred Asterjadhi):
      1. Resolutions to CIDs 15002, 15036, 15044, 15163, 15903, 16472, 16737, 16490, 16120, 15007, 17111 in doc 11-18/1473r2 are accepted.
   8. 11-18/1856 (Liwen Chu): Straw poll was deferred.
   9. 11-18/1474 (Alfred Asterjadhi):
      1. Resolutions to CIDs 15094, 15095, 15849, 16424, 16453, 16962 in doc 11-18/1474r1 are accepted.
      2. CID 16961 need more work.
6. **Comment Resolution**
   1. **Osama Aboul-Magd (Huawei Technologies) presented “Resolutions to Miscellaneous MAC Comments,” based on the submission 11-18-1876-01.**
      1. Summary
         1. Osama created CR document including miscellaneous MAC CIDs based on the discussion we had yesterday.
            1. Relevant CIDs: 15565, 15933, 15939, 16175, 16224, 16360, 16487, and 17009, 16082.
      2. Discussion
         1. CIDs 15933, 15939 and 16487 are deferred for more discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs 15565, 16175, 16224, 16360 and 17009 in doc 11-18/1876r0?**
         1. **Result: Accepted with no objection.**
   2. **Jarkko Kneckt (Apple) presented “CR for TSPEC,” based on the submission 11-18-1830-00.**
      1. Summary
         1. Resolutions for the following CIDs related to TSPEC are proposed.
            1. Relevant CIDs: 15093, 15130, 15131, 15752 15753 and 17048.
      2. Discussion
         1. (Re: CID 15093) People discussed the condition to use TSPEC negotiation that is not limited to scheduling purpose.
         2. (Re: CID 15130) Consistency of “Normal ACK” with the base standard was discussed.
         3. (Re: CID 17048) Consistency of the APSD and Schedule subfields in TSPEC with the base standard was discussed.
      3. Straw Poll – No straw poll for now.
   3. **Liwen Chu (Marvell) presented “11ax D3.0 Comment Resolution 27.10.1 27.10.3,” based on the submission 11-18-1857-01.**
      1. Summary
         1. Resolutions for the following three CIDs related to subclause 27.10 A-MPDU operation are proposed.
            1. Relevant CIDs: 16252, 16683, 17088.
      2. Discussion
         1. (Re: CID 16683) People discussed the proposed modification related to this CID and the contents of HE TB PPDU (the proposal may require additional information).
         2. (Re: CID 17088) Some members asked for more clarification regarding this CID. 18/1857 was updated to include a NOTE at the end of 27.10.1.
      3. **Straw Poll: Do you accept resolutions to CIDs 16252, 16683, 17088 in doc 11-18/1857r2?**
         1. **Result: Accepted with no objection.**

Recess @ 10:10 AM until 10:30 AM

<<Break>>

Meeting Reconvened @ 10:35 AM

* + 1. Discussion (cont’d)
    2. Straw Poll
  1. **Laurent Cariou (Intel) presented “CR for OPS,” based on the submission 11-18-1867-00.**
     1. Summary
        1. Resolutions for the following CIDs related to OPS are proposed.
           1. Relevant CIDs: 15730, 15815, 15038, 15047.
     2. Discussion
        1. No major discussion.
        2. Editorial update was made to the document (🡪r1).
     3. **Straw Poll: Do you accept resolutions to CIDs 15730, 15815, 15038, 15047 in doc 11-18/1867r1?**
        1. **Result: Accepted with no objection.**
  2. **Laurent Cariou (Intel) presented “CR for OBSS\_PD,” based on the submission 11-18-1866-00.**
     1. Summary
        1. Resolutions for the following CIDs related to OBSS\_PD based SR are proposed.
           1. Relevnat CIDs: 15175, 15652, 16411, 17077, 17001, 16124, 15716.
     2. Discussion
        1. (Re: 15175 and 16411) People had a long discussion on the proposed text related to these two CIDs.
* Need more offline work on these CIDs.
  + 1. **Straw Poll: Do you accept resolutions to CIDs 15175, 15652, 16411, 17077, 17001, 16124, 15716 in doc 11-18/1866r1?**
       1. **Result: No objection to the CIDs written in black.**
  1. **Laurent Cariou (Intel) presented “CR for 27.5.6,” based on the submission 11-18-1498-02.**
     1. Summary
        1. Resolutions for the following CIDs related to subclause 27.5.6 (NDP feedback report procedure) are proposed.
           1. Relevant CIDs: 15621 15818 15819 15830 15836 15837 16057 16394 17126 15622 16783.
     2. Discussion
        1. People discussed the AID for unassociated STAs in the NFRP procedure.
* This is something we have already done for OFDMA

Recess for lunch @ 12:00 AM until 13:00.

<<Break>>

Meeting Reconvened @ 13:03.

* + 1. Discussion (cont’d)
       1. (Re: CID 15819) RU Allocation for 20 MHz operating STA was discussed.
       2. (Re: CID 15830, 15837) Long discussion on the acknowledgment from power saving STA for NDP Feedback Report.
    2. **Straw Poll: Do you accept resolutions to CIDs 15621 15818 15819 15830 15836 15837 16057 16394 17126 15622 16783 in doc 11-18/1498r2?**
       1. **Result: Accepted with no objection.**
  1. **Ming Gan (Huawei Technologies) presented “LB233 CR on Fragmentation,” based on the submission 11-18-1844-00.**
     1. Summary
        1. Resolutions for the following CIDs on Fragmentation received from LB 233 are proposed.
           1. Relevant CIDs: 15179 15670 15671 15672 16430 16431 16931 16432 16433 16434 16435 17140 16449.
     2. Discussion
        1. (Re: CID 16432) People discussed the non-zero value of the fragmentation number.
        2. (Re: CID 16433) A member expressed objection to the resolution, however, he finally agreed with the resolution as the result of discussion.
        3. CIDs 17140 and 16449: Transferred to Matthew Fischer.
     3. **Straw Poll: Do you accept resolutions to CIDs 15179 15670 15671 15672 16430 16431 16931 16432 16433 16434 16435 17140 16449 in doc 11-18/1844r0?**
        1. **Result: No objection to the CIDs written in black.**
  2. **Po-Kai Huang (Intel) presented “11ax D3.2 MAC Comment Resolution for FTM,” based on the submission 11-18-1181-05.**
     1. Summary
        1. The document 18/1181 which passed the straw poll during the previous meeting was revisited.
        2. R5 of the document contains some editorial updates.
     2. Straw Poll – No SP. The plan is to make a motion based on the revised document next week.
  3. **Alfred Asterjadhi (Qualcomm) presented “Comment Resolution for 27.7.4,” based on the submission 11-18-1472-00.**
     1. Summary
        1. Resolutions for the following CIDs on 802.11ax D3.0 subclause 27.7.4 (Use of TWT Information frame) are proposed.
           1. Relevant CIDs: 15102, 15181, 15757, 15845, 16425, 16426, 16427, 16428, 16429.
     2. Discussion
        1. (Re: CID 15757) Deferred by request from a participant.
        2. (Re: CID 15845) People discussed Active mode and “Unavailable” state which potentially affects the subclause 27.14.3 (OPS), 27.14.1 (Intra-PPDU power save for non-AP HE STAs), and 27.7.4.4 (TWT information for flexible TWT).

Recess for afternoon break @ 15:20 AM until 15:50

<<Break>>

Meeting Reconvened @ 15:53.

* + 1. Discussion (Cont’d)
       1. Discussion on the “Unavailable” state in the Active mode was continued.
    2. Straw Poll – No SP for now.
  1. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 9.6.25,” based on the submission 11-18-1696-00.**
     1. Summary
        1. Resolutions for the following CIDs on 802.11ax D3.0 subclause 9.6.25 (Unprotected S1G Action frame details) are proposed.
           1. Relevant CIDs: 15040, 15041 and 15043.
     2. Discussion
        1. A member commented that this subclause relates to the protected action frame and proposed changes need confirmation by security experts.
     3. **Straw Poll: Do you accept resolutions to CIDs 15040, 15041, 15043 in doc 11-18/1696r1?**
        1. **Result: Accepted with no objection.**
  2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolution to miscellaneous CIDs part 2,” based on the submission 11-18-1698-00.**
     1. Summary
        1. Resolutions to the following 12 CIDs (mainly related to TWT) are proposed.
           1. Relevant CIDs: 15015, 15016, 15026, 15027, 15213, 15214, 15668, 15696, 16461, 16585, 17143, 16148, 16313, 16646.
     2. Discussion
        1. (Re: CID 15668) This comment is recirculated and rejected again.
        2. (Re: CID 15696) Another member is working on this CID and deferred for now.
        3. (Re: CID 17143) Another member is working on this CID and deferred for now.
        4. The above three CIDs are removed for now.
     3. **Straw Poll: Do you accept resolutions to CIDs 15015, 15016, 15026, 15027, 15213, 15214, 16461, 16585, 16148, 16313 and 16646 in doc 11-18/1698r0?**
        1. **Result: Accepted with no objection.**
  3. **Liwen Chu (Marvell) presented “D3.0 Comment Resolution 9.7.3,” based on the submission 11-18-1858-01.**
     1. Summary
        1. Resolutions to the following CIDs on subclause 9.7.3 (A-MPDU contents) are proposed.
           1. Relevant CIDs: 15162, 15901, 15902, 16118, 16164, 16207, 16208, 16209, 16210, 16212, 16228, 16253, 16271, 16290, 16291, 16292, 16648, 16649, 16650, 16651, 17037, 17038.
     2. Discussion
        1. (Re: CID 16207) Some members have comments on the resolution and the proposed changes related to this CID.
        2. (Re: CID 16164) People discussed the definition of EOF MPDU and applicability to A-MPDU.
     3. Time is up!

1. **AoB**
2. **Recess**
   1. TGax MAC-MU-SR ad hoc is in recess @ 18:00 until Friday 9:00 AM.
3. **List of the attendees**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Stephane Baron | Canon Research |
| 4 | Laurent Cariou | Intel |
| 5 | Liwen Chu | Marvell |
| 6 | Matthew Fischer | Broadcom Ltd. |
| 7 | Ming Gan | Huawei Technologies |
| 8 | Jason Yuchen Guo | Huawei Technologies |
| 9 | Frank Hsu | MediaTek |
| 10 | Po-Kai Huang | Intel |
| 11 | Yasuhiko Inoue | NTT |
| 12 | Arik Klein | Intel |
| 13 | Jarkko Kneckt | Apple |
| 14 | Zhou Lan | Broadcom Ltd. |
| 15 | Wook Bong Lee | Samsung Electronics |
| 16 | Yunbo Li | Huawei Technologies |
| 17 | Pooya Monajemi | Cisco Systems |
| 18 | Patrice Nezou | Canon Research |
| 19 | Al Petrick | InterDigital |
| 20 | Kiseon Ryu | LG Electronics |
| 21 | James Yee | MediaTek |
| 22 |  |  |
| 23 |  |  |
| 24 |  |  |

# Friday, November 9th, 2018, 9:00 – 18:00, TGax ad hoc (MAC-MU-SR)

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 9:00 (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies), vice-chair Alfred Asterjadhi (Qualcomm) and the secretary Yasuhiko Inoue (NTT).
   2. Agenda: 11-18/1714r3 on the server.
2. **Agenda Setting**
   1. Proposed agenda for Friday November 9th, 2018:
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Adjourn
   2. Schedule of the day
      1. 9:00 – 9:10 Call the meeting to order and IPR slides
      2. 9:10 – 10:15 Comment Resolution
      3. 10:15 – 10:30 Break
      4. 10:30 – 12:00 Comment Resolution
      5. 12:00 – 13:00 Lunch
      6. 13:00 – 15:15 Comment Resolution
      7. 15:15 – 15:45 Break
      8. 15:45 – 18:00 Comment Resolution
   3. Chair asked if there is any item to add to the agenda.
   4. Chair asked if there is any objection to proceed with this agenda. – No objection.
      1. The agenda was approved.
3. **IPR Policy & Procedure**
   1. Chair reminded that we are still operating under the IEEE-SA, IEEE 802 Policies and Procedures.
   2. Chair also reminded people to state name and affiliation when speaking for the first time.
4. **Schedule for today**
   1. 9:00 - 9:10 Call the meeting to order and IPR slides
   2. 9:10 - 10:15 Comment Resolution
   3. 10:15 - 10:30 Break
   4. 10:30 - 12:00 Comment Resolution
   5. 12:00 - 13:00 Lunch
   6. 13:00 - 15:15 Comment Resolution
   7. 15:15 - 15:45 Break
   8. 15:45 - 18:00 Comment Resolution
   9. 18:00 Recess
5. **Comment Resolution**
   1. **Liwen Chu (Marvell Semiconductor) continued his presentation “D3.0 Comment Resolution 9.7.3,” based on the submission 11-18-1858-02.**
      1. Discussion
         1. (Re: CID 16523) People discussed the proposed resolution, which is “Rejected,” for this CID since the comment seems to be valid.
         2. Need more discussion to come to an agreement.
      2. Straw Poll – There was straw poll.
   2. **Ming Gan (Huawei Technologies) presented “LB233 CR on Fragmentation,” based on the submission 11-18-1844-00.**
      1. Summary
         1. CID 16432 was revisited.
      2. Discussion
         1. People discussed the receiver behaviour of dynamic fragmentation level 3 when no fragments are present at the receiver side.
         2. Need more discussion to achieve consensus.
      3. Straw Poll – There was no straw poll.
   3. **Jarkko Kneckt (Apple) presented “CR for TSPEC,” based on the submission 11-18-1830-01.**
      1. Summary
         1. Jarkko presented updated version of the 18/1830.
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs 15093, 15130, 15131, 15752 15753 and 17048 in doc 11-18/1830r1?**
         1. **Result: Accepted with no objection.**

Recess for lunch @ 12:00 AM until 13:00.

<<Break>>

Meeting Reconvened @ 13:00.

1. **Discussion on the unassigned comments**
   1. The group discussed the resolutions of those unassigned comments (not assigned to PHY).
      1. CID 15184: Rejected. The comment fails to identify a technical issue.
      2. CID 15262: Revised. Agree in principal with the comment that the reference to the Figure is missing.
      3. CID 15632: Transferred to Yasuhiko Inoue.
      4. CID 15637: Revised. TGax Editor to replace BSS Transition Threshold with BSS Transition RSSI Threshold.
      5. CID 15820: Transferred to Laurent Cariou.
      6. CID 15895: Rejected. 80+80 MHz is already included in the table.
      7. CID 15896: Rejected. 80+80 MHz is already included in the table.
      8. CID 15899: Rejected. The additional multiple threshold values would require the defintion of different variants of the NFRP trigger frame.
      9. CID 15904: Rejected. The capability bit provides flexibility to the receipiant for indicating optional support of receiving this type of A-MSDU withing an ACK-enabled A-MPDU.
      10. CID 15905: Rejected. The commenter is asking a question. The reason for such difference lies behind the definition of the station.
      11. CID 15929: Transferred to Yasuhiko Inoue.
      12. CID 15931: Rejected. The comment fails to identify a technical issue.
      13. CID 15932: Transferred to PHY ad hoc.
      14. CID 15935: Resolved in doc 11-18/1935r0.
      15. CID 15936: Transferred to PHY ad hoc.
      16. CID 15943: Transferred to Abhishek Patil.
      17. CID 16079: Rejected. This comment seems to be out of scope of this amendment.
      18. CID 16086: Transferred to PHY ad hoc.
      19. CID 16090: Rejected. TGax is fiollowing the new Editorial style guide as instruvted by the 802.11 WG leadership.
      20. CID 16115: Rjejected. Definitions already exists for 20, 40, 80, 160 MHz HE PPDUs.
      21. CID 16117: Rejected. The comment doesn't identify the paragraph or the location where the issue occurs.
      22. CID 16146: Rejected. The comment doesn't identify problem with the draft.
      23. CID 16150: Resolved in doc 11-18/1935r0.
      24. CID 16155: Transferred to PHY ad hoc.
      25. CID 16156: Rejected. The draft use the convention used in 802.11 draft REVmd. D1.2.
      26. CID 16172: Rejected. TDLS STA cannot send a triiger frame to solicit an HE TB PPDU.
      27. CID 16190: Reject. HE ER PPDU and HE SU PPDU are two different formats.
      28. CID 16191: Transferred to PHY ad hoc.
      29. CID 16192: Rejected. The comment doesn't identify the paragraph or the location where the issue occurs.
      30. CID 16250: Transferred to Liwen Chu.
      31. CID 16282: Transferred to Liwen Chu.
      32. CID 16296: Rejected. The cited text couldn't be found.
      33. CID 16354: Rejected. The baseline has been modified. Please refer to Table 9-526.
      34. CID 16357: Revised.
      35. CID 16373: Accepted.
      36. CID 16375: Rejected. TGax is fiollowing the new Editorial style guide as instruvted by the 802.11 WG leadership.
      37. CID 16378: Rejected. The presence of two values for the ACK policy provide the AP the flexibility to control the PPDU format for the control response (SU vs HE TB PPDU)
      38. CID 16385: Rejected. The presence of two values for the ACK policy provide the AP the flexibility to control the PPDU format for the control response (SU vs HE TB PPDU)
      39. CID 16686: Robert Stacey is working on this CID.
      40. CID 16763: Rejected. A safety margin value greater than 5 dB leaves almost no range remaining in the acceptable interference level.
      41. CID 16846: Rejected. From the TXVECTOR point of view it is only one user.
      42. CID 16851: Rejected. The comment failed to identify any technical issue.
      43. CID 17044: Rejected. The field is within the HE Capabilities element, as such it is a capability.
      44. CID 17052: Transferred to Matthew Fischer.
      45. CID 17129: Transferred to Yunbo Li.
   2. The result of the resolutions is in the attached spreadsheet.
2. **Comment Resolution**
   1. **Po-Kai Huang (Intel) presented “11ax D3.2 MAC Comment Resolution for CID 16668,” based on the submission 11-18-1799-02.**
      1. Summary
         1. Po-Kai updated the 18/1799. R2 is the latest revision.
      2. Discussion
         1. Some members mentioned that there is no distinction between r1 and r2.
         2. Po-Kai is okay to go with r1.
      3. Straw Poll – Since the resolution in doc. 18/1799r1 is accepted, no straw poll is needed.
   2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.4,” based on the submission 11-18-1472-01.**
      1. Summary
         1. Resolutions for the following CIDs on 802.11ax D3.0 subclause 27.7.4 (Use of TWT information frames) are proposed.
            1. Relevant CIDs: 15102, 15181, 15757, 15845, 16425, 16426, 16427, 16428, 16429.
      2. Discussion
         1. (Re: CIDs 16425, 16426, 16427, 16428 and 16429): People suggested modifications to the proposed text for these CIDs.
      3. Straw Poll – No straw poll.
3. **AoB**
   1. **No other business for today.**
4. **Adjournment**
   1. **TGax MAC-MU-SR ad hoc adjourned @ 15:52.**
5. **List of attendees**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Stephane Baron | Canon Research |
| 4 | Laurent Cariou | Intel |
| 5 | Liwen Chu | Marvell |
| 6 | Matthew Fischer | Broadcom Ltd. |
| 7 | Ming Gan | Huawei Technologies |
| 8 | Jason Yuchen Guo | Huawei Technologies |
| 9 | Frank Hsu | MediaTek |
| 10 | Po-Kai Huang | Intel |
| 11 | Yasuhiko Inoue | NTT |
| 12 | Arik Klein | Intel |
| 13 | Jarkko Kneckt | Apple |
| 14 | Zhou Lan | Broadcom Ltd. |
| 15 | Wook Bong Lee | Samsung Electronics |
| 16 | Yunbo Li | Huawei Technologies |
| 17 | Pooya Monajemi | Cisco Systems |
| 18 | Patrice Nezou | Canon Research |
| 19 | Al Petrick | InterDigital |
| 20 | Kiseon Ryu | LG Electronics |
| 21 | James Yee | MediaTek |
| 22 |  |  |
| 23 |  |  |
| 24 |  |  |