IEEE P802.11
Wireless LANs

IEEE 802.11 TGax

July 2016 San Diego Meeting Minutes

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Abstract

TGax meeting minutes from the IEEE 802.11 July 2016 San Diego meeting, July 24th – 29th, 2016.

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

- PHY Ad Hoc
  - https://mentor.ieee.org/802.11/dcn/16/11-16-1040-00-00ax-tgax-july-2016-san-diego-phy-ad-hoc-meeting-minutes.docx
- MAC Ad Hoc
  - https://mentor.ieee.org/802.11/dcn/16/11-16-1000-02-00ax-july-2016-san-diego-tgax-mac-ad-hoc-meeting-minutes.docxMU Ad Hoc
- MU Ad Hoc
  - https://mentor.ieee.org/802.11/dcn/16/11-16-1027-00-00ax-mu-ad-hoc-meeting-minutes-july-2016.docx
- SR Ad Hoc
  - https://mentor.ieee.org/802.11/dcn/16/11-16-1022-00-00ax-tgax-spatial-reuse-ad-hoc-group-meeting-minutes.docx

SAMSUNG 1126
Samsung v. Wilus
IPR2025-00988

IEEE 802.11 Task Group ax
July 2016 San Diego Meeting
Manchester Grand Hyatt, San Diego, CA
July 24th – 29th, 2016

TGax Chair	**Osama Aboul-Magd (Huawei Technologies)**
Vice Chair	**Simone Merlin (Qualcomm)**
Vice Chair	**Ron Porat (Broadcom)**
TGax Secretary	**Yasuhiko Inoue (NTT)**
TGax Technical Editor	**Robert Stacy (Intel)**

Monday, July 25th, 2016, AM1 TGax Ad Hoc Session (8:00-10:00)

1. The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax, @8:05
   1.1. This is TGax ad hoc session since this session is placed before the WG opening plenary.

2. Announcement
   2.1. Agenda Doc.11-16/0779r0 on the server. Rev. 1 is the working document.
   2.2. Meeting Protocol: Chair asked to state name and affiliation when speaking for the first time.
   2.3. Attendance reminder.
      2.3.1. The attendance server: https://imat.ieee.org/

3. The chair reviewed the mandatory 5 slides of P&P.
   3.1. Instructions for the WG Chair.
   3.2. Participants, Patents, and Duty to Inform.
   3.3. Patent Related Links.
   3.4. Call for potentially essential patents.
      3.4.1. Chair asked if anyone is aware of potentially essential patents.
      3.4.2. No potentially essential patents reported.
   3.5. Other Guidelines for IEEE WG Meetings.

4. Agenda items for the week
   4.1. Approve TG and Telecons minutes since May meeting.
   4.2. Resolution of comments received on draft D0.1
   4.3. Ad Hoc group meetings
   4.4. Technical Presentations and related straw polls and/or motions
   4.5. Schedule Telecon times.

5. General Flow of the meeting
   5.1. Slides 13 and 14 of the 16/0779r1 contain general flow of the meeting.
   5.2. There are eight meeting slots planed for TGax.

	Monday	Tuesday		Wednesday	Thursday
AM1	TGax (full, ad hoc)			TGax (full)	
AM2		TGax (Ad Hoc)	TGax (Ad Hoc)		TGax (full)

PM1				TGax (Ad Hoc)	TGax (Ad Hoc)	TGax (full)
PM2	TGax (full)	TGax (Ad Hoc)	TGax (Ad Hoc)	TGax (full)		
PM3		TGax (Ad Hoc)	TGax (Ad Hoc)			

6. Agenda for Monday, July 25th, AM1 (8:00 – 10:00 AM).

6.1. Proposed Agenda for Monday AM1:

6.1.1. Call meeting to order
6.1.2. Patent policy, etc.
6.1.3. This is TGax full ad hoc meeting (No motions)
6.1.4. Call for submissions.
6.1.5. Set up agenda for the ad hoc meeting.
6.1.6. Presentations
6.1.7. Adjourn

6.2. Chair asked if there are any other items – No items proposed. Meeting will be conducted based on this order.

7. Call for submissions – we have 90 submissions

7.1. PHY – 26 submissions

7.1.1. 11-16-0816, "Comment Resolution for CID 2183," Daewon Lee (Newracom)
7.1.2. 11-16-0872, "CR HE-SIG-A Part II," Ross Jian Yu (Huawei Technologies)
7.1.3. 11-16-0873, "CR HE-SIG-A Part I," Ross Jian Yu (Huawei Technologies)
7.1.4. 11-16-0891, "LDPC for 1024QAM," Hongyuan Zhang (Marvell)
7.1.5. 11-16-0892, "Spec Text on LDPC for 1024QAM," Hongyuan Zhang (Marvell)
7.1.6. 11-16-0893, "11ax Extended Range PPDU," Bin Tian (Qualcomm)
7.1.7. 11-16-0894, "HE-LTF Capabilities," Hongyuan Zhang (Marvell)
7.1.8. 11-16-0895, "Spec Text for HE-LTF Capabilities," Hongyuan Zhang (Marvell)
7.1.9. 11-16-0896, "11ax Beamformee Capabilities," Hongyuan Zhang (Marvell)
7.1.10. 11-16-0897, "Spec Text for Beamformee Capabilities," Hongyuan Zhang (Marvell)
7.1.11. 11-16-0898, "BW Field in HE-MU Format," Hongyuan Zhang (Marvell)
7.1.12. 11-16-0899, "Spec Text for BW Field in HE-MU Format," Hongyuan Zhang (Marvell)
7.1.13. 11-16-0900, "PHY Comment Resolution for CID 1052 and 2519," Bin Tian (Qualcomm)
7.1.14. 11-16-0903, "Gamma phase rotation for HE PPDU," Yujin Noh (Newracom)
7.1.15. 11-16-0904, "Proposed text for gamma phase rotation for HE PPDU," Yujin Noh (Newracom)
7.1.16. 11-16-0906, "RU restriction on 20MHz operating STAs," Joonsuk Kim (Apple)
7.1.17. 11-16-0908, "CR - proposed text on RU restriction of 20MHz STAs," Joonsuk Kim (Apple)
7.1.18. 11-16-0910, "Minimum Occupied Bandwidth," Ron Porat (Broadcom)
7.1.19. 11-16-0914, "Bit field finalization of HE-SIG-A," Lochan Verma (Qualcomm)
7.1.20. 11-16-0915, "Text for bit field finalization of HE-SIG-A," Lochan Verma (Qualcomm)
7.1.21. 11-16-0920, "PHY comment resolution for CID 1659,493,494," Xiaogang Chen (Intel)
7.1.22. 11-16-0922, "PHY CR 1024 QAM," Sriram Venkateswaran (Broadcom)
7.1.23. 11-16-0923, "PHY CR DCM Constellation Mapping," Sriram Venkateswaran (Broadcom)
7.1.24. 11-16-0928, "CR on Section 26.3.9.8 - HE-SIG-B," Kaushik Josiam
7.1.25. 11-16-0937, "11ax Comment Resolutions for Clauses 26.3.2-26.3.9.3-26.3.9.4-26.3.9.5-26.3.10.2- 26.3.10.13," Rui Cao (Marvell)
7.1.26. 11-16-0964, "Considerations on MAC-PHY interactions during SR operations," Jing Ma (NICT)

7.2. MAC – 34 submissions

7.2.1. 11-16-0828, "HE Fragmentation - part 1," Alfred Asterjadhi (Qualcomm)

7.2.2. 11-16-0829, “Comment Resolution for Section 10.24.10 Block Ack/GCR block ack,” Reza Hedayat (Newracom)
7.2.3. 11-16-0844, “CC0-Intra_PPDU_PS,” Alfred Asterjadhi (Qualcomm)
7.2.4. 11-16-0856, “Issue of Buffer Status reporting,” Stephane Baron (Canon)
7.2.5. 11-16-0860, “comment resolution on A-MPDU format, » Yongho Seok (Newracom)
7.2.6. 11-16-0861, “comment resolution on mu acknowledgment procedure,” Yongho Seok (Newracom)
7.2.7. 11-16-0862, “comment resolution on subclause 25.11,” Yongho Seok (Newracom)
7.2.8. 11-16-0864, “d0.1 comment resolution on clause 6,” Yasuhiko Inoue (NTT)
7.2.9. 11-16-0867, “CIDs for CIDs: Section 9.3.1.9.3 Compressed BA format,” George Cherian (Qualcomm)
7.2.10. 11-16-0868, “CIDs for Section 9.3.1.9.7 Multi STA BAs, ” George Cherian (Qualcomm)
7.2.11. 11-16-0869, “Comment resolution section 9.3 TWT,” Zhou Lan (Broadcom)
7.2.12. 11-16-0871, “Trigger Frame Per User Info Order,” Zhou Lan (Broadcom)
7.2.13. 11-16-0877, “Comment resolution on CID 783 (TXOP Duration field format),” Jeongki Kim (LG Electronics)
7.2.14. 11-16-0878, “Comment resolution on CID 782 (Intra-PPDU PS),” Jeongki Kim (LG Electronics)
7.2.15. 11-16-0881, “Comment resolution on ROMI,” Jayh Park (LG Electronics)
7.2.16. 11-16-0882, “Comment resolution on TOMI,” Jayh Park (LG Electronics)
7.2.17. 11-16-0883, “Comment resolution for CID 152,” Jayh Park (LG Electronics)
7.2.18. 11-16-0884, “Spec. Text for HE Operation element and AID Assign Rule,” Jianhan Liu (MediaTek)
7.2.19. 11-16-0890, “Comment Resolution on NAV Setting of Single and Multiple Protection and Control Response,” Po-Kai Huang (Intel)
7.2.20. 11-16-0913, “SU Multi-TID Rules,” Jarkko Kneckt (Apple)
7.2.21. 11-16-0916, “TID value of ALL ACK signaling,” Woojin Ahn (Wilus Institute)
7.2.22. 11-16-0917, “Text for TID value of ALL ACK signaling,” Woojin Ahn (Wilus Institute)
7.2.23. 11-16-0918, “Discussions on Partial BSS Color,” Geonjung Ko (Wilus Institute)
7.2.24. 11-16-0924, “NAV resetting with RTS/MU-RTS,” Weimin Xing (ZTE)
7.2.25. 11-16-0925, "Spex text on NAV resetting with RTS/MU-RTS,” Weimin Xing (ZTE)
7.2.26. 11-16-0941, “CR HE Fragmentation - part 2,” Ming Gan (Huawei technologies)
7.2.27. 11-16-0942, “CR Service Field,” Ming Gan (Huawei Technologies)
7.2.28. 11-16-0951, “Setting for TXOP Duration Field,” Po-Kai Huang (Intel)
7.2.29. 11-16-0952, “Spec text trigger frame per user info order,” Zhou Lan (Broadcom)
7.2.30. 11-16-0953, “Comment Resolution and Spec Text for Setting for TXOP Duration field,” Po-Kai Huang (Intel)
7.2.31. 11-16-0960, “AP access procedure for UL MU operation,” Jinsoo Ahn (Yonsei Univ.)
7.2.32. 11-16-0961, “Consideration on Multi-STA BlockAck Optimization,” Hanseul Hong (Yonsei Univ.)
7.2.33. 11-16-0962, “EDCA rules follow up 1,” Jing Ma (NICT)
7.2.34. 11-16-0963, “EDCA rules follow up 2,” Jing Ma (NICT)
7.2.35. 11-16-0966, “CID 71 and CID 190 Resolutions,” Jarkko Kneckt (Apple)
7.2.36. 11-16-0998, “2 sets of EDCA parameters,” Laurent Cariou (Intel)

7.3. MU – 12 submissions
7.3.1. 11-16-0866, “Comment Resolution of Section 26.3.13 MU-MIMO,” Kome Oteri (InterDigital)
7.3.2. 11-16-0875, “CR for the section 10.3.2.8a CS Condition to Respond CTS,” Kiseon Ryu (LG Electronics)
7.3.3. 11-16-0876, “CR for the section 25.5.2.4 UL MU CS CCA and CS Required Bit,” Kiseon Ryu (LG Electronics)
7.3.4. 11-16-0880, “UL MU Transmission Rules - EDCA backoff,” Jayh Park (LG Electronics)
7.3.5. 11-16-0885, “Comment Resolution on UL MU CS NAV Consideration,” Po-Kai Huang (Intel)
7.3.6. 11-16-0886, “Comment Resolution for some UL MU CS TBD,” Po-Kai Huang (Intel)
7.3.7. 11-16-0887, “Spec Text for MU-RTS restriction on HE MU PPDU,” Po-Kai Huang (Intel)
7.3.8. 11-16-0926, “Soliciting UL_MU_ACK,” Raja Banerjea (Qualcomm)

7.3.9. 11-16-0929, “CR - UL MU Operation,” Simone Merlin (Qualcomm)
7.3.10. 11-16-0930, “CR - DL MU Operation,” Simone Merlin (Qualcomm)
7.3.11. 11-16-0938, “Comment Resolution for Sub-clause 25.10.4,” Chittabrata Ghosh (Intel)
7.3.12. 11-16-0958, “UL OFDMA for Unassociated STAs,” Leonardo Lanante (Kyushu Institute of Tech.)

7.4. SR – 10 submissions
7.4.1. 11-16-0879, “Comment resolution on SR for VHT PPDUs,” Jeongki Kim (LG Electronics)
7.4.2. 11-16-0889, “Comment Resolution for Spatial Reuse (Intra BSS detection),” Young Hoon Kwon (Newracom)
7.4.3. 11-16-0901, “Clarification of SR Fields in HE Trigger Based PPDU,” Daewon Lee (Newracom)
7.4.4. 11-16-0902, “Proposed Text Changes for SR Fields in HE Trigger-Based PPDU,” Daewon Lee (Newracom)
7.4.5. 11-16-0905, “SR Fields Clarification,” Ron Porat (Broadcom)
7.4.6. 11-16-0919, “Discussions on SR Fields in HE Trigger-based PPDU,” Geonjung Ko (Wilus Institute)
7.4.7. 11-16-0310, “DSC Proposal Text,” Graham Smith (SR Technologies)
7.4.8. 11-16-0945, “Clarifications for OBSS_PD-based SR parameters,” Laurent Cariou (Intel)
7.4.9. 11-16-0946, “Proposed text changes for OBSS_PD-based SR parameters,” Laurent Cariou (Intel)
7.4.10. 11-16-0957, “Comment Resolutions on OBSS_PD Conditions in 25.9.3,” James Wang (MediaTek)

7.5. TG – 8 submissions
7.5.1. 11-16-0835, “EIFS,” Alfred Asterjadhi (Qualcomm)
7.5.2. 11-15-1095, “OFDMA Performance in 11ax,” Suhwook Kim (LG Electronics)
7.5.3. 11-16-0870, “Conclusing MAC Trigger Padding,” Zhou Lan (Broadcom)
7.5.4. 11-16-0907, “20MHz HE devices,” Joonsuk Kim (Apple)
7.5.5. 11-16-0909, “CR – proposed text on 20 MHz devices,” Joonsuk Kim (Apple)
7.5.6. 11-16-0949, “MAC trigger frame padding follow up,” Zhou Lan (Broadcom)
7.5.7. 11-16-0965, “On High Efficiency WLAN (HEW) TG PAR Scope,” Osama Aboul-Magd (Huawei Technologies)

8. Ad Hoc meeting scheduling

8.1. Ad Hoc slot assignment
8.1.1. MAC … as many as possible, PHY … as many as possible, SR … 1, MU … 1.
8.2. Chair asked if there are any objections to approve the TGax schedule as follow.
8.2.1. There are no objections. The TGax schedule is approved.

	Monday	Tuesday		Wednesday		Thursday
AM1	TGax (full, ad hoc)			TGax (full)		
AM2		TGax (MAC)	TGax (PHY)			TGax (full)
PM1				TGax (PHY)	TGax (MAC)	TGax (full)
PM2	TGax (full)	TGax (SR)	TGax (MU)	TGax (full)		
PM3		TGax (MAC)	TGax (PHY)			

9. Presentations

9.1. Bo Sun (ZTE) presented "Proposed Resolutions to comments on 26.2.2" based on the submission 11-16-0813-03 (on behalf of Ke Yao).

9.1.1.Summary

9.1.1.1. Resolutions for the CIDs 1780, 370, 1923, 2517 and 1610 are proposed.

9.1.1.2. TBDs are removed.

9.1.1.3. Three parameters for the TXVECTOR and RXVECTOR are added.

9.1.2. Discussion

9.1.2.1. A member asked for offline discussion on additional parameters.

9.1.2.2. There are two other related submissions.

9.1.3. Next step

9.1.3.1. Bo Sun to work with the authors of related submissions.

9.2. Alfred Asterjadhi (Qualcomm) presented "EIFS," based on the submission 11-16-0835-00.

9.2.1.Summary

9.2.1.1. The title of the document is EIFS, however it is mostly related to

9.2.2. Discussion

9.2.2.1. No discussion.

9.3. Jeongki Kim (LG Electronics) presented "Comment Resolution on CID 783 (TXOP Duration Field)," based on the submission 11-16-0877-00.

9.3.1.Summary

9.3.1.1. Text for TXOP Duration field was proposed.

9.3.2.Discussion

9.3.2.1. No discussion.

9.3.2.2. Jeongki to work with Alfred.

9.4. Po-Kai Huang (Intel) presented "Setting for TXOP Duration Field," based on the submission 11-16-0951-00.

9.4.1.Summary

9.4.1.1. Size of TXOP Duration field in HE-SIG-A has been decided.

9.4.1.2. The setting rule of TXOP Duration field remains TBD and is discussed in this contribution.

9.4.1.3. Spec text contained in 16/953r0 which related to CID 2596 was also presented.

9.4.2.Discussion

9.4.2.1. A member has a suggestion on the proposed text.

9.4.2.2. A member commented that there will be more than one STA responding to a Trigger and all of them should have the same TXOP duration.

9.4.2.3. Another member asked for evaluation results such as channel access or throughput since preamble and MAC header have different length for TXOP.

9.4.2.4. A member pointed out that all 1s could be all 0s.

9.5. Bo Sun (ZTE) presented "Proposed Resolutions to comments on 26.2.2" based on the submission 11-16-0813-04.

9.5.1. Update: TXOP Duration is covered by Jeongki's submission 16/877r1.

10. AoB

10.1. Chair asked if we have any business that can be conducted

11. Adjournment

11.1. TGax ad hoc session adjourned @ 10:00 AM.

Monday, July 25th, 2016, PM2 TGax Full Session (16:00-18:00)

1. The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax, @16:00
   1.1. About 120 people are in the room.

2. Announcement
   2.1. Agenda Doc.11-16/0779r1 on the server. Rev. 2 is the working document.
   2.2. Meeting Protocol: Chair asked to state name and affiliation when speaking for the first time.
   2.3. Attendance reminder.
      2.3.1. The attendance server: https://imat.ieee.org/

3. The chair reviewed the mandatory 5 slides of P&P.
   3.1. Instructions for the WG Chair.
   3.2. Participants, Patents, and Duty to Inform.
   3.3. Patent Related Links.
   3.4. Call for potentially essential patents.
      3.4.1. Chair asked if anyone is aware of potentially essential patents.
      3.4.2. No potentially essential patents reported.
   3.5. Other Guidelines for IEEE WG Meetings.

4. Agenda Setting
   4.1. Proposed Agenda for this time slot:
      4.1.1. Call meeting to order
      4.1.2. Patent policy, etc.
      4.1.3. Call for submissions
      4.1.4. Set Ad Hoc Groups schedule and approve agenda
      4.1.5. Comment Resolution Tutorial – Adrian Stephens
      4.1.6. Summary from May 2016 meeting
      4.1.7. TG motions
         4.1.7.1. Approve TG meeting and Telecon minutes since May meeting.
         4.1.7.2. Approve resolutions of comments, if needed.
      4.1.8. Comment Resolution Status – Robert Stacey
      4.1.9. Timeline
      4.1.10. Presentations and Comment Resolution
         4.1.10.1. TXOP Duration Issues (Jeongki Kim and Bo Sun)
         4.1.10.2. 11-16/0965; On HEW TG PAR Scope
         4.1.10.3. 11-15/1095; OFDMA Performance in 11ax
         4.1.10.4. …
      4.1.11. Recess
   4.2. Chair asked if there is any addition, modification to the agenda?
      4.2.1. One additional submission reported.
      4.2.2. TGax Schedule
      4.2.3. Nothing reported. The agenda was approved.

5. Comment Resolution Tutorial by Adrian Stephens.
   5.1. Adrian Stephens, WG Chair, presented "**802.11 Comment Resolution – a Tutorial**," based on the document 11-13-0230r3.
      5.1.1. Summary
      5.1.2. Discussion
         5.1.2.1. Numbering of Motions – CR resolution motions should be numbered.
         5.1.2.2. Comment Resolution:

5.1.2.2.1. Structure: Comment/Discussion/Proposed Text/Some Analysis
5.1.2.2.2. For the sake of people to understand the process to come to conclusion, it is recommended.

6. Call for presentations

6.1. Done during the AM1 today.

7. Set Ad Hoc Groups schedule and approve agenda

7.1. Done during AM1.
7.2. TGax Schedule for the week:

	Monday	Tuesday		Wednesday		Thursday
AM1	TGax (full ad hoc)			TGax (full)		
AM2		TGax (PHY)	TGax (MAC)			TGax (full)
PM1				TGax (PHY)	TGax (MAC)	TGax (full)
PM2	TGax	TGax (SR)	TGax (MU)	TGax (full)		
PM3		TGax (PHY)	TGax (MAC)			

8. Summary from May 2016 Meeting

8.1. Received about 70 submissions. Majority of the submission were requesting changes to the TG Specification Framework document. Few submissions were addressing comment resolution mainly for the PHY clause.
8.2. Agreed to terminate the Specification Framework process. The frame of reference is Draft D0.1.
8.2.1. Future submissions shall bring text to continue developing the TG draft
8.3. Approved the resolutions of about 200 comments, most of them addressing the PHY clause
8.4. Revisited the timeline and accepted a new modified timeline – next slide.
8.5. The TG had a series of telecons where resolutions of about 227 comments were discussed.
8.6. Submissions Covered During Teleconferences
8.6.1. https://mentor.ieee.org/802.11/dcn/16/11-16-0725-03-00ax-comment-resolution-on-9-3-1-23.docx (6 CIDs)
8.6.2. https://mentor.ieee.org/802.11/dcn/16/11-16-0773-02-00ax-comment-resolution-section-25-6-he-sounding.docx (15 CIDs)
8.6.3. https://mentor.ieee.org/802.11/dcn/16/11-16-0774-01-00ax-comment-resolution-on-9-3-1-23-ruallocation.docx (14 CIDs)
8.6.4. https://mentor.ieee.org/802.11/dcn/16/11-16-0780-01-00ax-comment-resolution-on-9-3-1-23-phy-tbd.docx (31 CIDs)
8.6.5. https://mentor.ieee.org/802.11/dcn/16/11-16-0775-01-00ax-comment-resolution-on-section-26-3-12-4-phy-mu-mimo-power-pre-correction.docx (7 CIDs)
8.6.6. https://mentor.ieee.org/802.11/dcn/16/11-16-0766-00-00ax-he-variant-ht-control-ul-mu-response.docx (28 CIDs)
8.6.7. https://mentor.ieee.org/802.11/dcn/16/11-16-0798-00-00ax-he-variant-ht-control-general.docx (33 CIDs)
8.6.8. https://mentor.ieee.org/802.11/dcn/16/11-16-0815-02-00ax-comment-resolution-mu-rts-scrambler-seed.docx (5 CIDs)
8.6.9. https://mentor.ieee.org/802.11/dcn/16/11-16-0819-01-00ax-cids-for-section-9-3-1-9-blockack-frame-format.docx (9 CIDs)

8.6.10. https://mentor.ieee.org/802.11/dcn/16/11-16-0806-00-00ax-he-variant-ht-control-buffer-status-report.docx (24 CIDs)
8.6.11. https://mentor.ieee.org/802.11/dcn/16/11-16-0807-00-00ax-comment-resolution-on-mu-rts-cts-procedure.docx (27 CIDs)
8.6.11.1. Note: A new revision is expected to accommodate Mark's comments
8.6.12. https://mentor.ieee.org/802.11/dcn/16/11-16-0808-00-00ax-comment-resolution-on-trigger-frame-format-mu-rts-variant.docx (14 CIDs)
8.6.12.1. Note: A new revision is expected to accommodate Mark's comments
8.6.13. https://mentor.ieee.org/802.11/dcn/16/11-16-0813-00-00ax-cr-on-secition-26-2-2-txrxvector-parameters.doc (4 CIDs)
8.6.13.1. Note: We need to revisit this document again to try to cose a couple of TBDs
8.6.14. https://mentor.ieee.org/802.11/dcn/16/11-16-0836-00-00ax-comment-resolution-on-section-9-4-1-phy-mu-mimo-compressed-beamforming-report.docx (10 CIDs)
8.6.14.1. Note: Adds significant amount of text and introduces new frame.

8.7. Chair asked if there is any comment – No comment.

9. TG Motions

9.1. Motion: Approve TGax minutes of meetings and teleconferences from May 2016 interim meeting to today:

- **https://mentor.ieee.org/802.11/dcn/16/11-16-0686-00-00ax-tgax-may-2016-waikoloa-meeting-minutes.docx**
- **https://mentor.ieee.org/802.11/dcn/16/11-16-0768-05-00ax-tgax-teleconference-minutes-from-june-to-july-2016.docx**
- **https://mentor.ieee.org/802.11/dcn/16/11-16-0755-00-00ax-tgax-may-2016-waikoloa-phy-ad-hoc-meeting-minutes.docx**
- **https://mentor.ieee.org/802.11/dcn/16/11-16-0716-00-00ax-mu-ad-hoc-meeting-minutes-may-2016.docx**

9.1.1.https://mentor.ieee.org/802.11/dcn/16/11-16-0701-00-00ax-combined-spatial-reuse-mac-ad-hoc-group-meeting-minutes.docx

9.1.2. Moved: Bo Sun, Second: Robert Stacy
9.1.3. Discussion: No discussion.
9.1.4. Result: The motion was accepted with no objection.

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10. Comment Resolution Status (Editor Report)

10.1. Robert Stacy presented "TGax Editor's Report," based on the submission 11-16-995r0
10.2. Discussion
10.2.1. C: There was a request to change MU database maintainer.
10.2.2. Q: What about the comments discussed during the teleconference?
10.2.3. A: Those resolutions are not motioned. They will be incorporated after motions.
10.2.4. Chair is wondering if September is the realistic time to produce draft 1.0.

11. From IEEE 802.11 Operation Manual

11.1. **https://mentor.ieee.org/802.11/dcn/14/11-14-0629-14-0000-802-11-operations-manual.docx**
11.2. Motions modifying drafts may be made at appropriate times during meetings. Complex technical changes to a draft shall be in a submission that has been accepted by document control according to document formats specified in section 3.7 of this document and

has been made available electronically for a period of not less than four active 802.11 WG session hours. The TG chair determines if a technical change is sufficiently complex to require a submission.

11.3. When a CRC is following the "Accelerated process" for completion of a WG letter ballot, and is not meeting during an 802.11 WG session, any submission containing changes to the draft shall be on the server and announced to the appropriate TG reflector no less than 72 hours before any motion is made related to that submission.
NOTE – when a CRC is meeting coincident with an 802.11 session, it is subject to the four hour rule described in the previous paragraph.

11.4. Comment:
- 11.4.1. This rule is applied once the draft gets 75% approval – it is not applied to TGax right now.
- 11.4.2. It is good to follow this practice even though the rule is not applied to us.

12. Timeline

12.1. Slide 27 of the agenda document

- **May 2014: start of the TG**
- **Nov. 2014: First draft of the TG SFD was approved**
- **Jan. 2016: proposed TG draft**
- **March 2016: Draft D0.1 was approved and CC started**
- **September 2016: Draft 1.0 and WG letter ballot**
- **March 2017: Draft 2.0 and recirculation**
- **July 2017: MDR (Mandatory Document Review)**
- **November 2017: Formation of SB pool**
- **March 2018: Sponsor Ballot**
- **December 2018: RevCom**

13. Presentations

13.1. Jeongki Kim (LG Electronics) presented "," based on the submission 11-16-0877-04.

- 13.1.1. Summary
  - 13.1.1.1. The presenter had offline discussion with some members after AM1 and the document was revised.
    - 13.1.1.1.1. Text for TXOP_DURATION was updated.
- 13.1.2. Discussion
  - 13.1.2.1. A member asked for the revision number of the document. → Rev. 4.
  - 13.1.2.2. Chair suggested to upload r5 modifying that part.

13.2. Bo Sun (ZTE) presented "" based on the submission 11-16-0813-04.

- 13.2.1. Summary
  - 13.2.1.1. The document was updated based on the Jeongki's document 11-16-0877-04.
- 13.2.2. Discussion
  - 13.2.2.1. Chair asked if there is any objection for the proposed resolution. There is no objection.

13.3. Osama Aboul-Magd (Huawei Technologies) presented "PAR" based on the submission 11-16-0965-00.

- 13.3.1. Summary
  - 13.3.1.1. This submission attempts to start the discussion on how to verify the TG PAR scope.
  - 13.3.1.2. No straightforward way to see 4 times improvement.
  - 13.3.1.3. Options:
    - 13.3.1.3.1. Do nothing → likely to cause problem.
    - 13.3.1.3.2. To change the PAR → will be the last choice.

13.3.1.3.3. Run simulations based on the scenarios we agreed and show that we have a mode of operation to achieve our goal.

13.3.2. Discussion

13.3.2.1. If we do not have simulation, we can show some analysis result.

13.3.2.2. There are some submissions showing the simulation results.

13.3.2.3. Should we form a team to do this work?

13.3.2.3.1. A member mentioned that his team can do this work.

13.3.2.3.2. Another member mentioned document 15/333 contains some analysis.

13.3.2.4. Q: Will the simulation scenario document be updated? – Yes, if it is needed.

13.4. Suhwook Kim (LG Electronics) presented "OFDMA Performance in 11ax," based on the submission 11-15-1095-09.

13.4.1. Summary

13.4.1.1. TCP traffic is considered in this version.

13.4.1.2. TCP timeout has a significant impact on the system performance.

13.4.1.3.

13.4.2. Discussion

13.4.2.1. Q: Is the OFDMA based on the 802.11ax spec? → Yes.

13.4.2.1.1. Then, we do not have four times improvement.

13.4.2.2. C: Bluray needs 50 M bit/s throughput. → Chair suggested offline discussions.

13.4.3.

14. AoB

14.1. Ad Hoc schedule for tomorrow

14.1.1. AM2

14.1.1.1. PHY

14.1.1.2. MAC

14.1.2. PM2

14.1.2.1. MU.

14.1.2.2. SR.

14.1.3. PM3

14.1.3.1. PHY

14.1.3.2. MAC

15. TGax meeting recessed @ 18:01.

Tuesday, July 26th, 2016, AM2 TGax Ad Hoc Sessions (10:30-12:30)

- PHY Ad hoc – Seaport D & E.
  - Agenda: 11-16-1007
- MAC Ad hoc – Seaport G.
  - Agenda: 11-16-997

Tuesday, July 26th, 2016, PM2 TGax Ad Hoc Sessions (16:00-18:00)

- MU Ad hoc – Seaport D & E.
  - Agenda: 11-16-1012
- SR Ad hoc – Seaport G.
  - Agenda: 11-16-1016

Tuesday, July 26th 2016, PM3 TGax Ad Hoc Session (19:30-21:30)

- PHY Ad hoc – Seaport D & E.
  - Agenda: 11-16-1007
- MAC Ad hoc – Seaport G
  - Agenda: 11-16-997

Wednesday, July 27th 2016, AM1 TGax Full Sessions (8:00-10:00)

1. The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax, @8:02
   1.1. About 120 people are in the room.

2. Announcements/Reminder
   2.1. Chair asked participants to state name and affiliation when speaking for the first time during the session.
   2.2. Chair reminded that the meeting is conducted under IEEE 802 and 802.11 P&P.
   2.3. Chair reminded attendance.

3. Agenda Setting
   3.1. Proposed agenda for this session
      3.1.1. Call Meeting to order
      3.1.2. IEEE 802 and 802.11 IPR Policy and procedure.
      3.1.3. Progress from Ad Hocs
      3.1.4. Presentations
         3.1.4.1. 11-16/0907: 20 MHz HE Devices – Joonsuk kim
         3.1.4.2. 11-16/0909: Text for 20 MHz - Joonsuk Kim
         3.1.4.3. 11-16/0870 and 11-16/0949 – Zhou Lan
         3.1.4.4. 11-16/0971 – Graham Smith
         3.1.4.5. 11-16/0957 – James Wang
         3.1.4.6. 11-16/0947 – Laurent Cariou
      3.1.5.Recess
   3.2. Chair asked if there is any objection to proceed with this agenda. → No objection.
   3.3. The agenda for Wednesday AM1 was approved.

4. Progress from Ad Hoc groups
   4.1. PHY: 8 submissions remaining.
   4.2. MAC: heard half dozen presentations.
   4.3. MU: 6 submissions left – all of them are comment resolutions.
   4.4. SR: 6 presentations heard.

5. Presentations
   5.1. Joonsuk Kim (Apple) presented "20 MHz-only Device in 11ax," based on the submission 11-16-0907r2.
      5.1.1.Summary
         5.1.1.1. The 20 MHz only device is for low power, low complexity and better connectivity for wearable devices, home network connectivity, etc.
      5.1.2. Discussion
         5.1.2.1. Slide 12, Mandatory/Optional table: A member commented that we have not discussed M/O in TGax. → This table is just an example.
      5.1.3.Straw Polls

         5.1.3.1. Straw Poll #1: Do you support following Mandatory and Optional features on bandwidth?
            - In 2.4GHz,
              - 20MHz is mandatory for AP and non-AP

- 40MHz is optional for AP and non-AP [signaled in capability field]
- In 5GHz,
  - 20/40/80MHz is mandatory for AP
  - Non-AP can be either 20MHz-only, 80MHz, 160MHz or 80+80MHz capable [signaled in capability field]
    - 11ax spec document shall not allow STAs that are 40MHz capable but not 80MHz capable

5.1.3.1.1. Result: Y/N/A = 80/0/14

5.1.3.2. Straw Poll #2: Do you support 20MHz-only non-AP STAs operate in primary 20MHz channel as a mandatory mode?

5.1.3.2.1. Result: Y/N/A = 76/0/8.

5.1.3.3. Straw Poll #3: Do you support 20MHz-only non-AP STAs support tone mapping of tone-26 RU, tone-52 RU, tone-106 RU and tone-242 RU for

- 20, 40* MHz OFDMA in 2.4GHz and 5GHz band
- 80*, 80+80*, 160* MHz OFDMA in 5GHz band
-
- [Note*] Some of RUs are restricted for operation [1]

5.1.3.3.1. Result: 72/0/11.

5.1.4. Joonsuk presented "Spec text for 20 MHz-only devices in 11ax," based on 11-16-0909-01.

5.1.4.1. Discussion

5.1.4.1.1. A member suggested that text should refer to the all of relevant channel width such as 80 MHz, 160 MHz and 80+80 MHz.

5.1.4.1.2. Another member commented for clarification purpose that a 20 MHz only device does not support VHT operation.

5.1.4.2. Next step:

5.1.4.2.1. Joonsuk to upload updated version (r2) of this document incorporating the comments and suggestions. A motion to adopt 16/909r2 will be conducted during PM2 session.

5.2. Zhou Lan (Broadcom) presented "MAC trigger frame padding follow up," based on the submission 11-16-0949-01.

5.2.1. Summary

5.2.1.1. TBDs related to MAC trigger frame padding are resolved.

5.2.1.2. Related CIDs: 2890, 2896 and 1643.

5.2.1.3. Spec text (11-16-0870-00) also proposed.

5.2.2. Discussion

5.2.2.1. A member asked for the purpose of MAC padding. → For a Trigger frame, the receiver needs some time to process and prepare for the next action.

5.2.3. Straw Polls

5.2.3.1. Straw Poll #1: Do you support to direct TGax editor to adopt doc 11-16-0870r0 into TGax Draft per editing instruction in doc.11-16-0870r0 to conclude MAC trigger padding TBDs?

5.2.3.1.1. Result: No objection.

5.2.3.2. Straw Poll #2: Do you support to adopt the resolution text for comment CID 2890, 2896, 1634 as provided in 11-16-0870r0?

5.2.3.2.1. Result: No objection.

5.3. Graham Smith (SR Technologies) presented "Resolution on CID 69 and others," based on the submission 11-16-0971-02.

5.3.1. Summary

5.3.1.1. 16/971r2 contains the proposed text for 11ax Draft with respect to dynamic sensitivity control (DSC) so as to satisfy CID 69.

5.3.1.2. Other CIDs #9, 187, 188, 208, 209, 225, 257, 463, 464, 651, 703, 704, 953, 994, 1016, 2332, 2336, 2912, 2724, and 2742 are also resolved.

5.3.2. Discussion

5.3.2.1. A member commented on the relationship between the information in preamble and DSC.

5.3.2.2. Another member expressed concern that we already have two operations to change the sensitivity and detect the OBSS packet, therefore additional mode could increase the complexity. → The presenter responded that this proposal is much simpler.

5.3.2.3. There is an opinion that spatial reuse technique should only be applied to the OBSS cases, and this proposal is not aligned to that direction.

5.3.2.4. Some members are supportive for this proposal.

5.3.2.5. There was a comment that determination of threshold should clarified.

5.3.3. Straw Polls – Chair suggested to defer the straw poll.

5.4. James Wang (MediaTek) presented "Comment Resolution on OBSS_PD Conditions in 25.9.3," based on the submission 11-16-0957-01.

5.4.1. Summary

5.4.1.1. The resolution for CID #706 on Clause 25.9.3 is provided.

5.4.1.2. Spec text for this sub-clause is proposed.

5.4.2. Discussion

5.4.2.1. A member mentioned that there still are three TBDs in the text. → Those TBDs are resolved by CR for different CIDs.

5.4.2.2. A member has some comments on the text of P50, L1 and would like to work offline with James. The commenter also mentioned that the equation has to be updated.

5.4.2.3. Another member commented that we have not seen that this algorithm actually works and he is not convinced.

6. AOB

6.1. As a general policy, given a motion on an explicitly listed CID X that is resolved in an explicitly specified doc (say with revision R), if the proposed comment resolution within the doc for CID X refers to a revision earlier than R (e.g. R-1, due to an oversight by the comment resolver), the chair indicated he was OK if the database editors modified the comment resolution to refer to revision "R" in accordance with the intent of the motion.

6.2. No concerns were raised by the members.

7. Recess

7.1. TGax full session is in recess until PM2 today.

Wednesday, July 27th 2016, PM1 TGax Ad Hoc Sessions (13:30-15:30)

- PHY ad hoc → Seaport D & E.
  - Agenda: 11-16-1007

- MAC ad hoc → Seaport G
  - Agenda: 11-16-0997

Wednesday, July 27th 2016, PM2 TGax Full Sessions (16:00-18:00)

8. The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chair of the TGax, @16:00

9. Announcements
   - 9.1. Chair asked participants to state name and affiliation when speaking for the first time during the session.
   - 9.2. Chair reminded that the meeting is conducted under IEEE 802 and 802.11 P&P.
   - 9.3. Chair reminded attendance.

10. Agenda Setting
    - 10.1. Proposed Agenda for this session:
      - 10.1.1. Meeting call to order
      - 10.1.2. Announcement
      - 10.1.3. Agenda setting
      - 10.1.4. Presentations
        - 10.1.4.1. 11-16/947: Laurent Cariou
        - 10.1.4.2. 11-16/957: James Wang (??)
      - 10.1.5. TG Motions
      - 10.1.6. Recess
    - 10.2. Chair asked for comments and/or suggestions for the comments. → Heard none.
    - 10.3. The agenda for Wednesday PM2 was approved.

11. Presentations
    - 11.1. Laurent Cariou (Intel) presented "Clarification for OBSS_PD-based SR parameters," based on the submission 11-16-0945-01.
      - 11.1.1. Summary
        - 11.1.1.1. Proposed to fill the TBDs in the spec by defining default parameters for OBSS_Pdmin/max and PWRref which the AP can adaptively change.
        - 11.1.1.2. Proposed to clarify that SR_disallow in HE-SIGA only disallow SRP-based SR
      - 11.1.2. Discussions
        - 11.1.2.1. C (Slide 15): Background of choosing these parameters are not clear enough. Do not understand why 3 spatial streams is the break point.
        - 11.1.2.2. A member commented that it is not clear how a device sets the power reference. → Default parameters in slide 15 are out-of-box conditions.
        - 11.1.2.3. Another member commented that it is not clear what we can get from SR. Simulation works are needed.
        - 11.1.2.4. There was a comment that what we need to specify is the rules for SR. In the original DSC, the TPC is not effective.

      - 11.1.3. Laurent presented the spec text "Proposed Text Changes for OBSS_PD-based SR parameters," based on the submission 11-16-0947-04.

11.1.3.1. Discussions

11.1.3.1.1. A member commented on the SR disallow mode: There will be certain condition that a STA sets SR disallow flag. It is not clear what will be motivation for a STA to set this parameter.

11.1.3.1.2. Another member commented that the condition(s) to disallow SPR-based SR shall be provided.

11.1.3.1.3. A member pointed out that there are some TBDs.

12. TG Motions

12.1. SR Motion #9: Move to include the text in doc 11-16/0971r2 related to DSC in the next revision of the TG draft

12.1.1. Moved by Graham Smith, Seconded by Sean Coffey.

12.1.2. Discussions

12.1.2.1. A member commented that the document 16/971r2 contains fundamental flaw.

12.1.2.2. Another member mentioned that it is beneficial to include text in the draft.

12.1.2.3. There was an opinion that the proposed text is more appropriate to be considered in TGmc.

12.1.2.4. There was a comment that this proposal violates the PAR.

12.1.3. Result: After long discussions, motion was withdrawn.

12.2. SR Motion #10: Move to accept the proposed text changes in document "11-16/0947r4, for OBSS_PD-based SR parameters" and include the changes in the next revision of the TG draft

12.2.1. Moved by Laurent Cariou, Seconded by Ron Porat.

12.2.2. Discussions

12.2.2.1. Some members expressed objection to conduct this motion since not enough information is provided.

12.2.2.2. Chair determined this motion to be recorded vote.

12.2.3. Result: Y/N/A = 59/21/29, motion fails.

12.2.3.1. The vote record is provided in the Appendix A.

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13. AoB

No time to conduct any other business.

14. Recess

14.1. TGax is in recess until the start of Thurday AM2 (10:30 AM).

Thursday, July 28th, 2016, AM2 TGax full Session (10:30-12:30)

1 The meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of the TGax, @10:32 AM

1.1 Agenda 16/0779r5 is on the server. Rev. 6 is the working document.

2 Announcement/Reminder

2.1 Chair reminded IEEE 802 and 802.11 IPR P&P.
2.2 Chair asked people to state name and affiliation when addressing for the first time in the session.
2.3 Chair reminded people to do attendance.

3 Agenda for this session

3.1 Thursday AM2 and PM1
- 3.1.1 Call Meeting to order
- 3.1.2 Announcement/Reminder
  - 3.1.2.1 IEEE 802 and 802.11 IPR Policy and procedure.
  - 3.1.2.2 Attendance
- 3.1.3 Agenda Setting
- 3.1.4 Presentations (if any)
- 3.1.5 TG Motions
- 3.1.6 Timeline update
- 3.1.7 Goals for September 2016
- 3.1.8 Conference Calls Schedule
- 3.1.9 AOB
- 3.1.10 Adjourn

3.2 Chair asked if there are any modifications to the agenda.
3.3 Agenda approved without objections.

4 Presentations – No presentation left.

5 Motions

5.1 SR Motion

5.1.1 SR Motion #11: Move to accept the proposed text changes in document 11-16/0902r3 and include the changes in the next revision of the TG draft.

5.1.1.1 Moved by Daewon Lee, Seconded by Ron Porat
5.1.1.2 Discussion – No discussion.
5.1.1.3 Result: Motion passes with no objection.

5.2 PHY Motions

5.2.1 PHY Motion #158: Move to include the spec text change as shown in doc 11/16-0892r0 to the next revision of the TG draft.

5.2.1.1 Moved by Hongyuan Zhang, Seconded by Bo Sun.
5.2.1.2 Discussion – No discussion.
5.2.1.3 Result: Motion passes with no objection

5.2.2 PHY Motion #159: Move to include the spec text changes as shown in doc 11/16-0895r0 in the next revision of the TG draft, which reflects Straw Polls 1~3 in doc 11-16/0894r0.

5.2.2.1 Moved by Hongyuan Zhang, Seconded by Bo Sun.

5.2.2.2 Discussion – No discussion.

5.2.2.3 Result: Motion passes with no objection.

5.2.3 PHY Motion #160: Move to include the spec text changes as shown in doc 11/16-0897r1 in the next revision of the TG draft.

5.2.3.1 Moved by Hongyuan Zhang, Seconded by Bo Sun.

5.2.3.2 Discussion – No discussion.

5.2.3.3 Result: Motion passes with no objection.

5.2.4 PHY Motion #161: Move to include the spec text changes as shown in doc 11/16-0899r0 (reflects the content of SP1 in doc 11-16/0898r0) to the next revision of the TG draft

5.2.4.1 Moved by Hongyuan Zhang, Seconded by Bo Sun.

5.2.4.2 Discussion – No discussion.

5.2.4.3 Result: Motion passes with no objection.

5.2.5 PHY Motion #162: Move to add the spec text changes to D0.2 on Table 26-20 – Fields in the HE-SIG-A for an HE SU PPDU and HE Extended Range SU PPDU as shown in doc 11/16-0915r0

5.2.5.1 Moved by Bin Tian.

5.2.5.2 Result: This motion was not conducted.

5.2.6 PHY Motion #163: Move to include the spec text change as shown in doc 11/16-0909r2 in the next revision of the TG draft.

5.2.6.1 Moved by Joonsuk Kim, Seconded by Bo Sun.

5.2.6.2 Discussion - No discussion.

5.2.6.3 Result: Motion passes with no objection.

5.2.7 PHY Motion #164: Move to include the spec text changes in doc 11-16/0915r2 in the next revision of the TG draft.

5.2.7.1 Moved by Brian Hart, Seconded by Bo Sun.

5.2.7.2 Discussion – No discussion.

5.2.7.3 Result: Motion accepted with no objection.

5.2.8 PHY Motion #165: Move to add to the next revision of the TG draft:

- **Add at the end of section 26.3.7.1 the following sentence:**
- **In a HE MU PPDU transmission, at least Nx4x26 tones (contiguous or non-contiguous), where N is the number of 20MHz channels' legacy preambles present, shall be occupied throughout the signaled BW**

5.2.8.1 Moved by Ron Porat, Seconded by Bo Sun.

5.2.8.2 Discussion – No discussion.

5.2.8.3 Result: Motion passes with no objection.

5.3 MU Motions

5.3.1 MU Motion #57: Move to add the following to the next revision of the TG draft:

- *Insert the following at the end of 10.22.2.2:*
  - **When an HE STA successfully receives the corresponding acknowledgement frame in response to the MPDU sent in HE trigger based PPDU, the backoff for the associated EDCAF resumes the backoff counter countdown**
- *Insert the following at the end of 10.22.2.2:*
  - **When an HE STA does not receive the corresponding acknowledgement frame in response to the MPDU sent in HE trigger based PPDU, the backoff for the associated EDCAF resumes the backoff counter countdown**
- *Insert the following at the end of 10.22.2.2:*
  - **If an HE STA does not successfully receive the corresponding acknowledgement frame in response to the MPDU sent in an HE trigger based PPDU, the short retry counters and long retry counters for the associated EDCAF are not changed**

5.3.1.1 Moved by Kiseon Ryu, Seconded by Simone Merlin.
5.3.1.2 Discussion – No discussion.
5.3.1.3 Result: Motion passes with no objection.

5.4 MAC Motions

5.4.1 MAC Motion #85: Move to add the following text to the TG draft:

- **The Queue Size subfield is an 8-bit field that indicates the amount of buffered traffic, for a given TC or TS at the STA sending this frame.**
- ***An HE non-AP STA uses the Queue Size subfield to indicate the amount of buffered traffic intended for the STA identified by the receiver address of the frame containing the QoS Control field.***

5.4.1.1 Moved by Pascal Vigar, Seconded by Stephane Baron.
5.4.1.2 Discussion - No discussion.
5.4.1.3 Result: Motion passes with no objection.

5.4.2 MAC Motion #86: Move to add the following text to the TG draft:

- **Add to clause #9.3.1.23**
- **"Per User Info fields with AID = 0 shall be allocated only after Per User Info fields with AID not equals to 0, if any, and before the MAC padding field, if present."**

5.4.2.1 Moved by Zhou Lan, Seconded by Reza Hedayat.
5.4.2.2 Discussion – No discussion.
5.4.2.3 Result: Motion passes with no objection.

5.5 CR Motions

5.5.1 CR Motion #15: Move to approve resolutions of CIDs, 9, 228, 2219, 2422, 2691, 2900 in doc 11-16/0725r3.

5.5.1.1 Moved by Raja Banerjea, Simone Merlin.
5.5.1.2 Discussion – No discussion.
5.5.1.3 Result: Motion passes with no objection.

5.5.2 CR Motion #16: Move to approve resolutions to CIDs, 55, 1000, 1221, 1915, 2234, 802,1695, 1222, 182, 971,2713, 702, 1916, 2233, 223 in doc 11-16/0773r2.

5.5.2.1 Moved by Raja Banerjea, Robert Stacy.
5.5.2.2 Discussion – No discussion.
5.5.2.3 Result: Motion passes with no objection.

5.5.3 CR Motion #17: Move to accept resolutions to CIDs, 262,1083, 102, 612, 660, 830, 864, 1716, 2215, 2301, 2376, 372, 719, 864 in doc 11-16/0774r1.

5.5.3.1 Moved by Raja Banerjea, Simone Merlin.

5.5.3.2 Discussion – No discussion.

5.5.3.3 Result: Motion passes with no objection.

5.5.4 CR Motion #18: Move to approve resolutions to CIDs, 101,103, 104,374,375, 377, 558, 561, 661, 662, 664, 688, 1296, 1299, 1301, 1717, 1718, 1882, 2113, 2114, 2174, 2217, 2302, 2421, 227, 720, 663,1303,1305,1306 in doc 11-16/0780r1

5.5.4.1 Moved by Raja Banerjea, Simone Merlin.

5.5.4.2 Discussion – No discussion.

5.5.4.3 Result: Motion passes with no objection.

5.5.5 CR Motion #19: Move to approve resolutions to CIDs, 340, 341, 342, 343, 1023, 2734, and 2889 in doc 11-16/0775r2

5.5.5.1 Moved by Lochan Verma, Seconded by Sameer Vermani.

5.5.5.2 Discussion – No discussion.

5.5.5.3 Result: Motion passes with no objection.

5.5.6 CR Motion #20: Move to approve resolutions of CIDs, 855, 1064, 1, 784, 90, 94, 654, 453, 1181, 2249, 2297, 2208, 2406, 2576, 2901, 2902, 2903, 2405, 2904, 1254, 1255, 1256, 1202, 1714, 1761, 1762, 1881, 1418 in doc 11-16/766r1

5.5.6.1 Moved by Alfred Asterjadhi, Seconded by Young Hoon Kwon.

5.5.6.2 Discussion – No discussion.

5.5.6.3 Result: Motion passes with no objection.

5.5.7 CR Motion #21: Move to approve resolutions of CIDs, 1126, 1127, 1179, 58, 89, 361, 2248, 1877, 1878, 792, 686, 687, 793, 1133, 91, 92, 362, 363, 2296, 1712, 1713, 1250, 1253, 1711, 2204, 2205, 2206, 211, 364, 1231, 134, 1750, 1244 in doc 11-16/0798r0

5.5.7.1 Moved by Alfred Asterjadhi, Seconded by Simone Merlin.

5.5.7.2 Discussion – No discussion.

5.5.7.3 Result: Motion passes with no objection.

5.5.8 CR Motion #22: Move to approve resolutions to CIDs, 14, 127, 370, 371, 2602 in doc 11-16/0815r2

5.5.8.1 Moved by Young Hoon Kwon, Seconded by Yongho Seok.

5.5.8.2 Discussion – No discussion.

5.5.8.3 Result: Motion passes with no objection.

5.5.9 CR Motion #23: Move to approve resolutions to CIDs, 961, 1137, 804, 212, 2212, 2412, 2413, 1136, 1493 in doc 11-16/0819r1

5.5.9.1 Moved by Alfred Asterjadhi, Seconded Yasuhiko Inoue.

5.5.9.2 Discussion – No discussion.

5.5.9.3 Result: Motion passes with no objection.

5.5.10 CR Motion #24: Move to approve resolutions to CIDs, 824, 93, 1067, 2388, 45, 178, 254, 438, 680, 769, 770, 771, 817, 818, 1062, 1065, 1066, 1550, 2189, 2190, 2191, 2272, 2711, 147 in doc 11-16/0806r0

5.5.10.1 Moved by Alfred Asterjadhi, Seconded by Matt Fischer.

5.5.10.2 Discussion – No discussion.

5.5.10.3 Result: Motion passes with no objection.

5.5.11 CR Motion #25: Move to approve the resolutions to CIDs, 963, 128, 214, 2171, 2428, 692, 124, 2906, 2840, 2603, 2599, 1209, 2264, 15, 13, 126, 1071, 693, 1768, 401, 1727, 403, 1644, 2281, 2282, 2279, 160 in doc11-16/0807r2

5.5.11.1 Moved by Po-Kai Huang, Seconded by Yongho Seok.

5.5.11.2 Discussion – No discussion.

5.5.11.3 Result: Motion passes with no objection.

5.5.12 CR Motion #26: Move to accept the resolutions of CIDs, 1311, 2223, 110, 2587, 8, 2222, 1068, 1310, 1312, 2588, 2601, 2894, 1204, 2907 in doc 11-16/0808r2.

5.5.12.1 Moved by Po-Kai Huang, Seconded by Kiseon Ryu.

5.5.12.2 Discussion – No discussion.

5.5.12.3 Result: Motion passes with no objection.

5.5.13 CR Motion #27: Move to approve resolutions to CIDs, 2517, 1780, 1923, and 1610 in doc 11-16/0813r5.

5.5.13.1 Moved by Bo Sun, Seconded by Hongyuan Zhang.

5.5.13.2 Discussion – No discussion.

5.5.13.3 Result: Motion passes with no objection.

5.5.14 CR Motion #28: Move to approve resolutions to CIDs, 112, 380, 381, 456, 539, 689, 690, 1154, 1316, 1862 in doc 11-16/0836r1.

5.5.14.1 Moved by Lochan Verma, Seconded by Sriram Venkateswaran.

5.5.14.2 Discussion – No discussion.

5.5.14.3 Result: Motion passes with no objection.

5.5.15 CR Motion #29: Move to approve resolution to CID 2183 in document 11-16/0816r1.

5.5.15.1 Moved by Daewon Lee, Seconded by Young Hoon Kwon.

5.5.15.2 Discussion – No discussion.

5.5.15.3 Result: Motion passes with no objection.

5.5.16 CR Motion #30: Move to approve the resolutions to CIDs, 2007, 2005, 2123, 2747, 2746, 2244, 842, 846, 526, 910 in doc 11-16/0872r2.

5.5.16.1 Moved by Ross Jian Yu, Seconded by Bo Sun.

5.5.16.2 Discussion – No discussion.

5.5.16.3 Result: Motion passes with no objection.

5.5.17 CR Motion #31: Move to approve resolutions to CIDs, 302, 2040, 2132, 2680, 2039, 2038, 1001,479, 2150 in doc 11-16/0873r1.

5.5.17.1 Moved by Ross Jian Yu, Seconded by Bo Sun.

5.5.17.2 Discussion – No discussion.

5.5.17.3 Result: Motion passes with no objection.

5.5.18 CR Motion #32: Move to approve resolutions to CIDs, 2032, 2549, 2133, 2548, and 1009 in doc 11-16/1021r2

5.5.18.1 Moved by Ross Jian Yu, Seconded by Bo Sun.

5.5.18.2 Discussion – No discussion.

5.5.18.3 Result: Motion passes with no objection.

5.5.19 CR Motion #33: Move to approve the resolutions to CIDs, 1052, 2519 in doc 11-16/0900r1

5.5.19.1 Moved by Robert Stacy, Seconded by Sriram Venkateswaran.

5.5.19.2 Discussion – No discussion.

5.5.19.3 Result: Motion passes with no objection.

5.5.20 CR Motion #34: Move to approve the resolution to CID 854 in doc 11-16/0908r1.

5.5.20.1 Moved by Joonsuk Kim, Seconded by Yongho Seok.

5.5.20.2 Discussion – No discussion.

5.5.20.3 Result: Motion passes with no objection.

5.5.21 CR Motion #35: Move to approve the resolutions to CIDs, 1659, 493, 494 in doc 11-16/0920r3

5.5.21.1 Moved by Xiaogang Chen, Seconded by Bo Sun.

5.5.21.2 Discussion – No discussion.

5.5.21.3 Result: Motion passes with no objection.

5.5.22 CR Motion #36: Move to approve the resolutions to the CIDs, 1782, 2082, 2083 in doc 11-16/0922r2

5.5.22.1 Moved by Sriram Venkateswaran, Seconded by Bo Sun.

5.5.22.2 Discussion – No discussion.

5.5.22.3 Result: Motion passes with no objection.

5.5.23 CR Motion #37: Move to approve the resolutions to CIDs, 836 883 884 1930 2247 292 525 904 906 908 1984 1990 1995 1988 1994 1058 1992 1991 1985 1989 1684 523 1857 271 1412 1195 1996 2532 2120 2098 293 1987 1993 2748 2749 in doc 11-16/0937r7.

5.5.23.1 Moved by Rui Cao, Seconded by Bo Sun.

5.5.23.2 Discussion – No discussion.

5.5.23.3 Result: Motion passes with no objection.

5.5.24 CR Motion #38: Move to approve resolutions to CIDs, 482, 1867, 2084, 2085 in doc 11-16/0923r1.

5.5.24.1 Moved by Sriram Venkateswaran, Seconded by none.

5.5.24.2 Discussion - This motion needs presentation.

5.5.24.3 Result: This motion was skipped (not conducted).

5.5.25 CR Motion #39: Move to approve resolutions to CIDs, 22, 23, 24, 136, 414, 415, 587, 694, 21, 1213, 2615, 1442, 1443, 1756, 1769, 2231 in doc 11-16/0829r3.

5.5.25.1 Moved by Reza Hedayat, Seconded by Brian Hart.
5.5.25.2 Discussion – No discussion.
5.5.25.3 Result: Motion passes with no objection.

5.5.26 CR Motion #40: Move to approve resolutions to CIDs, 1275, 1270, 1269, 1139, 97, 2213, 1809, 1808, 1807, 1806 in doc 11-16/0867r2.
5.5.26.1 Moved by George Cherian, Seconded by Brian Hart.
5.5.26.2 Discussion – No discussion.
5.5.26.3 Result: Motion passes with no objection.

5.5.27 CR Motion #41: Move to approve resolutions to CIDs, 76, 194, 258, 259, 1598, 1773, 2849 in doc 11-16/0844r2.
5.5.27.1 Moved by Alfred Asterjadhi, Seconded by Brian Hart.
5.5.27.2 Discussion – No discussion.
5.5.27.3 Result: Motion passes with no objection.

5.5.28 CR Motion #42: Move to approve resolutions to CIDs, 1482, 1481, 1480, 1479, 1478, 1476, 1475, 1474, 1473, 30, 1225, 1486, 967, 750, 697, 696, 1793, 424, 167, 2629, 2628, 2627, 2626, 2269, 1484, 1485, 1794, 1662, 1487, 2197, 2464, 2465, 1470, 165, 1217 in doc 11-16/0828r0.
5.5.28.1 Moved by Alfred Asterjadhi, Seconded by Brian Hart.
5.5.28.2 Discussion – No discussion.
5.5.28.3 Result: Motion passes with no objection.

5.5.29 CR Motion #43: Move to approve resolutions to CIDs, 2484, 2483, 2482, 2481, 2430, 2429, 2489 in doc 11-16/0860r1.
5.5.29.1 Moved by Yongho Seok, Seconded by Brian Hart.
5.5.29.2 Discussion – No discussion.
5.5.29.3 Result: Motion passes with no objection.

5.5.30 CR Motion #44: Move to approve the resolutions to CIDs, 73, 210, 192, 642, 1593, 1919, 643, 1595, 2259, 2260 in doc 11-16/0862r3.
5.5.30.1 Moved by Yongho Seok, Seconded by Young Hoon Kwon.
5.5.30.2 Discussion – No discussion.
5.5.30.3 Result: Motion passes with no objection.

5.5.31 CR Motion #45: Move to approve resolutions to CIDs, 2608, 2607, 2606, 2488, 2487, 1399, 2841 in doc 11-16/0861r2.
5.5.31.1 Moved by Yongho Seok, Seconded by Brian Hart.
5.5.31.2 Discussion – No discussion.
5.5.31.3 Result: Motion passes with no objection.

5.5.32 CR Motion #46: Move to approve the resolution to CID 2596 in doc 11-16/0953r2 and includes the text changes in the TG draft.
5.5.32.1 Moved by Po-Kai Huang, Seconded by Young Hoon Kwon.
5.5.32.2 Discussion – No discussion.
5.5.32.3 Result: Motion passes with no objection.

5.5.33 CR Motion #47: Move to approve resolutions to CIDs, 705, 2437, 2436, 2439, 2440 in doc 11-16/0879r2.
5.5.33.1 Moved by Jeongki Kim, Seconded by Young Hoon Kwon.
5.5.33.2 Discussion – No discussion.
5.5.33.3 Result: Motion passes with no objection.

5.5.34 CR Motion #48: Move to approve resolutions to CIDs, 62, 640, 2434, 2438, 703, 2435, 66, 257, 447, 186, 2661, 2662, 776, 2660, 1577, 2332, 2718 in doc 11-16/0889r1.
5.5.34.1 Moved by Young Hoon Kwon, Seconded by Yongho Seok.
5.5.34.2 Discussion – No discussion.
5.5.34.3 Result: Motion passes with no objection.

5.5.35 CR Motion #49: Move to approve resolutions of CIDs, 1070, 2226, 693, 125, 2650, 2651 in doc 11-16/0875r2.
5.5.35.1 Moved by Kiseon Ryu, Seconded by Po-Kai Huang.
5.5.35.2 Discussion – No discussion.
5.5.35.3 Result: Motion passes with no objection.

5.5.36 CR Motion #50: Move to approve the resolutions of CIDs, 768, 829, 978, 1546, 1295, 2710, 2709, 2187, 2647, 2266 in doc 11-16/0876r2.
5.5.36.1 Moved by Kiseon Ryu, Seconded by Po-Kai Huang.
5.5.36.2 Discussion – No discussion.
5.5.36.3 Result: Motion passes with no objection.

5.5.37 CR Motion #51: Move to approve the resolutions of CIDs, 2890, 2896, 1634 in doc 11-16/0870r0.
5.5.37.1 Moved by Zhou Lan, Seconded by Young Hoon Kwon.
5.5.37.2 Discussion – No discussion.
5.5.37.3 Result: Motion passes with no objection.

5.5.38 CR Motion #52: Move to approve resolution to CID 783 in doc 11-16/0877r5.
5.5.38.1 Moved by Jeongki Kim, Seconded by Kiseon Ryu.
5.5.38.2 Discussion – No discussion.
5.5.38.3 Result: Motion passes with no objection.

5.5.39 CR Motion #53: Move to approve resolutions of CIDs, 162, 2444, 2443, 2623 in doc 11-16/0835r1.
5.5.39.1 Moved by Alfred Asterjadhi, Seconded by Po-Kai Huang..
5.5.39.2 Discussion – No discussion.
5.5.39.3 Result: Motion passes with no objection.

5.5.40 CR Motion #54: Move to approve resolutions to CIDs 507, 949, 1005, 1785, 1862 in doc 11-16/0866r4.
5.5.40.1 Moved by Kome Oteri, Seconded by Xiaofei Wang.
5.5.40.2 Discussion – No discussion.

5.5.40.3 Result: Motion passes with no objection.

5.5.41 CR Motion #55: Move to approve resolutions to CIDs, 482, 1867, 2084, 2085 in doc 11-16/0923r1.
5.5.41.1 Moved by Sriram Venkateswaran, Seconded by Ron Porat.
5.5.41.2 Discussion – No discussion.
5.5.41.3 Result: Motion passes with no objection.

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6 AOB

6.1 A member informed the group that some of the motions was moved by an individual who had lost the voting right. Those motions will be taken care of during PM1 session.

7 Recess

7.1 TGax is in recess @ 12:28 PM until PM1 (13:30) today.

Thursday, July 28th, 2016, PM1 TGax full Session (13:30-15:30)

8 The meeting called to order by Osama Aboul-Magd (Huawei Technologies)

8.1 The agenda file: 11-16-0977-05.

9 Announcement

9.1 Chair reminded IEEE 802 and 802.11 IPR P&P.
9.2 Chair asked people to state name and affiliation when addressing for the first time in the session.
9.3 Chair reminded people to do attendance.

10 TG Motions (continued)

10.1 CR Motions (continued)

10.1.1 CR Motion #56: Move to approve resolutions of CIDs, 9, 228, 2219, 2422, 2691, 2900 in doc 11-16/0725r3.
10.1.1.1 Moved by Alfred Asterjadhi, Seconded by Simone Merlin.
10.1.1.2 Note - This motion originally was the CR Motion #15 which was moved be a member who had lost the voting right.
10.1.1.3 Discussion – No discussion.
10.1.1.4 Result: Motion passes with no objection.

10.1.2 CR Motion #57: Move to approve resolutions to CIDs, 55, 1000, 1221, 1915, 2234, 802,1695, 1222, 182, 971,2713, 702, 1916, 2233, 223 in doc 11-16/0773r2.
10.1.2.1 Moved by Alfred Asterjadhi, Seconded by Simone Merlin.
10.1.2.2 Note – This motion originally was the CR Motion #16 moved by an individual who had lost the voting right.
10.1.2.3 Discussion – No discussion.
10.1.2.4 Result: Motion passes with no objection.

10.1.3 CR Motion #58: Move to accept resolutions to CIDs, 262,1083, 102, 612, 660, 830, 864, 1716, 2215, 2301, 2376, 372, 719, 864 in doc 11-16/0774r1.

10.1.3.1 Moved by Alfred Asterjadhi, Seconded by Simone Merlin.
10.1.3.2 Note – This motion originally was the CR Motion #16 moved by an individual who had lost the voting right.
10.1.3.3 Discussion – No discussion.
10.1.3.4 Result: Motion passes with no objection.

10.1.4 CR Motion #59: Move to approve resolutions to CIDs, 101,103, 104,374,375, 377, 558, 561, 661, 662, 664, 688, 1296, 1299, 1301, 1717, 1718, 1882, 2113, 2114, 2174, 2217, 2302, 2421, 227, 720, 663,1303,1305,1306 in doc 11-16/0780r1.
10.1.4.1 Moved by Alfred Asterjadhi, Seconded by Simone Merlin.
10.1.4.2 Note – This motion originally was the CR Motion #16 moved by an individual who had lost the voting right.
10.1.4.3 Discussion – No discussion.
10.1.4.4 Result: Motion passes with no objection.

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11 Presentations

11.1 George Cherian (Qualcomm) presented "CIDs for: Section 9.3.1.9.7 Multi STA BAs," based on the submission 11-16-0868-00.

11.1.1 Summary

11.1.1.1 This submission proposes resolutions for multiple comments related to TGax D0.1 with the following CIDs (31 CIDs)

11.1.1.1.1 80, 1284, 1182, 1143, 1286, 962, 1287, 831, 508, 367, 100, 99, 98, 999, 1812, 2580, 2458, 2414, 2389, 2232, 2185, 2170, 1285, 1813, 2582, 1811, 1810, 1715, 1291, 1288, 1814.

11.1.2 Discussion

11.1.2.1 CID #2389 will be resolved in another submission.

11.1.3 Motion

11.1.3.1 CR Motion #60: Move to accept resolutions to CIDs, 80, 1284, 1182, 1143, 1286, 962, 1287, 831, 508, 367, 100, 99, 98, 999, 1812, 2580, 2458, 2414, 2232, 2185, 2170, 1285, 1813, 2582, 1811, 1810, 1715, 1291, 1288, 1814 in doc 11-16/0868r1
11.1.3.1.1 Moved by George Cherian, Seconded by Simone Merlin.
11.1.3.1.2 Discussion – No discussion.
11.1.3.1.3 Result: Motion accepted with no objection.

11.2 Woojin Ahn (Wilus Institute) presented "TID value of ALL ACK signaling," based on the submission 11-16-0916-01.

11.2.1 Summary

11.2.1.1 The TID value for BA information in case of all ACK was discussed.

11.2.1.2 Without proper TID value setting rule, originator may not distinguish single MPDU ACK and all ACK upon reception of M-BA.

11.2.1.3 Proposed to Set TID value of All ACK to one of values between 1000-1110.

11.2.2 Discussion – No discussion.

11.2.3 Motion

11.2.3.1 MAC Motion #87: Move to include the spec text change as shown in doc 11/16-0917r1 in the TG draft

11.2.3.1.1 Moved by Woojin Ahn, Seconded by John Son.
11.2.3.1.2 Discussion
11.2.3.1.2.1 This motion will be confirmed if correct clause number is captured.
11.2.3.1.3 Result: Motion passes with no objection.

11.3 Kaushik Josiam (Samsung) presented "Proposed resolutions to comments on clause 26.3.9.8," based on the submission 11-16-0928-01.

11.3.1 Summary
11.3.1.1 The resolutions for the following CIDs are contained in this document.
11.3.1.1.1 CIDs #: 306, 310, 311, 477, 1002, 1003, 1010, 1692, 2020, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2036, 2037, 2130, 2151, 2245, 2246, 2543, 2544, 2545, 2546, 2547, 2679, 2681.
11.3.2 Discussion
11.3.2.1 There were comments on the resolutions for CIDs 1010 and 2151 whether these comments are relevant for DL MU only. The presenter will clarify those points.
11.3.3 Motion

11.3.3.1 CR Motion #61: Move to approve resolutions to CIDs, 306, 310, 311, 477, 1002, 1003, 1010, 1692, 2020, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2036, 2037, 2130, 2151, 2245, 2246, 2543, 2544, 2545, 2546, 2547, 2679, 2681 in doc 11-16/0928r2.
11.3.3.1.1 Moved by Kaushik Josiam, Seconded by Bo Sun
11.3.3.1.2 Discussion – No discussion.
11.3.3.1.3 Result: Motion was accepted with no objection.

11.4 Chittabrata Ghosh (Intel) presented "Resolution for CID 1589, 1590, 2668, and 2669 on Multi-TID Aggregation in Sub-clause 25.10.4," based on the submission 11-16-0938-00.

11.4.1 Summary
11.4.1.1 The resolutions for the following CIDs and relevant text are proposed.
11.4.1.1.1 CIDs #1589, 1590, 2668, and 2669.
11.4.2 Discussion
11.4.2.1 C: Relevant MIB (dot11AMPDUwithMultipleTIDOptionImplemented) needs to be specified in Annex C. → One of the next action items.
11.4.3 Motion

11.4.3.1 CR Motion #62: Move to approve resolutions to CIDs, 1589, 1590, 2668, and 2669 in doc 11-16/0938r0.
11.4.3.1.1 Moved by Chittabrata Ghosh, Seconded Yasuhiko Inoue.
11.4.3.1.2 Discussion – No discussion.
11.4.3.1.3 Result: Motion accepted with no objection.

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12 Teleconference planning

12.1 Chair suggested weekly conference calls.
12.1.1 Thursday, August 4th, 2016, 20:00 - 22:00 (ET) – already approved.

12.1.2 Thursday, August 11th, 25th & September 8th, 2016, 10:00 - 12:00 (ET)
12.1.3 Thursday, August 18th & September 1st, 2016, 20:00 - 22:00 (ET)
12.2 Chair asked if there is any objection to this plan. → No objection.

13 Presentations

13.1 Jarkko Kneckt (Apple) presented "SU Multi-TID rules," based on the submission 11-16-0913-00.

13.1.1 Summary
13.1.1.1 This submission discusses how to use the multi-TID aggregation in SU TXOPs.
13.1.1.2 Also, the resolutions for CIDs #71 and 190 are provided.
13.1.2 Discussion
13.1.2.1 There was a discussion on TXOP Limit – Which AC should be assumed? → The answer was the primary AC.
13.1.3 Motion

13.1.3.1 CR Motion #63: Move to approve resolutions to CIDs, 71 and 190 in doc 11-16/966r0
13.1.3.1.1 Moved by Jarkko Kneckt, Seconded by Alfred Asterjadhi.
13.1.3.1.2 Discussion – No discussion.
13.1.3.1.3 Result: Motion accepted with no objection.

13.2 Jeongki Kim (LG Electronics) presented "Comment resolution on CID 782 (Intra-PPDU PS)," based on the submission 11-16-0878-01.

13.2.1 Summary
13.2.1.1 The resolution for the CID #782 and related text are proposed.
13.2.1.2 Conditions for identification of Intra-BSS PPDU for the VHT case and other cases were added.
13.2.2 Discussion
13.2.2.1 There was a request to double check the definition of Partial AID. The presenter agreed to do so.
13.2.3 Motion

13.2.3.1 CR Motion #64: Move to approve resolution to CID 782 in doc 11-16/0878r1.
13.2.3.1.1 Moved by Jeongki Kim, Seconded by Kiseon Ryu.
13.2.3.1.2 Discussion – No discussion.
13.2.3.1.3 Result: Motion was accepted with no objection.

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14 AOB

14.1 No other business that fit with 2 or 3 minutes.

15 Adjournment

15.1 TGax adjourned for the week @ 15:28.

Appendix A. Vote Record for SR Motion #10

Yes	59
No	21
Abstain	49
Abstain %	38.0%
Approve %	73.8%
Membership valid as of	2016-07-14
# voting members	428
# votes	129
# return	30

LastName	FirstName	MI	Affiliation	Vote
Aboulmagd	Osama	S	Huawei Technologies Co. Ltd	
Abraham	Santosh	P	Qualcomm Technologies Incorporated	
Abu Surra	Shadi	A	SAMSUNG	
Adachi	Tomoko		TOSHIBA Corporation	
Agardh	Kare		Sony Mobile Communications	
Ahn	Jinsoo		Yonsei University	A
Ahn	Seung Hyeok		Newracom Inc.	
Ahn	Woojin		WILUS	A
Akhmetov	Dmitry		Intel Corporation	
Aldana	Carlos	H	Intel Corporation	
Alpert	Yaron		Intel Corporation	Y
An	Song-Haur		INDEPENDENT	
Ansley	Carol		ARRIS Group	A
Aoki	Tsuguhide		TOSHIBA Corporation	A
Armstrong	Lee	R	US Department of Transportation	
Arndt	Manfred		Hewlett Packard Enterprise	
Arnold	James		US Department of Transportation	
Asai	Yusuke		NTT	A
Asterjadhi	Alfred		Qualcomm Incorporated	Y
Au	Kwok Shum	S	Huawei Technologies Co. Ltd	
Auluck	Vijay		Intel Corporation	
Awater	Geert	A	Qualcomm Incorporated	
Azizi	Shahrnaz		Intel Corporation	A
Bagby	David		Calypso Ventures, Inc.	A
Baik	Eugene		Qualcomm Incorporated	
bang	saehee		LG ELECTRONICS	
baron	stephane		Canon Research Centre France	A
Barr	David		Intel Corporation	
Barriac	gwendolyn		Qualcomm Incorporated	
Berens	Friedbert		FBConsulting Sarl	
Berger	Christian		Marvell Semiconductor, Inc.	A
Bhandaru	Nehru		Broadcom Corporation	

Bharadwaj	Arjun		Qualcomm Incorporated	
Bims	Harry		Bims Laboratories, Inc.	A
Bocus	Mohammud		Toshiba of Europe Ltd.	
Bourdoux	Andre		IMEC	
Brandt	David		Rockwell Automation	
Buffington	John		Itron Inc.	N
Calcev	George		Huawei R&D USA	A
Calvert	Chris		Landis Gyr Group Worldwide	
cao	fengming		Toshiba of Europe Ltd.	
Cao	Rui		Marvell Semiconductor, Inc.	Y
Capar	Cagatay		Ericsson	
Cariou	Laurent		Intel Corporation	Y
Carney	William		Sony Corporation	
CHANG	SANGHYUN		SAMSUNG ELECTRONICS	
Chang	Soo-Young		California State University, Sacramento (CSUS)	
Chen	Jiamin		HUAWEI	
CHEN	KWANG-CHENG		National Taiwan University	
Chen	Lidong		National Institute of Standards and Technology (NIST)	
Chen	Teyan		Huawei Technologies Co. Ltd	
Chen	Xiaogang		Intel Corporation	Y
Cheng	Paul		MediaTek Inc.	
Cheong	Minho		Newracom Inc.	Y
CHERIAN	GEORGE		Qualcomm Incorporated	Y
Cherniavsky	Dmitry		SiBEAM, Inc.	
Chin	Woon Hau		Toshiba of Europe Ltd.	
Chitrakar	Rojan		Panasonic Asia Pacific Pte Ltd.	N
Cho	Hangyu		lg electronics	Y
Cho	Joongwon		Newracom Inc.	
Choi	Hyeyoung		LG ELECTRONICS	
Choi	In-Kyeong		Newracom Inc.	N
Choi	Jinsoo		LG ELECTRONICS	Y
Choi	Sangsung		Electronics and Telecommunications Research Institute (ETRI)	
Choudhury	Sayantan		Nokia	
Chu	Liwen		Marvell Semiconductor, Inc.	Y
Ciochina	Dana		Sony Corporation	
Coffey	John		Realtek Semiconductor Corp.	N
Cordeiro	Carlos		Intel Corporation	
De Ruijter	Hendricus		Silicon Laboratories	
de Vegt	Rolf	J	Qualcomm Incorporated	
Debergh	Pierre		Orange	Y
Ding	Gang		Qualcomm Incorporated	
DOAN	DUNG		Qualcomm Incorporated	
Dua	Praveen		Qualcomm Incorporated	

Eastlake 3rd	Donald	E	Huawei Technologies Co. Ltd	
Ecclesine	Peter		Cisco Systems, Inc.	
Edgar	Richard		Imagination Technologies Ltd.	A
Eitan	Alecsander		Qualcomm Incorporated	
Emmelmann	Marc		Self Employed	
Erceg	Vinko		Broadcom Corporation	
Fan	Zhong		TOSHIBA Corporation	
Fang	Ping		Huawei Technologies Co. Ltd	
Fang	Yonggang		ZTE TX Inc	
Ferdowsi	Vida		Newracom Inc.	
Filo	Marcin		University of Surrey	
Finn	Norman		Cisco Systems, Inc.	
Fischer	Matthew	J	Broadcom Corporation	
Fischer	Michael		NXP Semiconductors	
Fuller	Richard		OmniTrail Technologies	
Furuichi	Sho		Sony Corporation	
Gan	Ming		Huawei Technologies Co. Ltd	Y
Garcia Villegas	Eduard		Universitat Politecnica de Catalyuna (UPC)	
Ghanbarinejad	Majid		Huawei R&D USA	A
Ghosh	Chittabrata		Intel Corporation	Y
Ghosh	Monisha		InterDigital, Inc.	
Godfrey	Tim		Electric Power Research Institute, Inc. (EPRI)	
Grandhe	Niranjan		Marvell Semiconductor, Inc.	A
Grigat	Michael		Deutsche Telekom AG	
Guo	Yuchen		Huawei Technologies Co., Ltd	
Hadad	Zion		Runcom Technologies LTD.	
Hall	Robert		Johnson Controls Inc	
Halls	David		Toshiba of Europe Ltd.	A
Hamilton	Mark		Ruckus Wireless	
HAN	Xiao		Huawei Technologies Co. Ltd	
Han	Yunbo		HUAWEI	
Handte	Thomas		Sony Corporation	
Hansen	Christopher	J	Peraso Technologies Incorporated	
Hao	Peng		jiangsu university of science and technology	
Harkins	Daniel	N	Aruba Networks, Inc.	
Hart	Brian	D	Cisco Systems, Inc.	Y
Hartman	Chris		Apple, Inc.	
Hayes	Victor		CONSULTANT	
He	Linhai		Qualcomm Incorporated	
he	shiwen		Southeast University, China	
Hedayat	Ahmadreza		Newracom Inc.	Y
Henry	Jerome		Cisco Systems, Inc.	
Hiertz	Guido	R	Ericsson AB	
Ho	Duncan		Qualcomm Incorporated	
Horisaki	Koji		TOSHIBA Corporation	

Hou	Victor		Broadcom Corporation	
Hsieh	Jing-Rong		HTC Corporation	
Hsu	Chien-Fang		MediaTek Inc.	
Hu	Chunyu		Broadcom Corporation	Y
Huang	He		ZTE Corporation	
Huang	Lei		Huawei Technologies Co. Ltd	
Huang	Lei		Panasonic Asia Pacific Pte Ltd.	N
Huang	Po-Kai		Intel Corporation	Y
Huang	Rongsheng		MediaTek Inc.	
Huang	Zhiyong		LitePoint Corporation/Teradyne	
Hunter	David		WireFi Networks Inc.	
Hurtarte	Jeorge		Teradyne, Inc.	
Hwang	Sung Hyun	H	ETRI	
Ibrahim	Brima		Broadcom Corporation	
Inoue	Yasuhiko		Nippon Telegraph and Telephone Corporation (NTT)	Y
Ishihara	Koichi		Nippon Telegraph and Telephone Corporation (NTT)	
Ishizu	Kentaro		National Institute of Information and Communications Technology (NICT)	
Iwatani	Junichi		Nippon Telegraph and Telephone Corporation (NTT)	Y
Jauh	Alan		MediaTek Inc.	
Jeffries	Timothy		Huawei R&D USA	
Ji	Mingyue		Broadcom Corporation	
Jiang	Jinjing		Marvell Semiconductor, Inc.	
Jin	Liang		Spirent Communications	
Jo	Kyungtae		LG ELECTRONICS	
Johnsson	Kerstin		Intel Corporation	
Jokela	Jari	E		
Jones	Allan		Activision	Y
Jones	Vincent Knowles IV		Qualcomm Incorporated	
Josiam	Kaushik		SAMSUNG	Y
Kain	Carl	W	Noblis, Inc.	
Kakani	Naveen	K	Qualcomm Incorporated	
Kang	Hyunduk		Electronics and Telecommunications Research Institute (ETRI)	
Karnam	Mohan		Imagination Technologies Ltd.	
Kasher	Assaf	Y	Qualcomm	
Kennedy	Richard	H	Hewlett Packard Enterprise	
Kerry	Stuart	J	OK-Brit	
Khorov	EVGENY		IITP RAS	A
Khoury	Peter		Ruckus Wireless	N
KI	SANGWON		Newracom Inc.	A
Kim	Jeehoon		NEWRACOM	
Kim	Jeongki		LG ELECTRONICS	Y
Kim	Jin Min		LG ELECTRONICS	

Kim	Joonsuk		Apple, Inc.	A
Kim	Kyeongpyo		Newracom Inc.	N
Kim	Sang Gook		LG ELECTRONICS	A
Kim	Suhwook		LG ELECTRONICS	A
Kim	Yongho		KNUT	A
Kim	Youhan		Qualcomm Incorporated	Y
Kim	Youn-Kwan		The Catholic University of Korea	
Kirimis	Dimitri		Newracom Inc.	A
Kiryanov	Anton		IITP RAS	N
Kitazawa	Shoichi		ATR Wave Engineering Laboratories	
Kloper	David		Cisco Systems, Inc.	
KNECKT	JARKKO		Apple, Inc.	Y
Ko	Geonjung		WILUS Institute	A
Kojima	Fumihide		National Institute of Information and Communications Technology (NICT)	
Kolze	Tom		Broadcom Corporation	
Kotzer	Igal		General Motors Company	
Kountz	Dennis		Chemours	
Kraemer	Bruce	P	Marvell Semiconductor, Inc.	
Kumar	Rajesh		Qualcomm Incorporated	
Kumari	Warren		Google	
Kwak	Byung-Jae		Electronics and Telecommunications Research Institute (ETRI)	
Kwak	Jin-Sam		WILUS Institute	A
Kwon	Yong-Jin		Newracom Inc.	A
Kwon	Young Hoon	H	Newracom Inc.	Y
Lalam	Massinissa		SAGEMCOM SAS	
Lambert	Paul		Marvell Semiconductor, Inc.	
Lan	Zhou		National Institute of Information and Communications Technology (NICT)	Y
Lanante	Leonardo		Kyushu Institute of Technology	Y
Lansford	James		Qualcomm Incorporated	
Lee	Daewon		Newracom Inc.	Y
Lee	Jae Seung	S	ETRI	Y
Lee	Jehun		Newracom Inc.	A
LEE	JOONSOO		Newracom Inc.	A
Lee	Young Ha		Newracom Inc.	N
Lei	Zhongding		Institute for Infocomm Research (I2R)	
Lepp	James		BlackBerry	
Levy	Joseph		InterDigital, Inc.	
Li	Bo		northwestern polytechnical university	
Li	Dejian		Huawei Technologies; HiSilicon	
Li	Guoqing		Apple, Inc.	
Li	Huan-Bang		National Institute of Information and Communications Technology (NICT)	

Li	Jing		Huawei Technologies Co. Ltd	
Li	Qinghua		Intel Corporation	
Li	Yanchun		Huawei Technologies Co. Ltd	
Li	Yunbo		Huawei Technologies Co. Ltd	Y
Lim	Dong Guk		LG ELECTRONICS	A
Lin	Meilu		HUAWEI	
Lin	Wei		Huawei Technologies Co. Ltd	
Lin	Yingpei		Huawei Technologies Co. Ltd	
LIU	CHENCHEN		Huawei Technologies Co. Ltd	
Liu	Der-Zheng		Realtek Semiconductor Corp.	
Liu	Fulei		ZTE Corporation	
Liu	Jianhan		MediaTek Inc.	Y
Liu	Jinnan		HUAWEI	
Liu	Le		Huawei Technologies Co. Ltd	
Liu	Pei		HiSilicon Technologies Co., LTD.	
Liu	Yong		Apple, Inc.	Y
Liu	Yun		Huawei Technologies Co., Ltd	
Liu	Zhiheng		China Mobile Communications Corporation (CMCC)	
Loc	Peter		Huawei Technologies Co. Ltd	Y
Lomayev	Artyom		Intel Corporation	
Lou	Hui-Ling		Marvell Semiconductor, Inc.	
Lukaszewski	Chuck		Aruba Networks, Inc.	
Luo	Jun		Huawei Technologies Co. Ltd	
Luo	Yi		Huawei Technologies Co. Ltd	
Lv	Kaiying		ZTE Corporation	
Ma	Jing		National Institute of Information and Communications Technology (NICT)	
Maamari	Diana		Huawei R&D USA	
MADHAVAN	NARENDAR		TOSHIBA Corporation	A
Maeda	Shigeru		TOSHIBA Corporation	
Malik	Rahul		Qualcomm Incorporated	
Malinen	Jouni	K	Qualcomm Incorporated	
Maltsev	Alexander		Intel Corporation	
Mangold	Stefan		Itron Inc.	
Mano	Hiroshi		Koden Techno Info K.K.	
Marin	James		Self Employed	
Matsuo	Ryoko		TOSHIBA Corporation	
Mccann	Stephen		BlackBerry	
Merlin	Simone		Qualcomm Incorporated	Y
Mestanov	Filip		Ericsson AB	
Miller	James		InterDigital, Inc.	
Mobasher	Amin		SAMSUNG	
Mohanty	Bibhu		Qualcomm Incorporated	
Monajemi	Pooya		Cisco Systems, Inc.	Y
Montemurro	Michael		Research In Motion Limited	

Montreuil	Leo		Broadcom Corporation	
Moon	Sungho		Newracom Inc.	
Mori	Hiroki		TOSHIBA Corporation	
Mori	Kenichi		Space-Time Engineering	N
Mori	Masahito		Sony Corporation	
Morioka	Hitoshi		SRC Software	
Morioka	Yuichi		Sony Corporation	Y
Motozuka	Hiroyuki		Panasonic Corporation	N
Mueller	Robert		Ilmenau University of Technology - TU Ilmenau	
Murakami	Yutaka		Panasonic Corporation	
Murthy	Vinay		Qualcomm Incorporated	
Myles	Andrew		Cisco Systems, Inc.	
Nabetani	Toshihisa		TOSHIBA Corporation	
Nagai	Yukimasa		Mitsubishi Electric Corporation	
Nagao	Yuhei		Radrix Co., Ltd	
Nakano	Hiroki		Kyoto University	
Nandagopalan	SAI SHANKAR	S	Ubilite Inc	A
Nezou	Patrice		Canon Research Centre France	
Ngo	Chiu		SAMSUNG	
Noh	Yujin		Newracom Inc.	Y
Notor	John		Notor Research; ARM, Inc.	
Odman	Knut		Broadcom Corporation	
Oh	Minseok		Kyonggi University	
OH	MIN-SEOK		LG Electronics	
Olesen	Robert		InterDigital, Inc.	N
Oteri	Oghenekome		InterDigital, Inc.	N
Ozaki	Kazuyuki		FUJITSU LABORATORIES LIMITED	A
Palm	Stephen		Broadcom Corporation	
Pandey	Santosh Ghanshyam	G	Cisco Systems, Inc.	
Pang	Jiyong		Huawei Technologies Co. Ltd	
Pare	Thomas		MediaTek Inc.	Y
Park	Eunsung		LG Electronics	A
Park	Hyungu		Newracom Inc.	A
Park	Hyunhee		LG ELECTRONICS	A
Park	Jeonghwan		Newracom Inc.	Y
Park	Minyoung		Intel Corporation	
Park	Sung-jin		LG ELECTRONICS	
Patil	Abhishek		Qualcomm Incorporated	A
Peng	Xiaoming		Institute for Infocomm Research	
Persson	Hakan		Ericsson AB	
Petranovich	James	E	ViaSat, Inc.	
petrick	Albert		Jones-Petrick and Associates, LLC.	N

Pienciak	Walter		IEEE	
Pope	Steve		Self Employed	
porat	ron		Broadcom Corporation	Y
Pulikkoonattu	Rethnakaran		Broadcom Corporation	
Pyo	Chang-Woo	C	National Institute of Information and Communications Technology (NICT)	
Qi	Emily	H	Intel Corporation	
Qiao	Dengyu		Huawei Technologies Co. Ltd	Y
Qu	Shouxing		BlackBerry	
Rabarijaona	Verotiana		National Institute of Information and Communications Technology (NICT)	
Rajakarunanayake	Yasantha		MediaTek Inc.	
Rakanovic	Demir		u-blox	
Rantala	Enrico-Henrik		Nokia	A
Rayment	Stephen G	G	Ericsson AB	
Ren	Yazhen		Huawei Technologies Co. Ltd	
Riegel	Maximilian		Nokia Networks	
Rison	Mark		Samsung Cambridge Solution Centre	
Rong	Zhigang		Huawei Technologies Co. Ltd	Y
Rosdahl	Jon	W	Qualcomm Technologies, Inc.	
Roy	Arnab		InterDigital, Inc.	
Ryu	Kiseon		LG ELECTRONICS	Y
Sadeghi	Bahareh		Intel Corporation	Y
Sakamoto	Takenori		Panasonic Corporation	N
Sakoda	Kazuyuki		Sony Corporation	
Sambasivan	Sam		AT&T	
Sampath	Hemanth		Qualcomm Incorporated	
Sarris	Ioannis		u-blox	
Sasaki	Shigenobu		Niigata University	
Sato	Naotaka		Sony Corporation	
Schelstraete	Sigurd		Quantenna Communications, Inc.	N
Schneider	Daniel		Sony	
Scott	Andy		NCTA	
Segev	Jonathan		Intel Corporation	A
Seok	Yongho		Newracom Inc.	
Shah	Kunal		Silver Spring Networks Inc.	
SHAO	PENG		NEC Communication Systems, Ltd.	
Shen	Bazhong		Broadcom Corporation	
Sherlock	Ian		Texas Instruments Incorporated	Y
Shilo	Shimi		HUAWEI	A
Shimada	Shusaku		Schubiquist Technologies	
SHIN	JUNG-CHUL		NEWRACOM	
Slater	Robert		Motorola Mobility	

Smith	Graham	K	SR Technologies	N
Son	Ju-Hyung		WILUS Institute	A
Song	Hayeong		Newracom Inc.	A
Song	Nah-Oak		Korea Advanced Institute of Science and Technology (KAIST)	
Srinivasa	Sudhir		Marvell Semiconductor, Inc.	
Stacey	Robert		Intel Corporation	Y
Stanley	Dorothy		Hewlett Packard Enterprise	
Stephens	Adrian	P	Intel Corporation	
Stott	Noel		Ixia	A
SU	HONGJIA		Huawei Technologies Co. Ltd	
Suh	JUNG HOON	H	Huawei Technologies Co. Ltd	A
Sun	Bo		ZTE Corporation	A
Sun	Chen		Sony Corporation	
Sun	Li-Hsiang		InterDigital, Inc.	N
sun	sheng		Huawei Technologies Co. Ltd	
Sun	Yakun		Marvell Semiconductor, Inc.	
Sun	Yanjun		Qualcomm Incorporated	
Takahashi	Kazuaki		Panasonic Corporation	
Takai	Mineo		Space-Time Engineering	
Takatori	Yasushi		Nippon Telegraph and Telephone Corporation (NTT)	
Tamhane	Sagar		Marvell Semiconductor, Inc.	
Tanaka	Yusuke		Sony Corporation	Y
Taniguchi	Kentaro		TOSHIBA Corporation	
Tao	Wu		Huawei Technologies Co. Ltd	
Taori	Rakesh		Phazr	
Tian	Bin		Qualcomm Incorporated	Y
Tian	Qingjiang		Qualcomm Incorporated	
Tian	Tao		Qualcomm Incorporated	
Tinnakornsrisuphap	Peerapol		Qualcomm Incorporated	
Tong	Fei		Samsung Cambridge Solution Center	
TorabJahromi	Payam		Broadcom Corporation	
Tosato	Filippo		Toshiba of Europe Ltd.	
Trainin	Solomon	B	Intel Corporation	
Tsai	Chia-Hung		MediaTek Inc.	Y
tsubaki	toshimitsu		Nippon Telegraph and Telephone Corporation (NTT)	
Tuomaala	Esa		Nokia	
Urabe	Yoshio		Panasonic Corporation	Y
Van Nee	Richard	D	Qualcomm Incorporated	
Van Zelst	Allert		Qualcomm Incorporated	
Vangelista	Lorenzo		Patavina Technologies	
Varshney	Prabodh		Nokia	
Venkatachalam Jayara	Venkata Ramanan		Qualcomm Incorporated	

Venkatesan	Ganesh		Intel Corporation	
Venkateswaran	Sriram		Broadcom Corporation	Y
Vermani	Sameer		Qualcomm Incorporated	A
VIGER	Pascal		Canon Research Centre France	A
Villardi	Gabriel		National Institute of Information and Communications Technology (NICT)	
Vlantis	George	A	STMicroelectronics	N
Wang	Chao Chun		MediaTek Inc.	
Wang	Haiming		Southeast University, China	
Wang	Huizhao		Quantenna Communications, Inc.	Y
Wang	James June	J	MediaTek Inc.	Y
Wang	Lei		Marvell Semiconductor, Inc.	Y
Wang	Qi		Broadcom Corporation	
Wang	Xiaofei		InterDigital, Inc.	N
Wang	Xuehuan		Huawei Technologies Co. Ltd	
Ward	Lisa		Rohde & Schwarz	
Watanabe	Fujio		NTT DoCoMo, Inc.	
Wee	Gaius		Panasonic Asia Pacific Pte Ltd.	
Wentink	Menzo	M	Qualcomm Incorporated	
Wilhelmsson	Leif		Ericsson AB	
Wong	Eric		Apple, Inc.	A
Wu	Tianyu		MediaTek Inc.	Y
Xin	Yan		Huawei Technologies Co. Ltd	
Xing	Weimin		ZTE Corporation	Y
Xue	Qi		Qualcomm Incorporated	
Yamada	Akira		NTT DoCoMo, Inc.	
Yang	Ou		Intel Corporation	
Yang	Rongzhen		Intel Corporation	
YANG	RUI		InterDigital, Inc.	A
Yang	Xun		Huawei Technologies Co. Ltd	Y
Yang	Yunsong		Huawei Technologies Co. Ltd	
YAO	KE		ZTE Corporation	
Yee	James		MediaTek Inc.	Y
Yee	Peter		NSA/IAD	
Yokota	Hidetoshi		Landis Gyr Group Worldwide	
Yong	Su Khiong	K	Apple, Inc.	
Young	Christopher		Broadcom Corporation	
Yu	Bo		Marvell Semiconductor, Inc.	
Yu	Chinghwa		Spreadtrum Comm.	
Yu	Heejung		Yeungnam University	
Yu	Jian		Huawei Technologies Co. Ltd	A
Yu	Mao		Marvell Semiconductor, Inc.	
Yunoki	Katsuo	D	KDDI R&D Laboratories	
Zeleznikar	Alan		ARRIS Group	N
Zeng	Kun		Huawei Technologies Co., Ltd	

Zhang	Hongyuan		Marvell Semiconductor, Inc.	Y
ZHANG	JIAYIN		Huawei Technologies Co. Ltd	
Zhang	Xingxin		Huawei Technologies Co. Ltd	
Zhang	Yan		Marvell Semiconductor, Inc.	
ZHAO	XIAOWU		ZTE Corporation	
Zheng	Jun		Broadcom Corporation	
Zheng	Xiayu		Marvell Semiconductor, Inc.	
Zhou	Yan		Qualcomm Incorporated	
Zhu	Chunhui		Huawei Technologies Co. Ltd	
Zhu	Jun		Huawei Technologies Co. Ltd	A
Zhuo	Lan		CESI Group	
Zuniga	Juan Carlos		InterDigital, Inc.	