IEEE P802.11  
Wireless LANs

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| IEEE 802.11  Minutes of TGax CRC Weekly Teleconferences April 2020 | | | | |
| Date: 2020-03-26 | | | | |
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Abstract

This document contains the minutes from the TGax teleconferences April, 2020.

Revision History:

* R0: Initial version.
  + Minutes of TGax CRC call on April 2nd, 2020.
* R1: Minutes of TGax CRC call on April 9th and April 16th, 2020.

**Thursday, April 2nd, 2020, TGax CRC Teleconference (20:00 - 23:00 ET)**

1. **The meeting called to order at 20:05 (ET) by Osama Aboul-Magd (Huawei Technologies), the chairperson of 802.11 TGax.**
   1. Introduction of TGax chairperson and secretary.
   2. The agenda document 20/0538r2 is on the server.
2. **Attendees**
   1. Osama Aboul-Magd (Huawei Technologies)
   2. Tomoko Adachi (Toshiba)
   3. Song-Haur An (Independent)
   4. Alfred Asterjadhi (Qualcomm)
   5. Rui Cao (NXP)
   6. Cheng Chen (Intel)
   7. George Cherian (Qualcomm)
   8. Liwen Chu (NXP)
   9. Sean Coffey (RealTek)
   10. Claudio da Silva (Intel)
   11. Thomas Derham (Broadcom)
   12. Matthew Fischer (Broadcom)
   13. Mark Hamilton ()
   14. Lili Herveu (CableLabs)
   15. Po-Kai Huang (Intel)
   16. Yasuhiko Inoue (NTT)
   17. Feng Jiang (Intel)
   18. Srinivas Kandala (Samsung)
   19. Jarkko Kneckt (Apple)
   20. Qinghua Li (Intel)
   21. Pooya Monajemi (Cisco Systems)
   22. Leo Montreuil (Broadcom)
   23. Abhishek Patil (Qualcomm)
   24. Al Petrick (InterDigital)
   25. Jon Rosdahl (Qualcomm)
   26. Sigurd Schelstraete (Quantenna)
   27. Yongho Seok (MediaTek)
   28. Robert Stacey (Intel)
   29. Bo Sun (ZTE)
   30. Bin Tian (Qualcomm)
   31. Pascal Viger (Canon)
   32. Aiguo Yan (Oppo)
   33. Ross Jian Yu (Huawei Technologies)
   34. Jiayin Zhang (Huawei Technologies)
   35. Yan Zhang (NXP)
3. **Agenda Setting**
   1. Proposed agenda for the TGax Teleconference on April 2nd, 2020.
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Attendance Reminder – Please send an e-mail to Yasuhiko Inoue (yasu.inoue.h2k5@gmail.com) and/or Osama Aboul-Magd (Osama.aboulmagd@huawei.com)
      4. Motions related to the submission discussed last week
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0297-00-00ax-cr-for-7-cids.docx> - Jarkko Kneckt
         2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0369-02-00ax-cr-cid-24054.docx> - Po-Kai Huang
         3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0352-01-00ax-cr-d6-0-he-phy-service-interface.docx> - Bo Sun
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0348-01-00ax-mac-cr-misc-cids-in-clause-3.docx> - Alfred Asterjadhi
         5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0349-00-00ax-mac-cr-misc-cids-in-clause-10.docx> - Alfred Asterjadhi
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0315-02-00ax-resolution-for-cids-related-to-multiple-bssid.docx>   - Abhishek Patil
         7. [https://mentor.ieee.org/802.11/dcn/20/11-20-0316-02-00ax-resolution-for-cids-related-to-bss-color.docx](https://mentor.ieee.org/802.11/dcn/20/11-20-0316-00-00ax-resolution-for-cids-related-to-bss-color.docx)  – Abhishek Patil
         8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0318-01-00ax-resolution-for-cids-related-to-uora.docx> – Abhishek Patil
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0445-01-00ax-mac-cr-misc-cids-in-clause-9.docx> – Alfred Asterjadhi
         10. <https://mentor.ieee.org/802.11/dcn/20/11-20-0317-02-00ax-resolution-for-misc-cids.docx> – Abhishek Patil
      5. CR Submissions
         1. [https://mentor.ieee.org/802.11/dcn/20/11-20-0447-00-00ax-resolution-to-cid-24081.docx – Tomo Adachi](https://mentor.ieee.org/802.11/dcn/20/11-20-0514-00-00ax-11ax-draft-6-0-phy-comment-resolutions.docx)
         2. [https://mentor.ieee.org/802.11/dcn/20/11-20-0497-01-00ax-misc-cr-on-d6-0.doc – Ross Yu Jian](https://mentor.ieee.org/802.11/dcn/20/11-20-0514-00-00ax-11ax-draft-6-0-phy-comment-resolutions.docx)
         3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0514-00-00ax-11ax-draft-6-0-phy-comment-resolutions.docx> – Yan Zhang
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0376-01-00ax-cr-txvector-inactive-subchannels-and-more.docx-> Matt Fischer
         5. <https://mentor.ieee.org/802.11/dcn/18/11-18-0218-08-00ax-fragment-flushing-blockackreq.docx> - Matt Fischer
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0529-00-00ax-cr-24235-24236-psr-20-mhz-normalization.docx> - Matt Fischer
         7. 11-20/0450 MAC-CR-Miscellaneous CIDs in Subclause 26dot17 – Alfred Asterjadhi
         8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0540-00-00ax-d6-0-phy-cr.docx> - Youhan Kim
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx> - Liwen Chu
      6. AoB
      7. Adjourn
   2. Chair asked if there is any objection to proceed with this agenda. 🡪 No objection.
      1. **The agenda for the TGax teleconference on April 2nd, 2020 is approved.**
4. **Announcements**
   1. Chair asked the attendees to announce name and the affiliation when addressing the group for the first time during a meeting slot.
   2. Attendance: Please send an e-mail to Yasuhiko Inoue (yasu.inoue.h2k5@gmail.com) and/or Osama Aboul-Magd ([Osama.aboulmagd@huawei.com](mailto:Osama.aboulmagd@huawei.com)). Thanks to Jon Rosdahl, the IMAT is also available to record the attendance.
   3. Chair asked people to put the cellphone mute of switch off.
5. **IEEE 802 and 802.11 IPR policy and procedure**
   1. Patent Policy:
   2. Participants have a duty to inform the IEEE - done.
      * Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
      * Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims
   3. Ways to inform IEEE: - done
      * Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
      * Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
      * Speak up now and respond to this Call for Potentially Essential Patents
      * If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair
      1. Chair asked if anyone in this meeting is aware of any potentially essential patents.
         1. **No potentially essential patent reported.**
   4. Other guidelines for IEEE WG meetings – done
   5. Patent-related information – done
   6. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
   7. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
   8. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
6. **Motions related to the submissions discussed last week**
   1. **CR Motion #1006: Move to approve resolutions to CIDs 24523 in doc 11-20/0297r3.**
      1. Moved by Jarkko Kneckt, Seconded by Alfred Asterjadhi
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   2. **CR Motion #1007: Move to approve resolutions to CIDs 24054 in doc 11-20/0369r6.**
      1. Moved by Po-Kai Huang, Seconded by Alfred Asterjadhi
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   3. **CR Motion #1008: Move to accept resolutions to CIDs 24048, 24138, 24178, 24180, 24187, 24294, 24397, 24455, 24456, 24498, 24499, 24549 in doc 11-20/0352r2.**
      1. Moved by Bo Sun, Seconded by Ross Jian Yu
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   4. **CR Motion #1009: Move to accept resolutions to CIDs 24164, 24026, 24382, 24383 in doc 11-20/0318r2.**
      1. Moved by Abhishek Patil, Seconded by Alfred Asterjadhi
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   5. **CR Motion #1010: Move to accept resolutions to CIDs 24272, 24273, 24274 in doc 11-20/0348r2.**
      1. Moved by Alfred Asterjadhi, Seconded by Abhishek Patil
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   6. **CR Motion #1011: Move to accept resolutions to CIDs 24021, 24135, 24423 in doc 11-20/0349r1.**
      1. Moved by Alfred Asterjadhi, Seconded by Abhishek Patil
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
   7. **CR Motion #1012: Move to accept resolutions to CIDs 24299, 24361, 24421, 24422, 24464, 24493 in doc 11-20/0445r1.**
      1. Moved by Alfred Asterjadhi, Seconded by Abhishek Patil
      2. Discussion – no discussion.
      3. **Result: Approved by unanimous consent.**
7. **CR submissions**
   1. **Tomoko Adachi (Tos**h**iba) presented “Resolution to CID 24081,” based on the submission 11-20-0447-00.**
      1. Summary
         1. The resolution for the comments with CID 24081 related to the IEEE 802,11ax D6.0 is proposed.
            1. Re: UPLINK\_FLAG.
      2. Discussion
         1. CID 24081: Although the proposal is to change the name of UPLINK\_FLAG, some people are not happy with it. A participant mentioned that the name basically should represent the function, however it is not always the case. There was a comment not to use “MAY” in a name.
      3. Next Step
         1. More offline discussion.
   2. **Ross Jian Yu (Huawei Technologies) presented “Misc CR on D6.0,” based on the submission 11-20-049-01.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the PHY section of IEEE 802,11ax D6.0 are proposed.
            1. CIDs: 24105, 24106, 24107, 24175, 24193, 24194, 24195, 24196, 24357, 24358
      2. Discussion
         1. CID 24193: There was a discussion on the deleted text.
         2. CID 24358: Reason for the rejection was provided by a participant. 🡪 Added to the resolution.
      3. Next Step
         1. To be approved in the next TGax CRC call.
   3. **Yan Zhang (NXP Semiconductor) presented “11ax Draft 6.0 PHY Comment Resolutions,” based on the submission 11-20-0514-01.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the PHY section of IEEE 802,11ax D6.0 are proposed.
            1. CIDs: 24182, 24323, 24183, 24184, 24314, 24315, 24316, 24317, 24197, 24322, 24330, 24198, 24199, 24200, 24201, 24202, 24203, 24204
      2. Discussion
         1. CID 24182: Regarding the NO\_SIG\_EXTN, the group discussed the VHT PPDU case. There was a comment that current text is good enough.
         2. CID 24183: The group discussed subcarrier index. Additional text for clarification was suggested.
         3. CID 24183: The resolution was updated. R1 of this document was created.
      3. Next Step
         1. There will be a motion to approve the resolution in the next TGax CRC call.
   4. **Matthew Fischer (Broadcom) presented “CR TXVECTOR INACTIVE SUBCHANNELS and more,” based on the submission 11-20-0376-01.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the INACTIVE\_SUBCHANNELS parameter in the TXVECTOR and a few others defined in the IEEE 802,11ax D6.0 are proposed.
            1. CIDs: 24028, 24041, 24043, 24281, 24271
      2. Discussion
         1. CID 24281: The group discussed what exactly the non-HE PPDU means.
         2. CID 24271: The group discussed TDLS case. There was a long discussion and the chairperson suggested more offline work.
      3. Next Step
         1. More offline discussions.
   5. **Matthew Fischer (Broadcom) presented “CR 24235 24236 PSR 20 MHz Normalization,” based on the submission 11-20-0529-01.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the PSR 20 MHz normalization description defined in the IEEE 802,11ax D6.0 are proposed.
            1. CIDs: 24235, 24236
      2. Discussion
         1. CID 24235: Clarification of NON\_VHT\_CBW20 was discussed. Some people are not comfortable with the text saying “PSDU carries PPDU.”
         2. CID 24236: Need clarification about the non-HE NDP in this context.
      3. Next Step
         1. Need more time.
   6. **Matthew Fischer (Broadcom) presented “Fragment Flushing BlockAckReq,” based on the submission 11-20-0218-08.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the Fragment Flushing BlockAckReq defined in the IEEE 802,11ax D6.0 are proposed.
            1. CIDs: 24267:
      2. Discussion
         1. CID 24267: A participant asked for more time to review the document. He does not see any technical benefit.
      3. Next Step
         1. Need more time.
8. **AoB**
   1. Time is up.
9. **Adjourn**
   1. TGax teleconference adjourned @ 22:58 (ET).

**Thursday, April 9th, 2020, TGax CRC Teleconference (10:00 - 13:00 ET)**

1. **The meeting called to order at 10:05 AM (ET) by Osama Aboul-Magd (Huawei Technologies), the chairperson of 802.11 TGax.**
   1. Introduction of TGax chairperson and secretary.
   2. The agenda document 20/0538r2 is on the server.
2. **Attendees**
   1. Osama Aboul-Magd (Huawei Technologies)
   2. Song-Haur An (Independent)
   3. Alfred Asterjadhi (Qualcomm)
   4. Stephane Baron (Canon)
   5. Albert Bredwoud (Broadcom)
   6. Laurent Cariou (Intel)
   7. Xiaogang Chen (Intel)
   8. George Cherian (Qualcomm)
   9. Liwen Chu (NXP)
   10. Sean Coffey (RealTek)
   11. Matthew Fischer (Broadcom)
   12. Mark Hamilton (ARRIS/Ruckus)
   13. Lili Herveu (CableLabs)
   14. Po-Kai Huang (Intel)
   15. Yasuhiko Inoue (NTT)
   16. Srinivas Kandala (Samsung)
   17. Youhan Kim (Qualcomm)
   18. Jarkko Kneckt (Apple)
   19. Kaiying Lu (MediaTek)
   20. Pooya Monajemi (Cisco Systems)
   21. Patrice Nezou (Canon)
   22. Abhishek Patil (Qualcomm)
   23. Al Petrick (InterDigital)
   24. Mark Rison (Sumsung)
   25. Jon Rosdahl (Qualcomm)
   26. Robert Stacey (Intel)
   27. Bo Sun (ZTE)
   28. Pascal Viger (Canon)
   29. Aiguo Yan (Oppo)
   30. Rui Yang (InterDigital)
   31. Mao Yu (NXP)
   32. Ross Jian Yu (Huawei Technologies)
   33. Yan Zhang (NXP)
3. **Agenda Setting**
   1. Proposed agenda for the TGax Teleconference on April 9th, 2020.
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Attendance Reminder – Please record your attendance on IMAT (imat.ieee.org)
      4. Motions related to the submission discussed last week
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0297-00-00ax-cr-for-7-cids.docx> - Jarkko Kneckt (CID 24031)
         2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0349-00-00ax-mac-cr-misc-cids-in-clause-10.docx> - Alfred Asterjadhi (CIDs 24170 and 24275)
         3. https://mentor.ieee.org/802.11/dcn/20/11-20-0315-02-00ax-resolution-for-cids-related-to-multiple-bssid.docx   - Abhishek Patil
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0316-02-00ax-resolution-for-cids-related-to-bss-color.docx>  – Abhishek Patil
         5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0445-01-00ax-mac-cr-misc-cids-in-clause-9.docx> – Alfred Asterjadh (CID 24492)
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0317-02-00ax-resolution-for-misc-cids.docx> – Abhishek Patil
         7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0458-00-000m-resolution-to-cid-4043.docx> - Tomo Adachi - April 16
         8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0497-00-00ax-misc-cr-on-d6-0.doc> - Ross JianYu
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0514-00-00ax-11ax-draft-6-0-phy-comment-resolutions.docx>  – Yan Zhang
         10. <https://mentor.ieee.org/802.11/dcn/20/11-20-0376-01-00ax-cr-txvector-inactive-subchannels-and-more.docx>- Matt Fischer
         11. <https://mentor.ieee.org/802.11/dcn/18/11-18-0218-08-00ax-fragment-flushing-blockackreq.docx> - Matt Fischer
         12. <https://mentor.ieee.org/802.11/dcn/20/11-20-0529-00-00ax-cr-24235-24236-psr-20-mhz-normalization.docx> - Matt Fischer
      5. CR Submissions
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0450-00-00ax-mac-cr-miscellaneous-cids-in-subclause-26dot17.docx> - Alfred Asterjadhi
         2. [https://mentor.ieee.org/802.11/dcn/20/11-20-0540-00-00ax-d6-0-phy-cr.docx](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fmentor.ieee.org%2F802.11%2Fdcn%2F20%2F11-20-0540-00-00ax-d6-0-phy-cr.docx&data=02%7C01%7Cliwen.chu%40nxp.com%7Cc9bd6dbe814f4cf4deda08d7dadc69b8%7C686ea1d3bc2b4c6fa92cd99c5c301635%7C0%7C0%7C637218512520548032&sdata=32s8nyqP4s64otVk9kcVgWypdqWjVAvCEVs6eP1Ckmo%3D&reserved=0) - Youhan Kim
         3. [https://mentor.ieee.org/802.11/dcn/20/11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fmentor.ieee.org%2F802.11%2Fdcn%2F20%2F11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx&data=02%7C01%7Cliwen.chu%40nxp.com%7Cc9bd6dbe814f4cf4deda08d7dadc69b8%7C686ea1d3bc2b4c6fa92cd99c5c301635%7C0%7C0%7C637218512520558024&sdata=olw8kbtF%2BCkQs6xXYtTVD30qw5aCRc6Jj%2Fhqf%2FP6iUk%3D&reserved=0) - Liwen Chu
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0594-00-00ax-11ax-d6-0-comment-resolution-of-misc-cids.docx> – Liwen Chu
         5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0491-00-00ax-cr-for-mu-edca-parameters.docx> - Laurent Cariou
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0492-00-00ax-cr-for-ops.docx> - Laurent Cariou
         7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0493-00-00ax-cr-for-sr.docx> - Laurent Cariou
         8. 11-20/0494;CR for out of band discovery – Laurent Cariou – to be uploaded
      6. AoB
      7. Adjourn
   2. Chair asked if there is any objection to proceed with this agenda. 🡪 No objection.
      1. **The agenda for the TGax teleconference on April 9th, 2020 is approved.**
4. **Announcements**
   1. Chair asked the attendees to announce name and the affiliation when addressing the group for the first time during a meeting slot.
   2. Attendance: Please send an e-mail to Yasuhiko Inoue (yasu.inoue.h2k5@gmail.com) and/or Osama Aboul-Magd ([Osama.aboulmagd@huawei.com](mailto:Osama.aboulmagd@huawei.com)). Thanks to Jon Rosdahl, the IMAT is also available to record the attendance.
   3. Chair asked people to put the cellphone mute of switch off.
5. **IEEE 802 and 802.11 IPR policy and procedure**
   1. Patent Policy:
   2. Participants have a duty to inform the IEEE - done.
      * Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
      * Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims
   3. Ways to inform IEEE: - done
      * Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
      * Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
      * Speak up now and respond to this Call for Potentially Essential Patents
      * If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair
      1. Chair asked if anyone in this meeting is aware of any potentially essential patents.
         1. **No potentially essential patent reported.**
   4. Other guidelines for IEEE WG meetings – done
   5. Patent-related information – done
   6. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
   7. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
   8. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
6. **Motions related to the submissions discussed last week**
   1. **Doc.11-20-0497-02, “Misc CR on D6.0,” Ross Jian Yu (Huawei Technologies)**
      1. Discussion
         1. CID 24195 and 24196 (Re: Preamble Puncturing): A participant requested the status pf these comments and asked for a time for his presentation.
         2. Mark Rison (Samsung) discussed channel puncturing feature based on his own document. The point is to be more clear about which channel is punctured. The group discussed this feature and turned out there remains technical issue.
      2. **CR Motion #1013: Move to accept resolutions to CIDs 24175, 24193, 24194, 24195, 24196, 24357 in doc 11-20/0497r2.**
         1. Moved by Ross Jian Yu, Seconded by Xiaogang Chen
         2. Discussion – Looking at the agenda file, a member mentioned it should be clear what will be motioned.
         3. **Result: Approved by unanimous consent.**
      3. **CR Motion #1014: Move to accept resolution to CID 24358 in doc 11-20/0497r2.**
         1. Moved by Ross Jian Yu, Seconded by Youhan Kim
         2. Discussion – There was an objection to approve this motion with unanimous consent.
         3. **Result: Y/N/A = 18/1/6, motion passes.**
   2. **Doc.11-20-0514-02, “11ax Draft 6.0 PHY Comment Resolutions,” Yan Zhang (NXP)**
      1. **CR Motion #1015: Move to accept resolutions to CIDs 24182, 24323, 24183, 24184, 24314, 24315, 24316, 24317, 24197, 24322, 24330, 24198, 24199, 24200, 24201, 24202, 24203, 24204 in doc 11-20/0514r2.**
         1. Moved by Yan Zhang, Seconded by Liwen Chu
         2. Discussion – No discussion.
         3. **Result: Y/N/A = 15/1/9, motion passes.**
7. **CR submissions**
   1. **Alfred Asterjadhi (Qualcomm) presented “,” based on the submission 11-20-0450-01.**
      1. Summary
         1. Resolutions to the comments with following CIDs related to the clause 26.17 (HE BSS operation) of the IEEE 802.11ax draft 6.0 are proposed.
            1. CIDs: 24098, 24099, 24100, 24115, 24116, 24152, 24153, 24251, 24254, 24259, 24260, 24261, 24266, 24283, 24284, 24285, 24286, 24453, 24497, 24524, 24528, 24543, 24546
      2. Discussion
         1. CID 24116: A participant mentioned he was confused by the proposed text. Another participant commented that it is over specified. The group had a long discussion.
         2. CID 24152: deferred.
         3. CID 24254: A participant expressed a concern in the way that the 6 GHz STA is defined.
         4. CID 24260: A participant commented he is not sure whether clarification is enough or not. There was a comment TGmd will be the right place to resolve this comment.
         5. CID 24528, 24543, 24546: deferred.
      3. Next Step
         1. Continue discussion in a subsequent teleconference.
   2. **Youhan Kim (Qualcomm) presented “D6.0 PHY CR,” based on the submission 11-20-0540-01.**
      1. Summary
         1. Resolution to the comments with following CIDs related to the HE PHY defined in the IEEE 802.11ax draft 6.0 are proposed.
            1. CIDs: 24319, 24320, 24171, 24172, 24173, 24174, 24522, 24176, 24177, 24280, 24521, 24189, 24295, 24298, 24282.
      2. Discussion
         1. CID 24319 (multiple spatial stream used in different RUs): A member would like to come back to this CID later.
         2. CID 24320: Clarification on the MU PPDU was discussed.
         3. CID 24522: Deferred.
         4. CID 24176: Deferred. Need more discussion.
         5. CID 24282: The group discussed the PE field. This CID was transferred to another volunteer (Xiaogang).
      3. Next Step
         1. Offline discussion on the deferred CIDs.
8. **AoB**
   1. **Mark Rison (Samsung) asked for a discussion time to clarify what the “punctured” exactly means.**
      1. Mark discussed the allowed channel puncturing patterns.
      2. Details will be discussed by email.
9. **Adjournment**
   1. **TGax CRC teleconference adjourned @ 12:54 (ET).**

**Thursday, April 16th, 2020, TGax CRC Teleconference (20:00 - 23:00 ET)**

1. **The meeting called to order at 20:03 (ET) by Osama Aboul-Magd (Huawei Technologies), the chairperson of 802.11 TGax.**
   1. Introduction of TGax chairperson and secretary.
   2. The agenda document 20/0538r7 is the working document (revision 6 is on the server).
2. **Attendees**
   1. Osama Aboul-Magd (Huawei Technologies)
   2. Tomoko Adachi (Toshiba)
   3. Alfred Asterjadhi (Qualcomm)
   4. Stephane Baron (Canon)
   5. Laurent Cariou (Intel)
   6. Rui Cao (NXP)
   7. Xiaogang Chen (Intel)
   8. George Cherian (Qualcomm)
   9. Liwen Chu (NXP)
   10. Sean Coffey (RealTek)
   11. Matthew Fischer (Broadcom)
   12. Mark Hamilton (ARRIS/Ruckus)
   13. Lili Herveu (CableLabs)
   14. Po-Kai Huang (Intel)
   15. Yasuhiko Inoue (NTT)
   16. VK Jones (Qualcomm)
   17. Youhan Kim (Qualcomm)
   18. Jarkko Kneckt (Apple)
   19. Young Hoon Kwon (NXP)
   20. Qinghua Li (Intel)
   21. Kaiying Lu (MediaTek)
   22. Pooya Monajemi (Cisco Systems)
   23. Abhishek Patil (Qualcomm)
   24. Al Petrick (InterDigital)
   25. Ron Porat (Broadcom)
   26. Mark Rison (Sumsung)
   27. Jon Rosdahl (Qualcomm)
   28. Sigurd Schelstraete (Quantenna)
   29. Yongho Seok (MediaTek)
   30. Robert Stacey (Intel)
   31. Bo Sun (ZTE)
   32. Rou Sun (???)
   33. Bin Tian (Qualcomm)
   34. Dorin Vlorel (???)
   35. Aiguo Yan (Oppo)
   36. Rui Yang (InterDigital)
3. **Agenda Setting**
   1. Proposed agenda for the TGax Teleconference on April 9th, 2020.
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Attendance Reminder – Please record your attendance on IMAT (imat.ieee.org)
      4. Motions related to the submission discussed last week
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0297-03-00ax-cr-for-7-cids.docx> – Jarkko Kneckt (CID 24031 remaining)
         2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0349-01-00ax-mac-cr-misc-cids-in-clause-10.docx> – Alfred Asterjadhi (CIDs 24170 and 24275 are remaining)
         3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0315-02-00ax-resolution-for-cids-related-to-multiple-bssid.docx>   - Abhishek Patil
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0316-02-00ax-resolution-for-cids-related-to-bss-color.docx>  – Abhishek Patil
         5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0445-01-00ax-mac-cr-misc-cids-in-clause-9.docx> - Alfred Asterjadhi (CID 24492)
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0317-02-00ax-resolution-for-misc-cids.docx> – Abhishek Patil
         7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0458-00-000m-resolution-to-cid-4043.docx> - Tomo Adachi - April 16
         8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0497-00-00ax-misc-cr-on-d6-0.doc> - Ross JianYu
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0376-01-00ax-cr-txvector-inactive-subchannels-and-more.docx>- Matt Fischer
         10. <https://mentor.ieee.org/802.11/dcn/18/11-18-0218-08-00ax-fragment-flushing-blockackreq.docx> - Matt Fischer
         11. <https://mentor.ieee.org/802.11/dcn/20/11-20-0529-00-00ax-cr-24235-24236-psr-20-mhz-normalization.docx> - Matt Fischer
         12. <https://mentor.ieee.org/802.11/dcn/20/11-20-0450-00-00ax-mac-cr-miscellaneous-cids-in-subclause-26dot17.docx> - Alfred Asterjadhi
         13. <https://mentor.ieee.org/802.11/dcn/20/11-20-0540-00-00ax-d6-0-phy-cr.docx> - Youhan Kim
      5. CR Submissions
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0297-03-00ax-cr-for-7-cids.docx> – Jarkko Kneckt (CID 24031 remaining)
         2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0349-01-00ax-mac-cr-misc-cids-in-clause-10.docx> – Alfred Asterjadhi (CIDs 24170 and 24275 are remaining)
         3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0315-02-00ax-resolution-for-cids-related-to-multiple-bssid.docx> - Abhishek Patil
         4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0316-02-00ax-resolution-for-cids-related-to-bss-color.docx> – Abhishek Patil
         5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0445-01-00ax-mac-cr-misc-cids-in-clause-9.docx> - Alfred Asterjadhi (CID 24492)
         6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0317-02-00ax-resolution-for-misc-cids.docx> – Abhishek Patil
         7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0458-00-000m-resolution-to-cid-4043.docx> - Tomo Adachi - April 16
         8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0497-00-00ax-misc-cr-on-d6-0.doc> - Ross JianYu
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0376-01-00ax-cr-txvector-inactive-subchannels-and-more.docx>- Matt Fischer
         10. <https://mentor.ieee.org/802.11/dcn/18/11-18-0218-08-00ax-fragment-flushing-blockackreq.docx> - Matt Fischer
         11. <https://mentor.ieee.org/802.11/dcn/20/11-20-0529-00-00ax-cr-24235-24236-psr-20-mhz-normalization.docx> - Matt Fischer
         12. <https://mentor.ieee.org/802.11/dcn/20/11-20-0450-00-00ax-mac-cr-miscellaneous-cids-in-subclause-26dot17.docx> - Alfred Asterjadhi
         13. <https://mentor.ieee.org/802.11/dcn/20/11-20-0540-00-00ax-d6-0-phy-cr.docx> - Youhan Kim
      6. AoB
      7. Adjourn
   2. Chair asked if there is any objection to proceed with this agenda.
      1. Discussion
         1. A participant mentioned that, during the last teleconference, he asked to state clarify which CIDs are motioned in the agenda file. He mentioned the process is unacceptable and opposed to approve the agenda with unanimous consent.
      2. **Motion: Move to approve the teleconference agenda on slide 32 and 33 in doc 11-20-0538-07.** 
         1. **Moved by Alfred Asterjadhi, Seconded by Jarkko Knect**
         2. **Discussion – a participant objects to approve the agenda with unanimous consent.**
         3. **Result: Y/N/A = 24/3/1, the agenda for the TGax teleconference on April 16th, 2020 is approved.**
4. **IEEE 802 and 802.11 IPR policy and procedure**
   1. Patent Policy:
   2. Participants have a duty to inform the IEEE - done.
      * Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
      * Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims
   3. Ways to inform IEEE: - done
      * Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
      * Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
      * Speak up now and respond to this Call for Potentially Essential Patents
      * If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair
      1. Chair asked if anyone in this meeting is aware of any potentially essential patents.
         1. **No potentially essential patent reported.**
   4. Other guidelines for IEEE WG meetings – done
   5. Patent-related information – done
   6. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
   7. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
   8. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
5. **Motions related to the submissions discussed last week**
   1. **Doc.11-20-0447-01, “Resolution to CID 24081,” Tomoko Adachi (Toshiba)**
      1. Tomo explained the updates.
      2. Discussion
         1. A participant asked for deferral of this CID since there was not enough time to review the document.
            1. Tomo agreed to defer.
      3. Next Step
         1. There will be a motion on the resolution to CID 24081 in the next teleconference.
   2. **Doc.11-20-0349-01, “Comment resolutions for miscellaneous CIDs in clause 10,” Alfred Asterjadhi (Qualcomm)**
      1. This is an updates on the remaining CIDs 24170 and 24275.
      2. Alfred explained the resolution to those CIDs.
      3. Discussion
         1. CID 24275: A participant asked for clarification of the spec for non-HE STAs.
      4. **CR Motion #1016: Move to accept resolutions to CIDs 24170 and 24275 in doc 11-20/0349r1.**
         1. Moved by Alfred Asterjadhi, Seconded by Abhishek Patil
         2. Discussion – There was an objection to approve this motion with unanimous consent.
         3. **Result: Y/N/A = 22/0/6, motion passes.**
   3. **Doc.11-20-0445-02, “Comment resolutions for miscellaneous CIDs in clause 9,” Alfred Asterjadhi (Qualcomm)**
      1. Summary
         1. This is an update on the remaining CIDs discussed during the teleconference on April 2nd, 2020.
      2. Discussion
         1. CID 24492: A participant (the commenter) mentioned that the reason for the rejection does not make sense. The MAC SAP is an abstract interface and there is no reason for upper layers to defer passing MSDUs to the MAC through the MAC SAP as soon as they are available for transmission. There was a comment from a participant that is acceptable for the commenter. Alfred updated the reason for the rejection and the document became r2. A NOTE was suggested during the discussion.
      3. Next Step
         1. There will be a motion in the next teleconference.
   4. **Doc.11-20-0450-02, “Comment resolutions for miscellaneous CIDs in clause 26.17,” Alfred Asterjadhi (Qualcomm)**
      1. Summary
         1. This is an update on the deferred CIDs discussed during the teleconference on April 9th, 2020.
            1. CIDs: 24152, 24259, 24528, 24543, 24546.
         2. Alfred gave the updates.
      2. Discussion
         1. CID 24259: A participant (the commenter) mentioned he is confused by the new text. He asked for deferral. 🡪 CID 24259 was deferred.
         2. CID 24254: The group discussed the correctness and accuracy of the Table related to Country Information and Operating Class.
         3. CID 24116: The group discussed the proposed text in 11.1.4.3.2 referring to the Unicode <Padding Character>. It turned out the Unicode <Padding Character> does not make sense and that part was removed from the proposed text.
         4. CID 24524: A participant mentioned that this (Beacon in the HE SU PPDU with DCM) is a very useful feature and the comment should not be rejected.
         5. CID 24254: The group discussed the definition of 6 GHz STA from frequency point of view and from the feature point of view. Alfred proposed a separate motion on this CID.
      3. **CR Motion #1017: Move to accept the resolution to CID 24254 in doc 11-20/0450r1.**
         1. **Moved by Alfred Asterjadhi, Seconded by Sean Cofey**
         2. **Discussion – A participant objected to approve this motion with unanimous consent.**
         3. **Result: Y/N/A = 17/3/4, motion passes.**
      4. **CR Motion #1018: Move to accept the resolution to CIDs 24098, 24099, 24100, 24115, 24116, 24153, 24251, 24254, 24260, 24261, 24266, 24283, 24284, 24285, 24286, 24453, 24497 in doc 11-20/0450r3.**
         1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil**
         2. **Discussion – A participant objected to approve this motion with unanimous consent.**
         3. **Result: Y/N/A = 17/1/3, motion passes.**
      5. **CR Motion #1019: Move to accept the resolution to CID 24254 as in doc 11-20/0450r4 (This resolution supersedes the one passed in CR Motion #1018).**
         1. **Moved by Youhan Kim, Seconded by Alfred Asterjadhi**
         2. **Discussion – A participant objected to approve this motion with unanimous consent.**
         3. **Result: Y/N/A = 16/0/2, motion passes.**
   5. **Doc.11-20-0316-04, “Resolution for CIDs related to BSS Color,” Abhishek Patil (Qualcomm)**
      1. Summary
         1. This is an update on the deferred CIDs discussed during the teleconference on March 19th, 2020.
         2. Abhishek gave the updates.
      2. Discussion
         1. CID 24249: There was a comment that external management entity is not the part of an AP.
      3. **CR Motion #1020: Move to accept the resolution to CIDs 24144, 24147, 24555, 24556, 24310, 24442, 24242, 24243, 24244, 24245, 24516, 24515, 24246, 24247, 24248, 24249, 24250, 24514 in doc 11-20/0316r4.**
         1. **Moved by Abhishek Patil, Seconded by Alfred Asterjadhi**
         2. **Discussion – A participant objected to approve this motion with unanimous consent.**
         3. **Result: Y/N/A = 17/0/6, motion passes.**
6. **AoB**
   1. The chairperson mentioned that we will start motion on CID 24081 (11-20/447) in the next teleconference.
7. **Adjournment**
   1. **TGax CRC teleconference adjourned @ 12:54 (ET).**