IEEE P802.11  
Wireless LANs

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| IEEE 802.11  Minutes of TGax CRC Weekly Teleconferences April 2020 | | | | |
| Date: 2020-05-01 | | | | |
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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: Included minutes of TGax CRC call on April 9th and April 16th, 2020.
* R2: Included minutes of TGax CRC call on April 23rd, 2020
* R3: Included minutes of TGax CRC call on April 30th, 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 go on mute when not speaking.
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 record the attendance at IMAT (http://imet.iee.org/).
   3. Chair asked people to go on mute when not speaking.
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
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   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 16th, 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).**

**Thursday, April 23rd, 2020, TGax CRC Teleconference (10:00 - 13:00 ET)**

1. **The meeting called to order at 10:02 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 20/0538r8 is on the server. Revision 9 is the working document.
2. **Attendees**
   1. Osama Aboul-Magd (Huawei Technologies)
   2. Alfred Asterjadhi (Qualcomm)
   3. Geert Awater (Qualcomm)
   4. Stephane Baron (Canon)
   5. Albert Bredwoud (Broadcom)
   6. Rui Cao (NXP)
   7. Xiaogang Chen (Intel)
   8. George Cherian (Qualcomm)
   9. Liwen Chu (NXP)
   10. Sean Coffey (RealTek)
   11. Thomas Derham (Broadcom)
   12. Ahmed ElSherif (Intel)
   13. Matthew Fischer (Broadcom)
   14. Reza Hedayat (Charter)
   15. Lili Herveu (CableLabs)
   16. Po-Kai Huang (Intel)
   17. Yasuhiko Inoue (NTT)
   18. VK Jones (Qualcomm)
   19. Youhan Kim (Qualcomm)
   20. Jarkko Kneckt (Apple)
   21. Manish Kumar (NXP)
   22. Kaiying Lu (MediaTek)
   23. Patrice Nezou (Canon)
   24. Abhishek Patil (Qualcomm)
   25. Al Petrick (InterDigital)
   26. Mark Rison (Sumsung)
   27. Jon Rosdahl (Qualcomm)
   28. Yongho Seok (MediaTek)
   29. Robert Stacey (Intel)
   30. Bo Sun (ZTE)
   31. Roy Sun (CableLabs)
   32. Allert van Zelst (Qualcomm)
   33. Pascal Viger (Canon)
   34. Dorin Vlorel (CableLabs)
   35. Menzo Wentink (Qualcomm)
   36. Hassan Yaghoonbi (Intel)
   37. Aiguo Yan (Oppo)
   38. Rui Yang (InterDigital)
   39. Mao Yu (NXP)
   40. Ross Jian Yu (Huawei Technologies)
   41. Yan Zhang (NXP)
3. **Agenda Setting**
   1. Proposed agenda for the TGax Teleconference on April 23rd , 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. 11-20/0447: CID 24081
         2. 11-20/0497: CID 24105, 24106, 24107
         3. 11-20/0317: CID 24552, 24350, 24486, 24311, 24400, 24401, 24351, 24352, 24348, 24349, 24017
         4. 11-20/0529: CID 24235, 24236
         5. 11-20/0376: CID 24028, 24041, 24043, 24281, 24271
         6. 11-18/0218: CID 24267
         7. 11-20/0540: CID 24319, 24320, 24171, 24172, 24173, 24174, 24522, 24176, 24177, 24280, 24521, 24189, 24295, 24298, 24282
      5. CR Submissions
         1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0618-00-00ax-cr-for-cid-24101-preamble-puncture.docx> , Lili Hervieu (will be discussed in the context of 11-20/0497)
         2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0646-00-00ax-update-to-6ghz-operating-classes.docx> - Thomas Derham
         3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx> - 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
         9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0597-00-00ax-cr-preamble-puncturing-mask.docx> - Xiaogang Chen
      6. AoB
      7. Adjourn
   2. Chair asked if there is any objection to proceed with this agenda.
      1. A member asked for a higher priority for the 6 GHz operation. 🡪 We can be flexible if people agree.
      2. **The agenda for the TGax teleconference on April 23rd, 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 record attendance at IMAT (http://imat.ieee.org/).
   3. Chair asked people to go on mute.
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. **Discussion: more teleconferences**
   1. The 802 EC has decided to cancel the July 2020 plenary session. We need more teleconferences to make progress.
   2. Chairperson suggested 2-hour call on every Tuesday.
7. **Motions related to the submissions discussed during previous teleconferences**
   1. **CR Motion on doc.11-20-0447-01 (by Tomoko Adachi)**
      1. The group discussed the proposed resolution in doc.11-20-0447-01 during the last conference call and it is ready for motion.
      2. **CR Motion #1021: Move to accept resolution to CID 24081 in doc 11-20/447r1.**
         1. **Moved by Alfred Asterjadhi, Second Yasuhiko Inoue**
         2. **Discussion – no discussion**
         3. **Result: Approved with unanimous consent.**
   2. **CR Motion on doc.11-20-0497-02 (by Ross Jian Yu)**
      1. Ross Jian Yu (Huawei Technologies) gave an update on doc. 11-20/497r2, “Misc CR on D6.0,”.
      2. Summary
         1. Ross gave the update on deferred CIDs.
         2. Lili Hervieu (CableLabs) gave counter proposal for the CID related to the preamble puncturing “Proposed Resolution for CID 24101,” based on the submission 11-20-0618-00.
      3. Discussion
         1. The group discussed allowed puncturing patterns.

* + 1. **Straw Poll #1: For 160M/80+80M, should having all the 20M subchannels in the secondary 80M channel punctured be allowed?**
       1. Discussion
          1. Some people opposed to this SP.
          2. There was a comment that the text is not clear enough.
       2. **Result: Y/N/A = 0/23/6**
    2. **Straw Poll #2: For 160M/80+80M, should having more than two adjacent 20M subchannels punctured be disallowed?**

**Note: for 160M this includes channels adjacent between the primary and secondary 80M channels, e.g. This will disallow the ---xxx-- pattern**

**Note: This will also disallow patterns like - - x x x x x -**

* + - 1. Discussion
         1. There was a comment it’s not clear how to vote on this SP. Another member commented that we are voting on SP that is already in the spec.
      2. **Result: Y/N/A = 9/5/15**
    1. **Straw Poll #3: For 160M/80+80M, should D6.0 be interpreted as allowing having no 20M subchannels in the primary 80 MHz channel punctured (only in the secondary 80 MHz channel)?**
       1. Discussion
          1. A member commented that this is allowed in the spec.
          2. Another member commented that current spec is not clear enough.
       2. **Result: Y/N/A = 6/9/18**
    2. **Straw Poll #4: Do you agree that for 160M/80+80M, allow only a maximum of two adjacent 20 MHz subchannels to be punctured?**
       1. Discussion
          1. There was a question on the intention of this SP. 🡪 The intention is to align with the preamble puncturing discussed in TGbe.
       2. **Result: Y/N/A = 19/5/8**
    3. Next Step
       1. Need some more discussion to clarify what is allowed as the preamble puncturing pattern.
  1. **CR Motion on doc. 11-20-317-04 (by Abhishek Patil)**
     1. Abhishek Patil (Qualcomm) presented updates on “Resolution for Misc. CIDs,” based on the updated material (r4).
     2. Discussion
        1. CID 24552: The group discussed proposed change to the text in 26.5.2.2.4 (Allowed setting s of the Trigger frame fields and TRS)
           1. Some people suggested removal of the last bullet while some other people prefer clarification of current text.
           2. CID 24552 was deferred.
     3. **CR Motion #1022: Move to accept resolutions to CIDs 24350, 24486, 24311, 24400, 24401, 24351, 24352, 24348, 24349, 24017 in doc 11-20/0317r5**
        1. **Moved by Abhishek Patil, Seconded by Youhan Kim**
        2. Discussion – No discussion
        3. **Result: Approved with unanimous consent.**
  2. **CR Motion on doc. 11-20-0529-03 (by Matthew Fischer)**
     1. Matthew Fischer (Broadcom) presented updates on “CR 24235 24236 PSR 20 MHz Normalization,” based on doc.11-20-0529-03.
     2. Discussion
        1. A participant commented on the OBSS\_PD level.
     3. Next Step
        1. Matt to check the comments.
  3. **CR Motion on doc. 11-20-0367-02 (by Matthew Fischer)**
     1. Matthew Fischer (Broadcom) presented updates on “CR TXVECTOR INACTIVE SUBCHANNELS and more,” based on doc.11-20-0529-03.
     2. Discussion
        1. A participant had sent comments by email. He asked to take a look at the email and to revise the document.
     3. Next Step
        1. Matt to check the comments sent by an email.

1. **CR Submissoions**
   1. **Hassan Yaghoonbi (Intel) presented "Update to 6 GHｚ operation,” based on the submission doc.11-20-646-00.**
      1. Summary
         1. As for the resolutions to comments with CID 24047, 24049, 24050, 24052, 24053, 24213, 24255, 24256 and 24547, the channel allocation in the 6 GHz band (27.3.23.2), PHY MIB (27.4.2) and Table E-4 in Annex E.1 are updated.
      2. Discussion
         1. A participant suggested editorial changes.
      3. Next Step
         1. Hassan will update the document and there will be a motion later (during this teleconference).
2. **Motions related to the submissions discussed last week – Part 2**
   1. **CR Motion on doc.11-20-0540-03 (by Youhan Kim)**
      1. Youhan gave the updates.
      2. Discussion
         1. CID 24176: Related text was updated incorporating the comment from a participant.
         2. CID 24319: A member commented that the issue is still open.
         3. The group discussed possible SP. Conclusion was to have a motion on the resolutions to CIDs that seem to have achieved consensus.
      3. **CR Motion #1023: Move to accept resolutions to CIDs , 24320, 24171, 24172, 24173, 24174, 24176, 24280, 24521, 24189, 24295, 24298, 24282 in doc 11-20/540r3.**
         1. **Moved by Youhan Kim, Seconded by Abhishek Patil**
         2. **Discussion – no discussion**
         3. **Result: Approved by unanimous consent.**
   2. **CR Motion on doc.11-20-0646-01 (by Hassan Yaghoobi)**
      1. Hassan gave the updates from previous version.
      2. Discussion
         1. A participant asked for more time to review. 🡪 The chairperson suggested a motion during the next teleconference.
      3. Next Step
         1. There will be a motion to approve the resolutions during the next call.
   3. **CR Motion on the remaining CIDs in doc.11-20-0540-03 (by Youhan Kim)**
      1. Youhan gave the updates on the resolution for CID 24319.
      2. Discussion – no discussion.
      3. **CR Motion #1024: Move to accept resolution to CID 24319 in doc 11-20/0540r3.**
         1. **Moved by Youhan Kim, Seconded by Alfred Asterjadhi**
         2. **Discussion – a participant asked for the vote count.**
         3. **Result: Y/N/A = 18/2/5, motion passes**
      4. Youhan gave the updates on the resolution for CID 24117.
      5. Discussion – no discussion.
      6. **CR Motion #1025: Move to accept resolution to CID 24117 in doc 11-20/0540r3.**
         1. **Moved by Youhan Kim, Seconded by Alfred Asterjadhi**
         2. **Discussion – a participant asked for the vote count.**
         3. **Result: Y/N/A = 18/0/7, motion passes**
3. **AoB**
   1. Time is up!
4. **Adjournment**
   1. TGax CRC teleconference adjourned @ 13:02 (ET)

**Thursday, April 30th, 2020, TGax CRC Teleconference (20:00 - 23:00 ET)**

1. **The meeting called to order at 20:02 (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. Aboul-Magd, Osama (Huawei Technologies)
   2. Asterjadhi, Alfred (Qualcomm)
   3. Baron, Stephane (Canon)
   4. Cao, Rui (NXP)
   5. Cariou, Laurent (Intel)
   6. Chen, Xiaogang (Intel)
   7. Cherian, George (Qualcomm)
   8. Chu, Liwen (NXP)
   9. Coffey, Sean (RealTek)
   10. Cordeiro, Carlos (Intel)
   11. Fischer, Matthew (Broadcom)
   12. Hamilton, Mark (ARRIS/Ruckus)
   13. Herveu, Lili (CableLabs)
   14. Huang, Po-Kai (Intel)
   15. Inoue, Yasuhiko (NTT)
   16. Jones, VK (Qualcomm)
   17. Kandala, Srinivas (Samsung)
   18. Kim, Youhan (Qualcomm)
   19. Jarkko Kneckt (Apple)
   20. Kaiying Lu (MediaTek)
   21. Pooya Monajemi (Cisco Systems)
   22. Abhishek Patil (Qualcomm)
   23. Al Petrick (InterDigital)
   24. Sigurd Schelstraete (Quantenna)
   25. Yongho Seok (MediaTek)
   26. Stacey, Robert (Intel)
   27. Sun, Bo (ZTE)
   28. Wang, Huizhao (Quantenna)
   29. Wu, Tianyu (Apple)
   30. Yaghoonbi, Hassan (Intel)
3. **Agenda Setting**
   1. Proposed agenda for the TGax CRC teleconference on April 30th, 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. 11-20-0646: CID 24047, 24049, 24050, 24052, 24053, 24213, 24255, 24256, 24547
         2. 11-20-0540: CID 24522
         3. 11-20-0445: CID 24492
         4. 11-20-0376: CID 24028, 24041, 24043, 24281, 24271
         5. 11-18-0218: CID 24267
      5. CR Submissions
         1. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0549-00-00ax-d6-0-comment-resolution-9-7-3.docx) **- Liwen Chu**
         2. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0594-00-00ax-11ax-d6-0-comment-resolution-of-misc-cids.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0594-00-00ax-11ax-d6-0-comment-resolution-of-misc-cids.docx) **– Liwen Chu**
         3. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0491-00-00ax-cr-for-mu-edca-parameters.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0491-00-00ax-cr-for-mu-edca-parameters.docx) **- Laurent Cariou**
         4. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0492-00-00ax-cr-for-ops.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0492-00-00ax-cr-for-ops.docx) **- Laurent Cariou**
         5. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0493-00-00ax-cr-for-sr.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0493-00-00ax-cr-for-sr.docx) **- Laurent Cariou**
         6. **11-20/0494;** CR for out of band discovery – Laurent Cariou – to be uploaded
         7. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0597-00-00ax-cr-preamble-puncturing-mask.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0597-00-00ax-cr-preamble-puncturing-mask.docx) **- Xiaogang Chen**
         8. [**https://mentor.ieee.org/802.11/dcn/20/11-20-0665-00-00ax-comment-resolution-on-mibs-and-pics.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-0665-00-00ax-comment-resolution-on-mibs-and-pics.docx) **- Edward Au**
      6. AoB
      7. Adjourn
   2. Chair asked if there is any objection to proceed with this agenda.
      1. Discussion – No discussion
      2. **The agenda for TGax CRC teleconference on April 30th, 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.11-20-0646-01, “Update to 6 GHz Operating Classes,” by Hassan Yaghoonbi (Intel)**
      1. The proposed resolutions were presented and were discussed during the last teleconference.
      2. Discussion
         1. No further discussion.
      3. **CR Motion #1026: Move to accept resolutions to CIDs 24047, 24049, 24050, 24052, 24053, 24213, 24255, 24256, 24547 in doc 11-20/0646r1**
         1. **Moved by Hassan Yaghoonbi, Seconded by Youhan Kim.**
         2. Discussion: No discussion.
         3. **Result: Approved by unanimous consent.**
   2. **Doc.11-20-0540-03, “D6.0 PHY CR,” by Youhan Kim (Qualcomm)**
      1. Youhan gave the update on remaining CID 24522.
      2. Discussion
         1. A participant suggested an additional text to the NOTE for the CH\_BANDWIDTH parameter of the TXVECTOR. Youhan mentioned it is not necessary.
      3. **CR Motion #1027: Move to accept resolutions to CID 24522 in doc 11-20/0540r3.**
         1. **Moved by Youhan Kim, Seconded by Abhishek Patil.**
         2. Discussion: A participant ask for a count.
         3. **Result: Y/N/A = 15/3/5, motion passes.**
   3. **Doc.11-20-0445-02, “Comment resolutions for miscellaneous CIDs in clause 9,” by Alfred Asterjadhi (Qualcomm)**
      1. Alfred gave the update on the remaining comment with CID 24492. The reason for the rejection is updated incorporating the result of discussion during the last teleconference.
      2. Discussion
         1. No discussion.
      3. **CR Motion #1028: Move to accept resolutions to CID 24492 in doc 11-20/0445r2.**
         1. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
         2. Discussion: no discussion.
         3. **Result: Approved by unanimous consent.**
   4. **Doc.11-20-0376-04, “CR TXVECTOR INACTIVE SUBCHANNELS and more,” by Matthew Fischer (Broadcom)**
      1. Matt presented the resolution for CID 24271 and 24281.
      2. Discussion
         1. No discussion.
      3. **CR Motion #1029: Move to accept resolutions to CIDs 24028, 24041, 24043, 24281, 24271 in doc 11-20/0376r4.**
         1. **Moved by Matthew Fischer, Seconded by Robert Stacey.**
         2. Discussion: no discussion.
         3. **Result: Approved by unanimous consent.**
   5. **Doc.11-18-0529-05, “CR 24235 24236 PSR 20 MHz Normalization,” by Matthew Fischer (Broadcom)**
      1. Matt presented the resolution for CIDs 24235 and 24236.
      2. Discussion
         1. The group discusses the new table in clause 26 (PPDU\_BW value determination). The group discussed clarification of the table such as the meaning of PPDU\_BW 60 and 140.
         2. A member asked for relationship between the proposed table and preamble puncturing pattern.
      3. Next Step
         1. Need more offline discussion.
   6. **Doc.11-18-0218-11, “Fragment Flushing BlockAckReq,” by Matthew Fischer (Broadcom)**
      1. Matt presented the resolution for CID 24267.
      2. Discussion
         1. A participant opposed to add a new feature at this stage of the standardization. He also asked why we are voting on the same topic again and again.
         2. Another member commented on the definition of related MIB.
      3. **CR Motion #1030: Move to accept resolutions to CID 24267 in doc 11-18/0218r11.**
         1. **Moved by Matthew Fischer, Seconded by Yongho Seok.**
         2. Discussion: no discussion.
         3. **Result: Y/N/A = 3/12/18, motion fails.**
      4. Next Step: Robert Stacey will provide a reason to reject CID 24267.
6. **CR submissions**
   1. **Laurent Cariou (Intel) presented “CR for MU EDCA,” based on the submission doc.11-20-0491-02.**
      1. Summary
         1. Resolution for the comments with following CIDs related to the MU EDCA defined in the IEEE 802.11ax D6.0 are proposed.
            1. CIDs: 24334, 24335, 24336, 24337, 24338, 24339, 24340, 24393, 24394, 24472, and 24537.
      2. Discussion
         1. CID 24335: The commenter mentioned that the author made changes on the different part of the draft. 🡪 Laurent to revise the document.
         2. CID 24336: The group discussed inclusion of QoS Info element. Need to take a close look at on this comment.
         3. CID 24472: The commenter is not convinced by current resolution and would like to check offline.
         4. CID 24537: A participant asked for the consistency with the baseline spec.
      3. Next Step
         1. Some CIDs such as 24335, 24336 and 24472 need more offline work.
   2. **Laurent Cariou (Intel) presented “CR for OPS,” based on the submission doc.11-20-0492-01.**
      1. Summary
         1. Resolutions for the comments with following CIDs related to OPS defined in the IEEE 802.11ax D6.0 are proposed.
            1. CIDs: 24459 24460 24462.
      2. Discussion
         1. CID 24459: The commenter mentioned that this comment was submitted during a new ballot and current reason of rejection is not valid. 🡪 Another member can provide a valid reason for the rejection.
      3. Next Step
         1. There will be a motion to approve the resolutions in this document.
   3. **Laurent Cariou (Intel) presented “CR for SR,” based on the submission doc.11-20-0493-00.**
      1. Summary
         1. Resolutions for the comments with CIDs 24025 and 24475 related to Spatial Reuse defined in the IEEE 802.11ax D6.0 are proposed.
      2. Discussion
         1. CID 24025: A participant asked if the author contacted the commenter since this is an important comment.
         2. CID 24475: The commenter mentioned that the point is not the value of -83 dBm but the cases that the CCA (idle) is reported.
      3. Next Step
         1. There will be follow up discussion in the next CRC teleconference.
7. **Motions related to the submissions discussed last week – Part 2**
   1. **Robert presented the reason to reject CID 24267.**
   2. **CR Motion #1031: Move to accept “Rejected” as the resolutions to CID 24267.**
      1. The CRC does not agree that the issue identified is a problem. The fragmentation mechanisms, as designed, operate without MSDU re-partitioning or with limited repartitioning as defined in the paragraph at 327.42 in D6.0: “An originator STA may retransmit the full MSDU, A-MSDU or MMPDU if all the previously transmitted dynamic fragments of that MSDU, A-MSDU or MMPDU have explicitly failed at the receiving STA.”
      2. **Moved by Po-Kai Huang, Seconded by Xiaogang Chen.**
      3. **Discussion – No discussion**
      4. **Result: Approved by unanimous consent.**
8. **CR submissions**
   1. **Xiaogang Chen (Intel) presented “CR for Puncturing Mask,” based on the submission doc.11-20-0597-00.**
      1. Summary
         1. Resolutions for the comments with following CIDs related to the puncturing mask defined in the IEEE 802.11ax D6.0 are proposed.
            1. CIDs: 24032,24103,24148,24265.
      2. Discussion
         1. A participant commented that the text in discussion part of this document should be placed in the resolution column. 🡪 Xiaogang will revise the document.
      3. Next Step
         1. There will be a motion to approve resolutions for CIDs in doc.11-20-0597.
9. **AoB**
   1. Authors of other submissions are not available.
10. **Adjournment**
    1. TGax CRC teleconference has adjourned @ 22:36 (ET).