IEEE P802.11
Wireless LANs

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| IEEE 802.11TGax CRC Teleconferences Minutes September 2020 |
| Date: 2020-09-30 |
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Abstract

This document contains the minutes from the TGax teleconferences during September 2020.

Revision History:

* R0: Initial version.
	+ Minutes of TGax CRC call on September 3rd, 2020.
* R1: Minutes from TGax CRC teleconferences on September 22nd and 24th are included.
* R2: Minutes from TGax CRC teleconference on September 29th are included.

**Thursday, September 3rd, 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 doc.11-20/1169r0 is the working document.
2. **Attendees**
	1. Aboul-Magd, Osama (Huawei Technologies)
	2. Adachi, Tomoko (Toshiba)
	3. Chu, Liwen (NXP)
	4. Coffey, Sean (RealTek)
	5. Hamilton, Mark (CommScope)
	6. Inoue, Yasuhiko (NTT)
	7. Kim Youhan (Qualcomm)
	8. Kneckt, Jarrko (Apple)
	9. Petrick, Albert (InterDigital)
	10. Rison, Mark (Samsung)
	11. Rosdahl, Jon (Qualcomm)
	12. Schelstraete, Sigurd (Quantenna/ON)
	13. Sosac, Robert (Qualcomm)
	14. Stacey, Robert (Intel)
	15. Sun, Bo (ZTE)
3. **Agenda Setting**
	1. Proposed agenda for the TGax CRC teleconference on September 3rd, 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. Comment Resolution Status – Robert Stacey
		5. Submissions
			1. <https://mentor.ieee.org/802.11/dcn/20/11-20-1280-00-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx> - Bo Sun
		6. Discussion on Cascading and possible additional text
		7. AoB
		8. 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 September 3rd, 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
		* All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
			+ Don’t discuss the interpretation, validity, or essentiality of patents/patent claims.
			+ Don’t discuss specific license rates, terms, or conditions.
				- Relative costs of different technical approaches that include relative costs of patent licensing terms January be discussed in standards development meetings.

Technical considerations remain the primary focus

* + - * Don’t discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
			* Don’t discuss the status or substance of ongoing or threatened litigation.
			* Don’t be silent if inappropriate topics are discussed … do formally object.
	1. Patent-related information – done
		+ The patent policy and the procedures used to execute that policy are documented in the:
		+ *IEEE-SA Standards Board Bylaws* (http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6)
		+ *IEEE-SA Standards Board Operations Manual* (http://standards.ieee.org/develop/policies/opman/sect6.html#6.3)
		+ Material about the patent policy is available at
		+ [*http://standards.ieee.org/about/sasb/patcom/materials.html*](http://standards.ieee.org/about/sasb/patcom/materials.html)
	2. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
	3. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
	4. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
1. **Attendance**
	1. <https://imat.ieee.org/>
		1. Please indicate the voter status by adding [V] or [NV] before your name on WebEx.
2. **Submissions**
	1. **Bo Sun (ZTE) presented “Spec Text Proposal for Pre-FEC Padding Factor Parameter,” based on the submission** [**doc.11-20-1280-01**](https://mentor.ieee.org/802.11/dcn/20/11-20-1280-01-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx)**.**
		1. Summary
			1. For the PHY layer to complete the Pre-FEC Padding process, it is proposed to add a TXVECTOR parameter PRE\_FEC\_PADDING\_FACTOR for MAC to transfer the Pre-FEC Padding Factor parameter to PHY.
		2. Discussion
			1. The group discussed the relation between HE TB PPDU and the proposal.
			2. A member commented that some text is needed for subclause under 26.11 (Setting TXVECTOR parameters for an HE PPDU) as well as 27.3.12.5.5 (Encoding process for an HE TB PPDU).
			3. There was a question how to implement this change since D7.0 is in the process of IEEE-SA recirculation ballot and we do not have related comment. There was a recommendation to submit related comment for D7.0.
* TGax chair mentioned we will discuss this proposal during the next TGax CRC teleconference.
	+ 1. Next Step
			1. The submission will be revisited during the next TGax CRC teleconference (September 17th, 2020)..
	1. **Discussion on MU Cascading**
		1. The group discussed the first sentence of the subclause 26.5.3 (MU cascading sequence). “An MU cascading sequence is a frame exchange sequence between an AP and one or more non-AP STAs carried in an HE MU PPDU in the downlink and HE TB PPDU in the uplink and characterized by the exchange of Control, Data and/or Management frames in both directions. An example of an MU cascading sequence is shown in Figure 26-5 (An example of an MU cascading sequence).”
		2. The group discussed alternative sentence, however, there was no agreement. Some members prefer to keep current text even though it is not perfect.
		3. The TGax chairperson suggested email discussion.
		4. Next Step
			1. TGax will discuss this issue during the next TGax CRC teleconference (September 17th, 2020). In the meantime, TGax reflector will be used for the discussion.
1. **AoB**
	1. No other business.
2. **Adjournment**
	1. TGax CRC teleconference on September 3rd, 2020 has adjourned @ 20:36 (ET).

**Tuesday, September 22nd, 2020, TGax CRC Teleconference (10:00 - 12:00 ET)**

1. **The meeting called to order at 10:02 (ET) by Osama Aboul-Magd (Huawei Technologies), the chairperson of 802.11 TGax.**
	1. Introduction of TGax chairperson and secretary.
	2. The agenda document doc.11-20/1169r20 is the working document (r19 is on the server).
2. **Attendees**
	1. Aboul-Magd, Osama (Huawei Technologies)
	2. Adachi, Tomoko (Toshiba)
	3. Asterjadhi, Alfred (Qualcomm)
	4. Au, Kwok Shum (Huawei Technologies)
	5. Chen, Xiaogang (Intel)
	6. Chu, Liwen (NXP)
	7. Gan, Ming (Huawei Technogies)
	8. Huang, Po-Kai (Intel)
	9. Inoue, Yasuhiko (NTT)
	10. Kim, Jeongki (LG Electronics)
	11. Kim Youhan (Qualcomm)
	12. Kineckt, Jarkko (Apple)
	13. Nandagopalan, Sai Shankar (Cypress)
	14. Petrick, Albert (InterDigital)
	15. Rison, Mark (Samsung)
	16. Rosdahl, Jon (Qualcomm)
	17. Schelstraete, Sigurd (Quantenna/ON)
	18. Sosac, Robert (Qualcomm)
	19. Stacey, Robert (Intel)
	20. Sun, Bo (ZTE)
	21. Yang, Rui (InterDigital)
	22. Yi, Youngjiangjohn (Futureway)
3. **Agenda Setting**
	1. Proposed agenda for the TGax CRC teleconference on September 22nd, 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. Comment Resolution and Motions
			1. <https://mentor.ieee.org/802.11/dcn/20/11-20-1280-00-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx> - Bo Sun
			2. Discussion on Cascading
		5. Submissions
			1. <https://mentor.ieee.org/802.11/dcn/20/11-20-1517-00-00ax-cca-cid-25036-25047.docx> - Youhan Kim
			2. [https://mentor.ieee.org/802.11/dcn/20/11-20-1519-00-00ax-phy-intro-cid-25001-25013-25026.docxn](https://mentor.ieee.org/802.11/dcn/20/11-20-1519-00-00ax-phy-intro-cid-25001-25013-25026.docxn-) - Youhan Kim
		6. Comment Assignment
		7. AoB
		8. 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 September 22nd, 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
		* All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
			+ Don’t discuss the interpretation, validity, or essentiality of patents/patent claims.
			+ Don’t discuss specific license rates, terms, or conditions.
				- Relative costs of different technical approaches that include relative costs of patent licensing terms January be discussed in standards development meetings.

Technical considerations remain the primary focus

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			* Don’t discuss the status or substance of ongoing or threatened litigation.
			* Don’t be silent if inappropriate topics are discussed … do formally object.
	1. Patent-related information – done
		+ The patent policy and the procedures used to execute that policy are documented in the:
		+ *IEEE-SA Standards Board Bylaws* (http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6)
		+ *IEEE-SA Standards Board Operations Manual* (http://standards.ieee.org/develop/policies/opman/sect6.html#6.3)
		+ Material about the patent policy is available at
		+ [*http://standards.ieee.org/about/sasb/patcom/materials.html*](http://standards.ieee.org/about/sasb/patcom/materials.html)
	2. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
	3. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
	4. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
1. **Attendance**
	1. <https://imat.ieee.org/>
		1. Please indicate the voter status by adding [V] or [NV] before your name on WebEx.
2. **Comment Resolution and Motions**
	1. **Bo Sun (ZTE) presented “Spec Text Proposal for Pre-FEC Padding Factor Parameter,” based on the submission** [**doc.11-20-1280-01**](https://mentor.ieee.org/802.11/dcn/20/11-20-1280-01-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx)**.**
		1. Summary
			1. Bo had made no change from the previous version.
		2. Discussion
			1. A member expressed his support for the proposed resolution in this document.
		3. **CR Motion #1104: Move to adopt the following resolution for CIDs 25002 and 25003: “REVISED.  Agree with the commenter that the TXVECTOR parameter should be added.  Instruction to editor: Implement the proposed spec text modification in** [**https://mentor.ieee.org/802.11/dcn/20/11-20-1280-02-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx**](https://mentor.ieee.org/802.11/dcn/20/11-20-1280-02-00ax-spec-text-proposal-for-pre-fec-padding-factor-parameter.docx) **which adds the missing TXVECTOR parameter.”**
			1. **Mover: Bo Sun, Second: Youhan Kim.**
			2. **Discussion: no discussion.**
			3. **Result: Approved with unanimous consent.**
	2. **Discussion on MU Cascading**
		1. The chairperson summarized the email discussion so far.
			1. Proposal #1:
				1. change the first sentence in 26.5.3 MU cascading sequence to “An MU cascading sequence is a frame exchange sequence between an AP and one or more non-AP STAs in which the AP, within a single PPDU, acknowledges one or more frames from a STA, and triggers the STA for a further UL transmission.",
				2. add a sentence, “The MU cascading sequence may include one or more QoS Data frames with ack policy HTPE Ack and/or Management frame soliciting acknowledgement together with a triggering frame.”, at the beginning of the paragraph that starts with “The MU cascading sequence may have a different set of transmitters in HE TB PPDUs …” in 26.5.3, and
				3. delete “The A-MPDU may contain other MPDUs, subject to the rules in 26.6 (A-MPDU operation in an HE PPDU).” in 26.5.3.  ß I am open with this.
			2. Proposal #2:
				1. change the first sentence in 26.5.3 MU cascading sequence to “An MU cascading sequence is a frame exchange sequence between an AP and one or more non-AP STAs in which the AP, within a single PPDU, acknowledges one or more frames from a STA, and triggers the STA for a further UL transmission.",
				2. add “NOTE—An A-MPDU sent by an AP in an MU cascading sequence typically includes, in addition to the acknowledgement and triggering frames, one or more QoS Data frames with ack policy HETP Ack and/or a Management frame soliciting acknowledgement, subject to the rules in 26.6.” (probably between the last 3rd and 2ndparagraph) in 26.5.3, and
				3. delete “The A-MPDU may contain other MPDUs, subject to the rules in 26.6 (A-MPDU operation in an HE PPDU).” in 26.5.3.
		2. Discussion
			1. A member asked for more time to think about it.
		3. Next Step
			1. MU Cascading discussion will be revisited during the TGax CRC teleconference on Thursday.
3. **Submissions**
	1. **Youhan Kim (Qualcomm) presented “CCA CID 25036, 25047,” based on the submission doc.11-20-1517-01.**
		1. Summary
			1. Resolutions for the comments with CIDs 25036 and 25047 related to the CCA procedure defined in the IEEE 802.11ax D7.0 are proposed.
		2. Discussion
			1. A member commented the need for describing “not issue a PHY-CCA.indication primitive with the STATUS parameter set to IDLE.”
			2. Another member discussed the need for referring to 2.4 GHz PHY case. 🡪 The proposed text was updated.
			3. A member commented the case that a device cannot decode the HE PHY preamble.
		3. Next Step
			1. There will be a motion to approve the proposed resolutions on Thursday.
	2. **Youhan Kim (Qualcomm) presented “PHY Intro CID 25001, 25013, 25026,” based on the submission doc.11-20-1519-01.**
		1. Summary
			1. Resolutions for the comments with following CIDs related PHY Intro subclause of the IEEE 802.11ax D7.0 are proposed.
				1. CIDs: 25001, 25013 and 25026.
		2. Discussion
			1. CID 25001: The chairperson asked if this comment is related to the changed text during the previous round of comment resolution. If the answer is no, the comment can be rejected because it is not related to the changes part of the draft.
			2. No other comment for this submission.
		3. Next Step
			1. There will be a motion to approve the proposed resolutions on Thursday.
4. **Comment Assignment**
	1. Comment assignment was led by the chairperson and technical editor.
	2. Basically the comments are assigned to an individual who resolved the comments on the same topic/subclause.
	3. The comment spreadsheet (<https://mentor.ieee.org/802.11/dcn/20/11-20-1514-01-00ax-sa2-comments-on-tgax-d7-0.xlsx>) includes the result of comment assignment.
5. **AoB**
	1. No other business.
6. **Adjournment**
	1. TGax CRC teleconference on September 22nd, 2020 has adjourned @ 11:51 AM (ET).

**Thursday, September 24th, 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 doc.11-20/1169r22 is the working document (r21 is on the server).
2. **Attendees**
	1. Aboul-Magd, Osama (Huawei Technologies)
	2. An, Song-Haur (Independent)
	3. Asterjadhi, Alfred (Qualcomm)
	4. Au, Kwok Shum (Huawei Technologies)
	5. Avital, Ziv (MaxLinear)
	6. Chen, Xiaogang (Intel)
	7. Chu, Liwen (NXP)
	8. Coffey, Sean (RealTek)
	9. Inoue, Yasuhiko (NTT)
	10. Kim Youhan (Qualcomm)
	11. Kneckt, Jarrko (Apple)
	12. Nandagopalan, Sai Shankar (Cypress)
	13. Petrick, Albert (InterDigital)
	14. Rison, Mark (Samsung)
	15. Rosdahl, Jon (Qualcomm)
	16. Stacey, Robert (Intel)
	17. Sun, Bo (ZTE)
3. **Agenda Setting**
	1. Proposed agenda for the TGax CRC teleconference on September 24th, 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. Comment Resolution and Motions
			1. Discussion on Cascading
			2. CIDs 25036 and 25047: <https://mentor.ieee.org/802.11/dcn/20/11-20-1517-00-00ax-cca-cid-25036-25047.docx> - Youhan Kim
			3. CIDs 25001, 25013 and 25026: <https://mentor.ieee.org/802.11/dcn/20/11-20-1519-00-00ax-phy-intro-cid-25001-25013-25026.docxn> - Youhan Kim
		5. Comment Resolution Submissions
		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 September 24th, 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
		* All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
			+ Don’t discuss the interpretation, validity, or essentiality of patents/patent claims.
			+ Don’t discuss specific license rates, terms, or conditions.
				- Relative costs of different technical approaches that include relative costs of patent licensing terms January be discussed in standards development meetings.

Technical considerations remain the primary focus

* + - * Don’t discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
			* Don’t discuss the status or substance of ongoing or threatened litigation.
			* Don’t be silent if inappropriate topics are discussed … do formally object.
	1. Patent-related information – done
		+ The patent policy and the procedures used to execute that policy are documented in the:
		+ *IEEE-SA Standards Board Bylaws* (http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6)
		+ *IEEE-SA Standards Board Operations Manual* (http://standards.ieee.org/develop/policies/opman/sect6.html#6.3)
		+ Material about the patent policy is available at
		+ [*http://standards.ieee.org/about/sasb/patcom/materials.html*](http://standards.ieee.org/about/sasb/patcom/materials.html)
	2. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
	3. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
	4. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
1. **Attendance**
	1. <https://imat.ieee.org/>
		1. Please indicate the voter status by adding [V] or [NV] before your name on WebEx.
2. **Comment Resolution and Motions**
	1. **CR Motion #1105: Move to approve resolutions to CIDs 25036, 25047 in doc 11-20/1517r1.**
		1. **Mover: Youhan Kim, Second: Bo Sun.**
		2. **Discussion: no discussion.**
		3. **Result: Approved with unanimous consent.**
	2. **CR Motion #1106: Move to approve resolutions to CIDs 25001, 25013, 25026 in doc 11-20/1519r1.**
		1. **Mover: Youhan Kim, Second: Bo Sun.**
		2. **Discussion: no discussion.**
		3. **Result: Approved with unanimous consent.**
	3. **CR Motion #1107: Move to approve “ACCEPTED” as the resolution to CID 25005.**
		1. **Mover:**
		2. **Discussion:**
			1. There was a request to defer this motion for more time to review.
			2. This motion was deferred until October 1st, 2020.
3. **Submissions**
	1. **Edward Au (Huawei Technologies) presented “Comment resolution on CID 25016,” based on the submission doc.11-20-1520-01.**
		1. Summary
			1. A resolution for the comment with CID 25016 related to a MIB for the BSS color collision event.
		2. Discussion
			1. A member expressed a concern to use specific value of 121 as in the proposed text which could limit the range of dot11BSSColorCollisionAPPeriod. There will be a value such as -1 that is more appropriate for this purpose.
		3. Next Step
			1. Edward to bring a revised text.
	2. **Osama Aboul-Magd (Huawei Technologies) presented “SA2 Clause 10 Comment Resolution,” based on the submission doc.11-20-1530-00.**
		1. Summary
			1. Resolutions for the comments related to clause 10 (MAC sublayer functional description) of the IEEE 802.11ax D7.0 with following CIDs are proposed.
				1. CIDs: 25043, 25044, 25064, 25076, 25077, 25078, 25088, and 25118
		2. Discussion
			1. CID 25044: The group discussed whether the TXOP termination is necessary for the 6 GHz operation. Also, group agreed that the intention of the commenter has to be confirmed. Osama to send an email to the commenter.
			2. CID 25076: As the result of discussion regarding this comment, the group agreed following points:
4. Alignment with REVmd,
5. What happens with single TID to multiple STAs (can one STA receive low priority traffic even if high priority is pending),
6. What about multi-TID?
7. Correction of the reference.

This CID was transferred to another volunteer (Liwen Chu).

* + - 1. CID 25077: The group agreed that the alignment with REVmd draft should be confirmed. This CID was transferred to another volunteer (Liwen Chu).
			2. CID 25078: A member asked for the ordering of Multi-TID case. This CID is also transferred to another volunteer (Liwen Chu).
			3. CID 25088: A member mentioned that the point of this comment is covered by the current text. Another member identified a contradiction in the suggested text by the commenter. As a result of discussion by the group, this CID is rejected.
		1. Next Step
			1. Three CIDs (25076, 25077 and 25078) are transferred to Liwen Chu.
1. **AoB**
	1. No other business.
	2. The chairperson asked for assignee information of the comments. The TGax secretary will update the comment database (<https://mentor.ieee.org/802.11/dcn/20/11-20-1514-02-00ax-sa2-comments-on-tgax-d7-0.xlsx>).
	3. It was announced that we have to complete the comment resolution within 40 days to catch the SASB meeting in January 2021.
2. **Adjournment**
	1. TGax CRC teleconference on September 24th, 2020 has adjourned @ 11:14 AM (ET).

**Tuesday, September 29th, 2020, TGax CRC Teleconference (17:00 - 19:00 ET)**

1. **The meeting called to order at 17:04 (ET) by Osama Aboul-Magd (Huawei Technologies), the chairperson of 802.11 TGax.**
	1. Introduction of TGax chairperson and secretary.
	2. The agenda document doc.11-20/1169r24 is the working document (r23 is on the server).
2. **Attendees**
	1. Aboul-Magd, Osama (Huawei Technologies)
	2. Asterjadhi, Alfred (Qualcomm)
	3. Au, Kwok Shum (Huawei Technologies)
	4. Avital, Ziv (MaxLinear)
	5. Chen, Xiaogang (Intel)
	6. Chu, Liwen (NXP)
	7. Duan, Ruchen (Samsung)
	8. Hamilton, Mark (Ruckus/CommScope)
	9. Huang, Po-Kai (Intel)
	10. Inoue, Yasuhiko (NTT)
	11. Kakani, Naveen (Qualcomm)
	12. Kandala, Srinivas (Samsung)
	13. Kang, Sugbong (Apple)
	14. Kim Youhan (Qualcomm)
	15. Petrick, Albert (InterDigital)
	16. Rison, Mark (Samsung)
	17. Rosdahl, Jon (Qualcomm)
	18. Stacey, Robert (Intel)
	19. Tian, Bin (Qualcomm)
	20. Yu, Mao (NXP)
3. **Agenda Setting**
	1. Proposed agenda for the TGax CRC teleconference on September 29th, 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. Comment Resolution and Motions
			1. <https://mentor.ieee.org/802.11/dcn/20/11-20-1520-02-00ax-comment-resolution-on-cid-25016.docx> - Edward Au
			2. <https://mentor.ieee.org/802.11/dcn/20/11-20-1530-02-00ax-sa2-clause-10-comment-resolution.docx> - Osama Aboul-Magd
			3. <https://mentor.ieee.org/802.11/dcn/20/11-20-1503-00-00ax-he-er-su-ppdu-for-control-frame.pptx> **-** Ruchen Duan
		5. AoB
		6. 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 September 29th, 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
		* All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
			+ Don’t discuss the interpretation, validity, or essentiality of patents/patent claims.
			+ Don’t discuss specific license rates, terms, or conditions.
				- Relative costs of different technical approaches that include relative costs of patent licensing terms January be discussed in standards development meetings.

Technical considerations remain the primary focus

* + - * Don’t discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
			* Don’t discuss the status or substance of ongoing or threatened litigation.
			* Don’t be silent if inappropriate topics are discussed … do formally object.
	1. Patent-related information – done
		+ The patent policy and the procedures used to execute that policy are documented in the:
		+ *IEEE-SA Standards Board Bylaws* (http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6)
		+ *IEEE-SA Standards Board Operations Manual* (http://standards.ieee.org/develop/policies/opman/sect6.html#6.3)
		+ Material about the patent policy is available at
		+ [*http://standards.ieee.org/about/sasb/patcom/materials.html*](http://standards.ieee.org/about/sasb/patcom/materials.html)
	2. Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct - done
	3. Participants in the IEEE-SA “individual process” shall act independently of others, including employers - done
	4. IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints - done
1. **Attendance**
	1. <https://imat.ieee.org/>
		1. Please indicate the voter status by adding [V] or [NV] before your name on WebEx.
2. **Comment Resolution and Motions**
	1. **Osama Aboul-Magd (Huawei Technologies) presented “SA2 Clause 10 Comment Resolution,” based on the submission** [**doc.11-20-1530-02**](https://mentor.ieee.org/802.11/dcn/20/11-20-1530-02-00ax-sa2-clause-10-comment-resolution.docx)**.**
		1. URL: <https://mentor.ieee.org/802.11/dcn/20/11-20-1530-02-00ax-sa2-clause-10-comment-resolution.docx>
		2. Summary
			1. Osama presented updates resolutions for the comments in this document.
				1. CIDs: 25043, 25044, 25064, 25088, and 25118
		3. Discussion
			1. CID 25044: The commenter has provided more information.
				1. “TXOP termination is needed to protect legacy STAs for the channel access when later version of PPDUs (HT/VHT/HE etc) are used during the TXOP. However, in 6GHz band, there are HE STAs only and thus there’s no need to have a TXOP termination process for the legacy protection.”
				2. A member mentioned that he was still not sure why TXOP termination was needed in the 6 GHz band where legacy devices did not exist.
				3. Another member commented the purpose of the TXOP termination in the 6 GHz band was to make sure every device to understand it.
				4. The discussion continued and this CID will be revisited in the next TGax CRC teleconference.
			2. CID 25118: A member mentioned that the condition for the primary channel should be described.
			3. CID 25088: There was a email discussion on this comment and this CID was transferred to another volunteer (Alfred).
		4. Next Step
	2. **Po-Kai Huang (Intel) presented “11ax D7.0 CR for Miscellaneous CIDs in SA2,” based on the submission doc.11-20-1531-01.**
		1. URL: <https://mentor.ieee.org/802.11/dcn/20/11-20-1531-01-00ax-cr-for-miscellaneous-cids-in-sa2.docx>
		2. Summary
			1. Resolutions for the comments received for the IEEE 802.11ax D7.0 with following CIDs are proposed.
				1. CIDs: 25045, 25048, 25065, 25070, 25093
		3. Discussion
			1. CID 25048:
				1. The group discussed whether we should change the baseline or leave it to the next revision project (REVme?). It is okay for TGax to change the baseline but, should not leave it for the future revision project.
				2. A member commented that a STA is not required to go back to multiple Rx chain. It is implementation dependent.
			2. CID 25570: A member commented that “… NAV is not considered in virtual CS …” is confusing since NAV is a virtual CS mechanism. 🡪 Po-Kai updated the text.
		4. Next Step
			1. There will be a motion to approve the proposed resolutions on next Thursday.
	3. **Ruchen Duan (Samsung) presented “HE ER SU PPDU for Control Frame,” based on the submission doc.11-20-1503-00.**
		1. URL: <https://mentor.ieee.org/802.11/dcn/20/11-20-1503-00-00ax-he-er-su-ppdu-for-control-frame.pptx>
		2. Summary
			1. According to current spec, the control frame can be carried in a HE ER SU PPSU only after association which makes unbalanced link when management frames such as Association Request is sent in a HE ER SU PPDU.
			2. It is proposed to mitigate this restriction to allow a control frame to be carried in a HE ER PPDU even before association.
		3. Discussion
			1. The group checked current spec to find the restriction. 🡪 It is in subclause 26.15.2.
			2. A member commented UORA can be used to resolve this issue. 🡪 UORA is not mandatory feature.
			3. The restriction on the control frame is because an AP does not know STA’s capability until the STA associates to the AP. However, another member mentioned he is not sure why the HE ER SU PPDU can be used for a control frame only after association.
		4. Next Step
			1. Need more discussion.
	4. **Edward Au (Huawei Technologies) presented “Comment resolution on CID 25016,” based on the submission doc.11-20-1520-02.**
		1. URL: <https://mentor.ieee.org/802.11/dcn/20/11-20-1520-02-00ax-comment-resolution-on-cid-25016.docx>
		2. Summary
			1. Edward updated the proposed changes contained in this document considering the discussion during the previous presentation.
		3. Discussion
			1. There were minor edit to the proposed text. 🡪 r3 is created.
		4. **CR Motion #1107: Move to approve the resolution to CID 25016 in doc.11-20-1520-03.**
			1. **Mover: Edward Au, Robert Stacey.**
			2. **Discussion – no discussion.**
			3. **Result: Approved with unanimous consent.**
3. **AoB**
	1. No other business.
4. **Adjournment**
	1. TGax CRC teleconference on September 29th, 2020 has adjourned @ 18:52 (ET).