IEEE P802.11
Wireless LANs

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| Telecon Minutes for REVmd - May - June |
| Date: 2019-06-25 |
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Abstract

# 2019 May and June Teleconference Minutes

This document contains the Minutes for the May and June 2019 TGmd teleconferences (May 24, May 31, June 21 and June 28.

R0: Telecon - 24 May 2019 -- Thanks to Mark HAMILTON for help with taking notes for the minutes.

R1: Telecon – 31 May 2019 – Thanks to Mark HAMILTON for taking Minutes.

R2: Telecon – 21 June 2019

R3: Telecon – 24 June 2019

R4: Telecon – 25 June 2019

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TGmd will hold 4 teleconferences before the July 2019 session: May 24, 31 and June 21, 28 at 10am Eastern (2 hours) for the purpose of Letter Ballot 236 comment resolution and presentations.

An Additional 3 Telecons were approved for June 24, 25, and 26 at 3pm ET (2 hours).

We’ll use the [join.me](http://join.me) bridge:  <https://join.me/ieee802.11>, see <http://grouper.ieee.org/groups/802/11/joinme.html> for more detailed instructions.

Teleconferences are subject to applicable policies and procedures, see below.

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  •       IEEE Code of Ethics

–       <https://www.ieee.org/about/corporate/governance/p7-8.html>

•       IEEE Standards Association (IEEE-SA) Affiliation FAQ

–       <https://standards.ieee.org/faqs/affiliation.html>

•       Antitrust and Competition Policy

–       <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/antitrust.pdf>

•       IEEE-SA Patent Policy

–       <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>

–       <https://standards.ieee.org/about/sasb/patcom/>

 •       IEEE 802 Working Group Policies &Procedures (29 Jul 2016)

–       <http://www.ieee802.org/PNP/approved/IEEE_802_WG_PandP_v19.pdf>

•       IEEE 802 LMSC Chair's Guidelines (Approved 13 Jul 2018)

–       <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0120-27-0PNP-ieee-802-lmsc-chairs-guidelines.pdf>

•       Participation in IEEE 802 Meetings

–       <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>

•       IEEE 802.11 WG OM: (Approved 10 Nov 2017)

–       <https://mentor.ieee.org/802.11/dcn/14/11-14-0629-22-0000-802-11-operations-manual.docx>

**1.0 802.11md - REVmd – Telecon, Friday 24 May 2019, 10:00- 12:00 ET**

* 1. **Call to Order** at 10:03 ET by the TG Chair, Dorothy STANLEY (HPE)
	2. **Attendance:**
		1. Dorothy STANLEY (HPE)
		2. George CALCEV (Futurewei)
		3. Mark HAMILTON (Ruckus/ARRIS)
		4. Mark RISON (Samsung)
		5. Sean COFFEY (Realtek)
		6. Mike MONTEMURRO (Blackberry)
		7. Jerome HENRY (Cisco)
		8. Thomas DERHAM (Broadcom)
		9. Liwen CHU (Marvell)
		10. Joe LEVY (Interdigital)
		11. Jon ROSDAHL (Qualcomm)
		12. Ganesh VENKATESAN (Intel)
		13. Youhan KIM (Qualcomm)
	3. **Review Patent Policy**
		1. Call for essential patents
		2. No issues noted
	4. **Review Participation slide**:
		1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
	5. **Review Agenda** – 11-19/958r1
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-01-000m-2019-may-june-tgmd-teleconference-agendas.docx>
		2. Review draft agenda:

1.       Call to order, attendance, and patent policy

a.       **Patent Policy: Ways to inform IEEE:**

1. Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
2. Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
3. 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

b.      Participation slide: <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>

2.       Editor report – Emily QI/Edward AU (to be given by Ganesh VENKATESAN)

3.       Comment resolution

1. **2019-05-24**
	1. CIDs 2309, 2310 - 11-19-656 – George CALCEV
	2. CIDs 2596, CID 2366 – direction of resolution? – Mark RISON
	3. GEN CIDs – Jon ROSDAHL, 11-19-838 CID 2446
	4. CIDS 2081, 2082, 2083, 2088 (MAC), 2601(PHY) - pulled from Motion in Atlanta
	5. PHY CIDs – Mike MONTEMURRO

4. AOB:

1. Review of remaining CIDs – insufficient detail
	1. July meeting planning - 5 timeslots planned
		1. Monday PM1
		2. Tuesday PM1, PM2
		3. Thursday PM1, PM2

5.       Adjourn

* + 1. Modifications to agenda were made to accommodate those on the call:
		2. Final Comment Resolution plan:
* **2019-05-24**
	+ CIDs 2309, 2310 - 11-19-656 – George CALCEV
	+ CIDs 2596, CID 2366 – direction of resolution? – Mark RISON
	+ GEN CIDs 2648, 2632, 2606– 11-19-449r2 -Jon ROSDAHL, 11-19-838 CID 2446
		1. No objection to the Agenda plan.
			1. (Highlights indications were added after the meeting for those CIDs marked ready for motion).
	1. American entity list participants?
		1. Dorothy: I’m not a lawyer. Referenced [link to email to reflector archive May 20, from Dorothy](http://www.ieee802.org/11/email/stds-802-11/msg03708.html) >. My understanding is that this is a public meeting, and for public meetings where information is available to everyone, such as this, free participation is allowed. See < <http://www.ieee802.org/11/email/stds-802-11/msg03708.html> > for detailed information.
	2. **Editor’s report**, provided by Ganesh VENKATESAN (Intel)
		1. Draft 2.3 is in process, with all approved changes from Atlanta meeting.
		2. Target release is end of June.
	3. **Review Document 11-19-0656r3,** George CALCEV (Futurewei Technologies)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0656-03-000m-proposed-comment-resolutions-2309-2310.doc>
		2. CIDs 2309 2310 (both GEN):
			1. CIDs are on primitives that have no clear “effect of receipt”
			2. Proposal is for Revised, with new text for the “effect of receipt” subclauses
			3. Don’t need the IPI-STATE description, since that parameter is deleted from the .confirm parameters.
			4. Does the IPI-REPORT contain the IPI-STATE? No, that’s not what the IPI-STATE is – it is only whether IPI reporting is on or not, which is not useful to REPORT. But, the current text talks about the reporting being on \_prior\_ to the latest .request primitive.
			5. This seems to need more off-line discussion.
	4. **Review Document 11-19-0856r2**, Mark RISON (Samsung)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-02-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
		2. CID 2596 (MAC):
			1. Has been worked off-line since Atlanta. Intent is no technical change, just removal of the redundancy and reorder for better flow.
			2. The sentence with “If it does not support…” then bullets, and then a “then …” is confusing. No suggestion for a better way to say it, though.
				1. Discussion over which form is preferred. Two weak preferences, one for each format. Third preference for the second form, or to fix the wording in the first form to be less ambiguous.
				2. No objection to proceeding with Alternative 2.
				3. Mark will post an r3 with Alternative 2 clearly stated.
				4. Proposed Resolution: Revised; Incorporate the changes for CID 2596 in doc 11-19/856r3 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>> which updates the text in the direction suggested by the commentor.
				5. No Objection - Mark Ready for Motion.
		3. CID 2366 (GEN):
			1. Attempts to clean up “MAC variables” that are “local” or that are PHY characteristics.
			2. There is history to this, that we categorized “variables” as MIB, or characteristics, or “local” (in the programming language sense). But, generally agree with making this clearer. Could perhaps define the phrase, or a similar phrase to “local variable”.
			3. What does it mean to “force a PHY characteristic” like aSlotTime? A better verb would be preferred.
			4. Some preference for having some phrase for these “variables”, and add a definition of it. Others think the implicit definition is sufficient. The PHY characteristic ones could have wording that they are a shared interest (shared between the MAC and PHY) in this variable.
			5. Change “force” to “override”. Otherwise agree with these changes.
			6. Maybe we want to reword the whole concept around changing the aSlotTime, to be clearer about the MAC’s usage of the PHY characteristic, not changing the PHY characteristic.
			7. Will work off-line and bring back.
	5. **GEN AdHoc CIDS** Jon ROSDAHL
		1. Process comments from database – GEN Discuss comments
		2. GEN AdHoc files are also noted in doc 11-19/449r2:
			1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0449-02-000m-revmd-lb236-gen-comments.xls>
		3. CID 2565 (GEN):
			1. Review Comment
			2. Do I need to identify each usage, or is the global change sufficient to do “ACCEPT”?
			3. Believe “packet number” is a field in some security contexts, so we need to look at the individual changes; there are ~24 instances.
			4. Assign to Mark RISON for a detailed review.
		4. CID 2348 (GEN):
			1. Review Comment
			2. Similar to CID 2349 (GEN) which is assigned to Menzo.
			3. Assign this to Menzo and mark it Submission Required, to be done along with CID 2349 (GEN), which is Submission Required.
		5. CID 2316 (GEN):
			1. There are about 8 real uses of “within a beacon interval”.
			2. Mark RISON to prepare a review of these.
			3. Assign to Mark RISON
		6. CID 2648 (GEN):
			1. Review Comment
			2. “regulatory-only CCA-ED” is not a defined term. CCA-ED is used quite a lot in the Standard. At least in Annex D, the change seems unnecessary and confusing. Consult with Brian HART (Cisco) about this, to clarify the intended usage. “CCA-ED” might be intended to refer to the -62 dBm ED, which is common and normal, and shouldn’t be changed.
			3. Looking a just the first half of the changes proposed in CID 2648, the term “virtual CS mechanism” is described in 10.3.1 and 10.3.2.1, and with an alternative mechanism applied for S1G MACs in 10.3.2.1. Also, there are multiple NAVs in DMG (7th paragraph of 10.3.2.1 – D2.0 P1695.43)
			4. This needs more work, also, to be clear what we are changing.
			5. Discussion of possible rejection.
				1. There are multiple mechanisms that make up the “virtual CS”. See D2.0 P1695.20 and P1695.43. Also, the suggested change to insert “regulatory-only” was considered, but the term introduces confusion in the draft as no definition is provided.
			6. Proposed Resolution: REJECTED (GEN: 2019-05-24 15:29:21Z) There are multiple mechanisms that make up the “virtual CS”. See D2.0 P1695.20 and P1695.43. The suggested change to insert "regulatory-only" was considered and the term was not defined to justify its addition.
		7. CID 2645 (GEN):
			1. Review Comment
			2. Agree with the intent, but we need to check locations.
			3. Jon will review off-line and bring back – Submission Required.
		8. CID 2632 (GEN):
			1. Review Comment
			2. This seems related to CID 2633, which was done in March.
			3. Proposed Resoution: REVISED (GEN: 2019-05-24 15:38:06Z) in D2.2 p649.26 and p648.38 change "OCT MMPDU structure" to "OCT MMPDU Descriptor field" which are the only two instances in D2.2.
			4. No objection – Mark Ready for Motion
		9. CID 2560 (GEN):
			1. Review Comment
			2. Not sure RSNI works anymore, or is used, maybe just remove it.
			3. Assign to Youhan to look at it.
			4. Removing it would be a lot of work to check and clean up all the places it is mentioned (in BSSDescription, for example).
			5. Maybe we just add a NOTE here.
		10. CID 2606 (GEN):
			1. Review Comment
			2. Looked at referenced locations.
			3. Issue here is that “present” with a list of frames leads to Spec Rot, when the list of frames changes. But, we defined “included” to clearly mean that the list is not all inclusive, so changing to the word “included” avoids the Spec Rot. But, we noted that “present” has the same clarification in 1.4.
			4. Separately, the second half is trying to fix that there is no normative statement that these can be plural, outside clause 9, so the use of “can” (which means it is stated elsewhere) is wrong. But, putting a normative “may” in clause 9 leads to other problems.
			5. Even if we agree that the second is a real issue, the conversation was to reject the comment’s proposed resolution.
			6. Proposed Resolution: REJECTED (GEN: 2019-05-24 15:57:05Z) in 1.4 it states "A construction of the form “the x element can be included in a, b and c frames” or “the x element can be present in a, b and c frames” is not to be understood as being a complete list of frames in which the element might be present." which indicates that either verb is ok. The suggested change introduces normative verbs in clause 9 which we have tried to avoid.
			7. This CID will be in a separate motion and will be put on a separate tab in 11-19/449r3 (“GEN Motion Present”).
		11. ACTION ITEM: Jon will send email to the reflector with a list of the remainder of the comments he has ready for discussion, to be reviewed off-line by the group.
	6. **Adjourned at 12:02pm ET.**
1. **802.11md - REVmd – Telecon, Friday 31 May 2019, 10:00- 12:00 ET**
	1. **Call to Order** at 10:02 ET by the TG Chair, Dorothy STANLEY (HPE)
	2. **Attendance:**
		1. Dorothy STANLEY (HPE)
		2. Mark HAMILTON (Ruckus/ARRIS)
		3. George CALCEV (Futurewei)
		4. Yujin NOH (Newracom)
		5. Mark RISON (Samsung)
		6. Mike MONTEMURRO (Blackberry)
		7. Joe LEVY (Interdigital)
		8. Edward AU (Huawei)
		9. Jerome HENRY (Cisco)
		10. Sean COFFEY (Realtek)
		11. Erik LINDSKOG (Samsung)
		12. Ganesh VENKATESAN (Intel)
	3. **Review Patent Policy**
		1. Call for essential patents
		2. No issues noted
	4. **Review Participation slide**:
		1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
	5. **Review Agenda** – 11-19/958r2
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-02-000m-2019-may-june-tgmd-teleconference-agendas.docx>
		2. Review draft agenda:

1.       Call to order, attendance, and patent policy

a.       **Patent Policy: Ways to inform IEEE:**

1. Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
2. Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
3. 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

b.      Participation slide: <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>

2.       Editor report – Emily QI/Edward AU

3.       Comment resolution

1. **2019-05-31**
	* + - 1. CIDs 2312 and 2313 – 11-19-261 – Yujin NOH
				2. CIDs 2435, 2303, 2517, 2518 – 11-19-549 – Yongho SEOK
				3. PHY CIDs 2207, 2499, 2500, 2507, 2550, 2573, – 11-19- 322r5 - Mike MONTEMURRO
				4. CIDs in 11-19-841 - Carlos CORDEIRO
				5. CIDs 2309, 2310 - 11-19-656 – George CALCEV
				6. CIDS 2081, 2082, 2083, 2088 (MAC), 2601 (PHY) - pulled from Motion in Atlanta
				7. CID 2366, 2565, 2316, 2468 2584, 2585– Mark RISON

4. AOB

5.       Adjourn

* + 1. Modifications to agenda were made to accommodate those on the call:
		2. Final Comment Resolution plan:
* **2019-05-31**
	+ CIDs 2312 and 2313 – 11-19-261 – Yujin NOH
	+ PHY CIDs 2207, 2499, 2500, 2507, 2550, 2573, – 11-19- 322r5 - Mike MONTEMURRO
	+ CIDs in 11-19-841 - Carlos CORDEIRO
	+ CIDs 2309, 2310 - 11-19-656 – George CALCEV
	+ CIDs 2435, 2303, 2517, 2518 – 11-19-549 – Yongho SEOK
	+ CIDS 2081, 2082, 2083, 2088 (MAC), 2601 (PHY) - pulled from Motion in Atlanta
	+ CID 2366, 2565, 2316, 2468 2584, 2585– Mark RISON
		1. No objection to the Agenda plan.
			1. (Highlights indications were added after the meeting for those CIDs marked ready for motion).
	1. **Editor’s Report** provided by Edward AU (Huawei)
		1. Draft 2.3 production plan:
			1. Implement Atlanta approved comments, by June 9.
			2. ANA request has been sent.
			3. Editors’ review and produce raw Draft 2.3: June 14.
			4. Volunteer reviews: June 14-21.
			5. Produce final D2.3 by June 30.
		2. CID 2262 (MAC) question: Not sure how to delete the second paragraph, on page 3780. Reviewed minutes from April ad hoc. Seems the reference should be to D2.1 P3780 lines 56 through 59. Edward will implement (making sure to keep the closing double-quote). Brief discussion about why we’re updating text on a deprecated item – agreed that the discussion that led to this resolution is out of scope at this time, we’re just trying to help the Editor implement the resolution.
	2. **Document 11-19-0261r7** (<https://mentor.ieee.org/802.11/dcn/19/11-19-0261-07-000m-resolutions-to-s1g-phy.docx>), Yujin NOH (Newracom) - CIDs 2312 and 2313 (both PHY):
		1. It is better to focus on the original purpose of S1G field contents in a non NDP CMAC frame.
		2. Do we usually talk about a bit within a symbol, and not within a field? Reviewed frame header format Figures, trying to determine what this text is describing. Since the bit we’re trying to reference is within the SIG-2, we need the reference to the symbol itself to disambiguate.
		3. Make changes according to 11-19-0261-07-00m for CIDs 2312 and 2313.
		4. Proposed Resolution: REVISED (PHY: 2019-05-31 14:36:52Z) -

Here in this subclause, it is better to focus on the original purpose of S1G SIG field contents of a non NDP CMAC frame.

As for an NDP CMAC frame, the corresponding indication is moved to 9.9 (NDP CMAC frames(11ah)) of MAC spec.

TGm Editor: make changes according to this document <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-07-000m-resolutions-to-s1g-phy.docx>.

* + 1. Ready for motion.
	1. **Document 11-19-0322r5** (<https://mentor.ieee.org/802.11/dcn/19/11-19-0322-05-000m-lb236-comment-resolutions-montemurro.docx>), Mike MONTEMURRO (Blackberry):
		1. CID 2207 (PHY):
			1. Reviewed effect of proposed changes.
			2. “PMK = PMK from SAE” is counter-intuitive. But, perhaps correct.
			3. What label(s) do we need on the new arrow, compared to the existing arrows with “802.1X::keyRun” information? Suggest discuss with Jouni, off-line.
			4. ACCEPTED
			5. Ready for motion. Note to Editor, this is Figure 12-50 (in D2.0).
		2. CID 2499 (PHY):
			1. Reviewed Discussion. This removes references to WEP, but otherwise copies the text as requested by the comment.
			2. Editorial adjustments.
			3. Also, noted that BIGTK has added a range (6-7) for BIP with BIGTK.
			4. Revised. At the cited location replace “N/A” with “0-3 shall be used with CCMP and GCMP; 4-5 with BIP for IGTK; 6-7 with BIP for BIGTK; and 8-4095 are reserved” (Editor to use appropriate dash/hyphen.)
			5. Ready for motion.
		3. CID 2500 (PHY):
			1. Need to correct the ranges in the first paragraph, to match the CID 2499 resolution.
			2. Preference to keep the NOTE on p2572.8, so modify the instructions to add the normative text (before the NOTE), but don’t replace/delete the NOTE.
			3. We should have the NOTE from 12.5.4.4 in 12.5.3.4.2, also (for CCMP). This is a separate comment, that needs more research for exactly how (or if) it applies.
			4. When we restore the block of text at the end of 12.6.21, we need to update this for editorial and minor technical changes we’ve made to the draft that should apply to this (for example, “Packet Number” with upper-case letters, and covering BIGTK cases).
			5. Will post the updated r6.
			6. Revised. Make the changes as shown in [https://mentor.ieee.org/802.11/dcn/19/11-19-0322-06-000m-lb236-comment-resolutions-montemurro.docx for CID 2500](https://mentor.ieee.org/802.11/dcn/19/11-19-0322-06-000m-lb236-comment-resolutions-montemurro.docx%20for%20CID%202500).
			7. Ready for motion.
		4. CID 2507 (PHY):
			1. Suggestion is to use “into the MAC” instead of “into the STA”. But, we have other text in the baseline that use “STA”, so for consistency, use “STA”. Maybe the other locations’ use of “STA” should also be “MAC”. There are “into its” and “into the” uses (at least).
			2. This needs off-line investigation to find other places to change to “into … MAC”. Group agrees.
			3. ACTION: Assigned to Mark Rison to investigate.
			4. Will come back to this at the end of the call, if a suggestion is available in time.
		5. CID 2550 (PHY):
			1. There are more changes than shown in the Discussion.
			2. Accepted. Ready for motion.
		6. CID 2573 (PHY):
			1. This duplicate change already made in CID 2205.
			2. Proposed Resolution: Accepted. Note to editor, this is a duplicate of CID 2205
			3. Ready for motion.
	2. **Document 11-19-0841r0** (<https://mentor.ieee.org/802.11/dcn/19/11-19-0841-00-000m-cid-resolution.docx>), Carlos CORDEIRO (Intel):
		1. CIDs 2000, 2178 2672 2705 (all MAC):
			1. The inclusion of a 6 GHz entry in the noted table does not imply that operation by a STA is possible in this band. Annex E would also need to be modified. This inclusion does allow FST and OCT to operate in 6 GHz, if/when the baseline is updated to support 6 GHz.
			2. Disagree. We should leave it to TGax to modify this table, at the same time they make changes to enable 6 GHz operation. They should add these changes to their amendment. It is arguably beyond our scope to be adding something in anticipation of 11ax changes.
			3. Note, confusion in the comments’ subclause reference, because the Table is actually part of 9.4.1.45 but physically appears inside 9.4.1.46 due to formatting.
			4. This change was made as part of Motion #70.
			5. From a process point of view, the Chair feels it would be cleaner to make all these changes in 11ax, and not in REVmd.
			6. Straw Poll: Do you want to resolve these comments in the proposed direction (Reject), or accept the comments in principle? Reject: 1 Accept: 6 Abstain: 2.
			7. Accepted on all CIDs. Ready for motion.
		2. CIDs 2113, 2114, 2638 (all MAC):
			1. Because this bit already existed and was Reserved, on legacy devices it will be clear (zero). The sense of the bit is to indicate the feature is not supported, because legacy devices will assume OCT is supported.
			2. CID 2638 is different, and needs more explanation.
			3. CIDs 2113 and 2114 (MAC): Rejected. As discussed in https://mentor.ieee.org/802.11/dcn/18/11-18-1324-05-000m-fixes-to-multi-band-operations.docx, this was done to be able to deal with legacy devices that implement OCT and which assume that OCT is always supported. Therefore, with the decision to make this feature optional, this setting of this field had to be 0 (not 1) when it comes to indication of support. See also the first paragraph of (11.32.5 On-channel Tunneling (OCT) operation).
			4. Ready for motion.
			5. CID 2638 (MAC): Reviewed text in 11.32.5 and considered legacy device behavior. A legacy device may or may not support OCT, but it isn’t signaled. So, agree with the comment, in general. But, deleting the text doesn’t work.
			6. Some belief that this isn’t a problem in the field. Consider a legacy device that attempts to perform OCT with a device that doesn’t support it. Such devices have to deal with this anyway (in legacy behavior). But, under legacy behavior support for OCT was required if multi-band was indicated.
			7. We believe this isn’t an issue in practice, as known existing implementations have already been updated to address this.
			8. CID 2638 (MAC): Will revisit next time.
	3. **Revisited CID 2507 (PHY):**
		1. Updated suggestion for resolution:
		2. Revised.

Relative to D2.0:

* + - 1. At 2637.31, change “into its IEEE 802.11 MAC” to “into the MAC”
			2. At 2764.44, change “into its IEEE 802.11 MAC” to “into the MAC”

Relative to D2.2:

* + - 1. Change “IEEE 802.11 STA” to “IEEE 802.11 MAC” at 2632.3/6 and 2635.53/56
		1. No objection – Mark Ready for motion.
	1. **Adjourned**, 12:00 ET
1. **802.11md - REVmd – Telecon, Friday 21 June 2019, 10:00- 12:00 ET**
	1. **Call to Order** at 10:02 ET by the TG Chair, Dorothy STANLEY (HPE)
	2. **Attendance:**
		1. Dorothy STANLEY (HPE)
		2. Jon ROSDAHL (Qualcomm)
		3. Carlos CORDEIRO (Intel)
		4. Ganesh VENKATESAN (Intel)
		5. George CALCEV (Futurewei)
		6. Mark HAMILTON (Ruckus/CommScope)
		7. Mark RISON (Samsung)
		8. Sean COFFEY (Realtek)
		9. Matthew FISCHER (Broadcom)
		10. Mike MONTEMURRO (Blackberry)
		11. Abhishek Patil (Qualcomm)
		12. Edward AU (Huawei)
		13. Erik LINDSKOG (Samsung)
	3. **Review Patent Policy**
		1. Call for essential patents
		2. No issues noted
	4. **Review Participation slide**:
		1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
	5. **Review Agenda** – 11-19/958r5
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-05-000m-2019-may-june-tgmd-teleconference-agendas.docx>
		2. Review draft agenda comment processing:
			1. **2019-06-21**
				1. CID 2656 - 11-19-306 – Matthew FISCHER
				2. CIDs in 11-19-841 - Carlos CORDEIRO
				3. CID 2004, 2007 – 11-19-405, 11-19-396 – Abhi PATIL
				4. CID 2391 – revisit – Mark HAMILTON
				5. GEN CIDs – Jon ROSDAHL, 11-19-838 CID 2446
		3. Request to revisit 2391 – Mark HAMILTON
		4. No objection to updated agenda
		5. Note the Three Additional Calls Next week. -6-24/6-25/6-26
	6. **Editor Report** – Edward AU
		1. The review is continuing
		2. Thanks for Edward for stepping in while Emily is on Sabbatical.
	7. **Review Doc: 11-19-306r3 CID 2656** – Matthew FISCHER
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0306-03-000m-temporary-limited-connection.docx>
		2. Review submission highlighting the changes from R1 that was presented in May.
			1. R2: Add second bit and encoding for two values one for TLC and one for Interference Mitigation Request Modify behavioural language to reflect new bit addition and new signalled indication (IMR)
			2. R3: Change from coded 2 bit value LAR field to 2 separate bits to indicate all combinations of the two signals, TLC and IMR. Removed the word “temporarily” from the behavioural part of the document because the language provided no further hints as to the meaning of temporarily, instead, the implication is that temporary is as long as the initiator wants it to be, as indicated by signalling TLC==0
		3. CID 2656 (MAC)
			1. Review Comment
			2. Questions and discussion:
				1. Concern on not clear explanation of action for IMI feature. Not clear of the type of interference being addressed.
				2. Discussion on how to mitigate interference – change MCS or not for mitigating interference for periodicity interference.
				3. Discussion on MMPDU and MSDU matching TID.
				4. Discussion on the process to address mitigation on the receiver side.
				5. Last Paragraph on page 4 may need some updates to expand the language.
		4. Would like to close on this during one of the telecoms to close prior to July.
		5. Suggested July 28th 10am ET
		6. Editorial Comments requested to be sent offline for Matthew to incorporate.
	8. **Review doc 11-19-841r0** - Carlos CORDEIRO
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-00-000m-cid-resolution.docx>
		2. CID 2277 (MAC)
			1. Review comment
			2. Discussion on if we have a similar comment with similar terms “FST transition” vs “FST Session transition” vs “session transition”
			3. CID 2469 was resolved:
				1. REVISED (GEN: 2019-04-03 16:51:49Z) Make the following changes:

D2.1 284.37 change "the session transition" to "the fast session transfer"

D2.1 2445.46 and 2448.38 change "FST session transition" to "fast session transfer"

D2.1 1303.52 change "FST transition" to "fast session transfer"

D2.1 2447.36 change "FST transition" to "state transition"

D2.1 2450.11 change "FST transition" to "fast session transfer"

d2.1 2448.51 change "State transition" to "state transition"

* + - 1. Use of “transparent FST” is used often, so change “transparent FST session transition” to just “transparent FST”.
			2. Suggested replacement for start of paragraph: “For fast session transfer when transparent FST is used, ...” and lower-case authentication and association.
			3. Proposed Resolution: REVISED (MAC: 2019-06-21 14:47:04Z): Make changes as shown for CID 2277 in 11-19/0841r1 ( <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-01-000m-cid-resolution.docx> ) for CID 2277. This makes changes in the direction of the comment.
			4. No objection - Mark Ready for Motion
		1. CID 2285 (MAC)
			1. Review comment.
			2. Proposed Resolution: ACCEPTED (MAC: 2019-06-21 14:51:43Z)
			3. Discussion on question on the clarity of the proposed change
			4. No objection – Mark Ready for Motion
		2. CID 2286 (MAC)
			1. Review Comment.
			2. Question on if it was clear enough without the page and line numbers.
			3. Proposed Resolution: REVISED (MAC: 2019-06-21 14:53:07Z): Insert “formatted per 9.4.1.8 (AID field)” to the end of the description of the Destination AID, Relay AID and Source AID fields in (9.6.19.12 RLS Request frame format), (9.6.19.14 RLS Announcement frame format) and (9.6.19.15 RLS Teardown frame format).
			4. No objection – Mark Ready for Motion
		3. CID 2591 (MAC)
			1. Review Comment.
			2. Proposed Resolution: ACCEPTED (MAC: 2019-06-21 14:57:09Z)
			3. No objection – Mark Ready for Motion
		4. CID 2707 (MAC)
			1. Review Comment.
			2. Discussion on need to make change.
			3. Discussion on the logic method for signalling the support for the feature.
			4. Adjustment of the “Discussion” section to become the reject reason was done.
			5. Proposed Resolution: REJECTED (MAC: 2019-06-21 15:05:12Z):

a) This frame was defined for use pre-association. Prior to the introduction of this change, the use of OCT was limited to post-association. As such, all legacy devices that implement OCT will never transmit this frame. More importantly, existing implementations of OCT are patchable by SW upgrades – so, they will support this frame in practice.

b) Deleting this frame will remove a key use case for OCT, which is its use for active scanning pre-association.

c) With respect to the question “How does the STA figure out whether an AP supports the public action OCT Request frame?” 1) From the initiator side: legacy STAs will never use this frame anyways, since OCT is only used post association (see point (a) above). 2) From the responder side: a STA may receive such frame, but it will be unrecognized, and the frame would not be responded to. As such, the initiator has to handle such case anyways.

* + - 1. No objection – Mark Ready for Motion
		1. CID 2073 and 2217 (MAC)
			1. Review Comments.
			2. Proposed Resolution: CID 2073 (MAC): ACCEPTED (MAC: 2019-06-21 15:08:47Z)
			3. Proposed Resolution: CID 2217 (MAC): CID 2217 (MAC): REVISED (MAC: 2019-06-21 15:10:29Z): Delete the following paragraph in 11.32.5: "An On-channel Tunnel Request frame shall not be transmitted as a Public Action frame unless the tunnelled MMPDU does not require management frame protection."

Note to Editor: this is the same change as the resolution to CID 2073.

* + - 1. ACTION ITEM: Carlos CORDIERO: Check with security experts (Thomas and Jouni) on these CIDs.
			2. Add to agenda any update on the 28 June Telecon for any feedback from Thomas and Jouni.
			3. Database will note that CIDs 2072 and 2217: MAC: 2019-06-21 15:11:26Z - Request to check with security experts, before finalizing the proposal. Consider adding clarifying explanation to the Resolution about the in-order concern.
			4. Mark the data base for CIDs 2072 and 2217: Ready for Motion, for now (to be reconsidered on June 28, or let it go as stated).
	1. **Review Doc 11-19/396r2** - Abhishek PATIL (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0396-02-000m-resolution-for-cids-related-to-multiple-bssid.docx>
		2. CID 2002 (MAC)
			1. Review Comment.
			2. Review proposed changes.
			3. Discussion on the index usage and the “supported” AID and the idea of just the “active” AIDs.
			4. Proposed Resolution: CID 2002 (MAC): REVISED (MAC: 2019-06-21 15:21:32Z): Incorporate the changes shown in 11-19/0396r2 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0396-02-000m-resolution-for-cids-related-to-multiple-bssid.docx>) tagged with "[2002]", which is in the direction of the comment, and also fixes L.2.
			5. No Objection – Mark Ready for Motion.
		3. CID 2003 and 2675 (MAC)
			1. Review comments.
			2. Review proposed changes.
			3. Discussion on the use of BSS AIDs vs NonTxBSS ID in this section
			4. Proposed Resolution: CIDs 2003 (MAC): and 2675 (MAC): REVISED (MAC: 2019-06-21 15:30:30Z): Incorporate the changes shown in 11-19/0396r3 (https://mentor.ieee.org/802.11/dcn/19/11-19-0396-03-000m-resolution-for-cids-related-to-multiple-bssid.docx) tagged with "[2003, 2675]", and replace all remaining instances of "BSS AIDs" with "NonTxBSS IDs" in clause 9.4.2.5.1. This makes changes as requested in the comment.
			5. No Objection – Mark Ready for Motion.
		4. CID 2013 (EDITOR2)
			1. Review Comment
			2. See p846l25 for context. 9.3.3.1 Format of Management Frames.
			3. Discussion on how to have consistency in the rules that are generic and the subclause specific rules.
			4. The Question is do we want to edit the generic rules section or make changes to the specific sublcauses (11.2.3.15 TIM Broadcast).
			5. Suggested change to “b)”
				1. b) The Address 2 field of the Management frame is the TA (=SA) and is determined as the address of the STA transmitting the frame. If the STA is an AP that is not in a multiple BSSID set, this address is the BSSID.

If the STA is an AP in a multiple BSSID set, this address is either the transmitted BSSID or the nontransmitted BSSID for the BSS to which the Management frame pertains.

* + - 1. For clause 9, we could make a different reference to account for the difference. Not sure which clause would be good for reference.
			2. The bigger question is if the Group believes we should make changes to Clause 9 to align with these proposed changes.
			3. Transfer 2013 to MAC AdHoc Comment Group.
			4. ACTION ITEM: Abhi and Mark RISON to work out the changes to align the changes in Clause 9 and Clause 11.
			5. Notes to the Database: CID 2013 (EDITOR2): Needs more work, to align text in clause 9, also. Transfer to MAC.
			6. From the Join.Me chat Window – Mark RISON made the following suggestion: from the Chat window:
				1. Mark RISON (Samsung)@All:

b) The Address 2 field of the Management frame is the TA (=SA) and is determined as the address of the STA transmitting the frame.

If the STA is an AP that is not in a multiple BSSID set, this address is the BSSID.

If the STA is an AP in a multiple BSSID set, this address is either the transmitted BSSID or the nontransmitted BSSID for the BSS to which the Management frame pertains.

* + - * 1. Mark RISON (Samsung)@All:

4) Otherwise:

i) If the STA is an AP, the Address 3 field is the same as the Address 2 field.

ii) If the STA is transmitting the Management frame to an AP, the Address 3 field is the BSSID.

If the STA is associated with an AP in a multiple BSSID set, the BSSID is that of the BSS in which the STA is associated, either the transmitted BSSID or a non-transmitted BSSID.

* + 1. **Item 1:** There are several instances throughout the spec that mention a S1G Beacon carrying Multiple BSSID element. However, Table 9-48 in clause 9.3.4.3, doesn’t list the element.
			1. Review proposed changes to address Item 1:.
			2. No objection to changes for Item 1.
		2. **Item 2:** The format of Nontransmitted BSSID Capability element is different for DMG and non-DMG STA. It would be much cleaner and clearer if the description and figures for DMG and non-DMG case are handled separately. In addition, to avoid any ambiguity, it would be better to point out that the format of Nontransmitted BSSID Capability field (non-DMG case) is the same as the Capability Information field (clause 9.4.1.4).
			1. Review proposed changes to address Item 2.
			2. No objections on Item 2.
		3. **Item 3:** Bug in computation of N0 in clause 9.4.2.5.1.
			1. Review proposed changes to address item 3.
			2. No Objection on Item 3
		4. **Item 4:** The reference to ‘TIM broadcast frame’ is incorrect and can be misleading. The intended frame is the TIM frame (9.6.14.2) which carries timestamp information.
			1. Review proposed change to Item 4.
			2. Discussion on the proposed change.
			3. On item 4, look at these locations (from Chat window):

Mark RISON (Samsung)@All: 2069.30

Mark RISON (Samsung)@All: 3696.25

Mark RISON (Samsung)@All: in D2.2

* + - 1. This will need some more discussion and we are out of time. Abhi will update from the feedback and get with those that have suggestion on the reflector.
	1. Review future Agendas:
		1. Minor changes captured in 11-19/958r6.
		2. George will be first on Monday.
	2. Adjourned 12:05pm
1. **802.11md - REVmd – Telecon, Monday 24 June 2019, 15:00- 17:00 ET**
	1. **Call to Order** at 3:02pm ET by the TG Chair, Dorothy STANLEY (HPE)
	2. **Attendance:**
		1. Dorothy STANLEY (HPE)
		2. Jon ROSDAHL (Qualcomm)
		3. Mark HAMILTON (Ruckus/CommScope)
		4. George CALCEV (Futurewei)
		5. Mark RISON (Samsung)
		6. Abhishek Patil (Qualcomm)
		7. Jerome HENRY (Cisco)
		8. Thomas DERHAM (Broadcom)
		9. Yunsong YANG (Futerwei Technologies)
		10. Joseph Levy (InterDigital)
	3. **Review Patent Policy**
		1. Call for essential patents
		2. No issues noted
	4. **Review Participation slide**:
		1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
	5. **Review Agenda** – 11-19/958r6
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-06-000m-2019-may-june-tgmd-teleconference-agendas.docx>
		2. Review Agenda comment processing for today:
2. CIDs 2309, 2310 - 11-19-656 – George CALCEV
3. CID 2004, 2007 – 11-19-405, 11-19-396 – Abhi PATIL
4. CID 2391 – revisit – Mark HAMILTON
5. 11-19-720, 11-19-721, 11-19-586r5 – Thomas DERHAM
6. GEN CIDs – Jon ROSDAHL, 11-19-838 CID 2446
7. CIDS 2081, 2082, 2083, 2088 (MAC), 2601 (PHY) - pulled from Motion in Atlanta
	* 1. No objection to the agenda
	1. **No Editor’s report today**
	2. **Review document 11-19-656** - CIDs 2309, 2310 -– George CALCEV
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0656-04-000m-proposed-comment-resolutions-2309-2310.doc>
		2. CID 2309-2310 (GEN)
			1. This was reviewed on a recent call, and updated based on comments.
			2. Review submission a section at a time
			3. CID 2309 has been changed to REVISED, as the resolution to CID 2310 does revise the cited subclauses.
			4. The effect of the changes in the PHY-CCARESET.confirm section is to remove the IPI-STATE parameter and the associated paragraph. George will post a cleaned-up document (r5) to make this clear to the editor.
			5. A new revision R5 will need to be created.
			6. Proposed Resolution: REVISED (GEN: 2019-06-24 19:24:28Z) incorporate the changes in doc 11-19/656r5

<<https://mentor.ieee.org/802.11/dcn/19/11-19-0656-05-000m-proposed-comment-resolutions-2309-2310.doc>> which addresses the commentors proposed changes.

* + - 1. No Objection - Mark Ready for Motion
	1. **Review doc 11-19-396** – Abhi PATIL (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0396-04-000m-resolution-for-cids-related-to-multiple-bssid.docx>
		2. Review Submission
		3. Update CIDs 2002, 2003 and 2675 (MAC): to reference the r4 of the document.
			1. Mark them Ready for motion.
		4. CID: 2675 (MAC)
			1. Review Comment.
			2. Review proposed changes
			3. Discussion on FMS proposed change discrepancy.
			4. May be better to not make a change in the FMS 11.2.3.14.2, and review in later revision.
				1. The FMS General Procedures change would need to be included whether the 9.4.2.45 change is made or not.
				2. We could not make the changes to 9.4.2.45 for now as this is not in the original scope of the comments.
				3. We noted an error, so we need to have this put out on the reflector with the alternatives to allow for discussion.
		5. Item 1-4 are closed. Item 5 will be added to the telecon on Friday to check for status.
		6. Noted an inconsistency in 9.4.2.45, and this updates 9.4.2.45 to say the FMS Descriptor is always included if the Nontransmitted BSSID Profile is included (to be consistent with the clause 11 text).
		7. Why are we making this change? We could change either location – which is less likely to cause interoperability problems?
		8. Request to put this on an agenda for a normal timeslot. Chair suggests fixing it off-line, via reflector email.
		9. CID 2013 (MAC)
			1. Review comment
			2. Review issue in 11.2.3.15 change. There are 2 options presented.
			3. Discussion on the choice between the two options.
				1. Option 2 had some support from a previous call.
				2. The group did not have a straw poll last time as the two options were not clearly documented.
				3. We need to understand the inconsistency in Clause 9 and address it.
			4. Leave open for more review by the TG.
	2. **Review document 11-19/405r1** Abhishek PATIL (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0405-01-000m-resolution-for-cids-2004-2007.docx>
		2. CID 2004 and 2007(MAC)
			1. Review Comments.
			2. Review Proposed changes for both CIDs
			3. Discussion – collocated BSSIDs is used for more than just collocated antennas, so we need to be careful about any changes.
			4. We may need to add a new element rather than change an existing element.
			5. The source of the material in question came from 11-14/1024r1 - CID 3151/3269.
			6. Discussion on if one or more antennas needs to be in common and only for FTM or not. What if this element is being used for other reasons due to the name of the element.
			7. Co-located vs shares an antenna connection. This may need clarification.
			8. For TGax – Co-located means same box but on a different channel. – definition was added by TGax.
			9. Try to determine the FTM use of the element is consistent and allow for TGax to have a different element or is this in the LCI or neighbour report. Having separate element may be better path.
			10. Existing implementations are using this element, so we may need to have any new element be created for new uses.
			11. Concern for the duplicate text and if it is really duplicate, or if the duplicate statement could be set as standalone.
			12. Change “#ED to “CID 2004” in the notation.
			13. More offline discussion is needed to be accelerated.
		3. Changing element names when there are current implementations is a concern.
		4. More reflector discussion is needed on this topic.
	3. **Revisit -CID 2391** – Mark HAMILTON
		1. CID 2391 (MAC)
			1. See doc 11-19/396r4 –
			2. Marked Ready for Motion at the May Interim.
			3. The use of Antenna with plural is not correct.
			4. It is a logical use, so it would be the same without the plural.
			5. Need to update the resolution to keep the change of capitalization, but drop the “(set of )” and “(s)” from the changes. Some explanatory text will also need to be included.
			6. There are 6 instances (some were not proposed with 2391). So we need to have the locations for the plural antenna Connections to be done.
			7. These changes to the plural to singular change should be included in this CID.
				1. Locations: D2.2 2962.57 3038.60 3121.33 3213.47 3255.12 3308.43
			8. ACTION ITEM: Abhi will propose to have this included in R5 and a Note to the Reflector is to be sent.
			9. ACTION ITEM: Mark HAMILTON will update the resolution with the R5 available.
			10. Note to the Database for CID 2391 (MAC): MAC: 2019-06-24 20:10:31Z - Agreed to change of direction: antenna connector (singular) covers multiple antennas and antenna arrays. Change all existing uses of "antenna connector(s)" to be singular, instead. Also fix some capitalization and add a "same" for clarity. See (forthcoming) r5 of 11-19/0396.
	4. **Review Document 11-19-720**– Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0720-03-000m-individually-addressed-probes-cid2216.docx>
		2. CID 2216 (MAC)
			1. Review comment
			2. Review discussion in the submission.
			3. Discussion on the response to a Probe request and if the figure seems to indicate a more consistent response than the text in the draft.
			4. Discussion on the actual behaviour described from 11.1.4.3.7a. and Clause 9.3.3.1 text. Try to avoid any duplication.
			5. Do not need “within range of itself” is not necessary.
			6. Discussion on the figure is only reference by the “NOTE” so it is not a generic description, but rather a specific example. Need to add some wording to indicate that it is a specific example.
			7. Need some more additional edits to the document and then bring back for discussion.
			8. Add to Wednesday Telecon Agenda.
			9. Add “Example of “to the caption of the figure may help as well.
			10. Expect both the expanded language and the “example” would be necessary.
	5. **Review doc 11-19/721r1** Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0721-01-000m-multiple-bssid-support-in-rnr.docx>
		2. CID 2696 (MAC)
			1. Review Comment
			2. Review Discussion from submission.
			3. Review the proposed changes
			4. Discussion: Question on page 4 – is the reference for the TVHT AP citation. “operated by” is not clear. It is either “Transmitting” or “Receiving”. This should apply to the entire set. A change will need to be made.
			5. Need to clarify the “collocated” usage in this submission as apposed to what we were talking about earlier in the call. This is another point that the use of “collocated” may be causing some confusion. TGax is using the term that the antennas are in the same box, but it is not the same as the same antennas for the collocated BSS.
			6. A request for some time to digest the proposal was asked for.
			7. Add to Wednesday Telecon Agenda.
			8. For the MAC Database for CID 2696 (MAC): MAC: 2019-06-24 20:50:11Z - Discussed on June 24 telecon. Needs off-line time to review in detail. Will come back.
	6. **Review doc 11-19/586r5** Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0586-05-000m-pmksa-caching-and-mac-randomization.docx>
		2. CID 2689 (PHY)
			1. Review status of the CID from previous review.
			2. Discussion on a concern for some open reviews.
			3. We do not want to cause additional issues.
			4. Need to have some reflector discussion to close on this item.
			5. Email response from CARLOS JESUS BERNARDOS CANO <cjbc@it.uc3m.es>:

Huge apologies for taking so long to read this.

I have no real comments, but just these two (that do not really apply):

- I wonder what the privacy implications are of having the “PMKSA Caching with MAC Randomization” field, as a potential attacker might use this to try tracking somehow the STA, knowing that it might be changing its MAC address.

- The use of the PMKID for tracking is an interesting topic. You mention that this can be addressed in a separate contribution. Do you know already how to do it?

* + 1. From this email, Thomas proposed to make a change in response to the first bullet along the lines of “PMKSA Caching with MAC Randomization bit in RSNXE is reserved when transmitted by non-AP STA (it only needs to be indicated by AP)”
		2. We need to capture the prior discussion of the distinction of the original 11i and the Authenticator and the Authenticator address. There is some issues with changing the Authenticator behaviour on the network side.
		3. Request to add some more detail to help clarify the issue.
		4. More review time would be done, and we will add this to the Wednesday Telecon agenda.
	1. **CIDS 2081, 2082, 2083, 2088 (MAC), 2601 (PHY) - pulled from Motion in Atlanta**
		1. For the CIDs that were pulled from Motion in May, Dorothy will Follow up via Email on the reflector.
		2. CID 2601 (PHY) – Had a Rejected resolution prepared in April, then moved to a Revised Resolution in May with the notation that it would be reviewed the next day, but it was not.
		3. It should be ready for motion unless there is some reason not to be.
		4. Currently Marked Ready for Motion.
	2. **Review Agenda for Tomorrow:**
		1. Review Doc 11-19/856 – seems to have only 3 CIDs left?
		2. This will be reviewed prior to tomorrow’s telecon.
	3. **Adjourned 5:10pm**
1. **802.11md - REVmd – Telecon, Tuesday 25 June 2019, 15:00- 17:00 ET**
	1. **Call to Order** at 15:03 ET by the TG Chair, Dorothy STANLEY (HPE)
	2. **Attendance:**
		1. Dorothy STANLEY (HPE)
		2. George CALCEV (Futurewei)
		3. Mark HAMILTON (Ruckus/CommScope)
		4. Mark RISON (Samsung)
		5. Mike MONTEMURRO (Blackberry)
		6. Thomas DERHAM (Broadcom)
		7. Joe LEVY (InterDigital)
		8. Yongho SEOK (MediaTek)
	3. **Review Patent Policy**
		1. Call for essential patents
		2. No issues noted
	4. **Review Participation slide**:
		1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
	5. **Review Agenda** – 11-19/958r6
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-06-000m-2019-may-june-tgmd-teleconference-agendas.docx>
		2. Review draft agenda comment processing:
			1. **2019-06-25**

11-19-856 – CID 2366, 2601, 2596, 2565, 2316, 2468 2584, 2585– Mark RISON

CIDs 2435, 2303, 2517, 2518 – 11-19-549 – Yongho SEOK

CID 2300, 2642, 2402, 2388 – 11-19-574 – Graham SMITH

CID 2234 - 11-19-610 – Emily QI – Edward AU to present

11aj CIDs – Michael MONTEMURRO

Direction for CID 2654

* + 1. No objection to agenda
	1. **No Editor’s report today**
	2. **Review Doc: 11-19-0856r3** – Mark RISON
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
		2. CID 2596 (MAC):
			1. Confirmed the r3 of the document update. Ready to go.
			2. REVISED (MAC: 2019-05-29 18:39:19Z): Incorporate the changes for CID 2596 in doc 11-19/856r3 (https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx) which updates the text in the direction suggested by the commentor.
			3. Ready for motion.
		3. CID 2565 (GEN):
			1. Mark was asked to add explicit locations for the changes, and he has added those.
			2. REVISED. In D2.2, change “packet number” to “frame number” (case-preservingly) at 206.48/50, 210.61, 213.30, 289.11/14/44, 303.43, 304.39 (2x), 307.37 (2x), 1155.53, 1414.41, 1591.29, 2216.24, 2574.14, 2580.14, 2587.51, 2636.41, 4157.21/38, 4158.6/23.
			3. If we change “packet number” to “frame number”, do we still call the field “PN”? This looks particularly odd in the acronyms list.
			4. The global change is not necessary, as for example, in CCMP and GCMP the concept of a “PN” is well-understood. “PN” has been used for about 15 years, and appears in external sources, as well.
			5. ACTION: Mike MONTEMURRO to work off-line to craft a REJECTED resolution.
		4. CID 2316 (GEN):
			1. The direction is to stick with the idea that a beacon interval, as agreed for other “intervals” is a known and repeating specific fixed time period.
			2. Considering the first three proposed changes (the easier ones):
				1. Agreed first one is not making a technical change. The first one is changing the start of the sentence by dropping “The” (and leaving “grpID” as lower-cased). Need to make that clear to the Editors.
				2. The third change implies the non-AP STA has to track variable periods of time, that ‘float’ as the actual Beacon transmit time floats.
				3. Need to check with an 11ah expert on these.
			3. On the fourth change:
				1. In looking at the baseline, the intention on this one is unclear.
				2. This will also need 11ah expert opinion.
			4. ACTION: Mark RISON will post this (with slight updates) and reach out to some 11ah experts.
		5. CID 2417 (PHY):
			1. Reviewed the proposed changes. No technical changes are intended, just language changes.
			2. No objections.
			3. Revised. Make the changes shown under “Proposed changes” for CID 2417 in <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>, which consistently refer to subcarriers as such in the MAC clauses, and consistently identify them using an index.
			4. Ready for motion.
		6. CID 2608 (GEN):
			1. This was discussed previously, and the suggested changes have been formalized. Reviewed the proposed changes.
			2. No objections.
			3. Revised. In D2.2:
				+ At 1701.50 change "an existing block ack agreement" to "a block ack agreement".
				+ At 1866.4 change "an established block ack agreement" to "a block ack agreement"
				+ At 2246.6 change "no other existing block ack agreement" to "no block ack agreement"
				+ At 2462.34 change "the established block ack agreement is operating" to "the block ack agreement is to operate"
				+ At 2462.38 change "the block ack agreement shall operate" to "the block ack agreement is to operate"
				+ At 2462.51 change "the established block ack agreement is operating" to "the block ack agreement is to operate"
				+ At 2462.58 change "the block ack agreement, if established, shall operate" to "the block ack agreement is to operate"
			4. Ready for motion.
		7. CID 2568 (EDITOR):
			1. As this is extensive, reviewed today, and will consider on Friday’s call, after off-line review time.
			2. Agreed with general direction. Will review off-line and potentially approve on Friday’s call.
	3. **Review doc 11-19-549r2** - Yongho SEOK
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0549-02-000m-lb236-s1g-related-mac-comment-resolutions.docx>
		2. CID 2308 (MAC):
			1. This is already ready for motion, as proposed here. No action today.
		3. CID 2435 (MAC):
			1. Reviewed proposal. No objections.
			2. REJECTED (MAC: 2019-06-25 20:15:59Z): Initially, the BlockAck protocol was made before having A-MDPU. If singe frame can feedback receptations of more than one MPDUs, that we can say it as the BlockAck.
			3. Ready for motion.
		4. CID 2303 (MAC):
			1. Don’t believe this is actually duplicative, as 11ah has made changes.
			2. REJECTED (MAC: 2019-06-25 20:18:53Z): Before 11ah, a fragment can’t be sent with the Block Ack ack policy. It seems that the cited text is not a duplicate requirement.
			3. Ready for motion.
		5. CID 2517 (MAC):
			1. Reviewed proposal. Minor editorial correction.
			2. REVISED (MAC: 2019-06-25 20:20:41Z):

Agree in principle.

But, the proposed new text is a superset of the existing text.

TGmd Editor changes in Table 10-7 the following

"The ack policy of none of the MPDUs in the PPDU is Normal Ack or Implicit BAR (see 9.2.4.5.4 (Ack Policy Indicator subfield(#1415)) and 9.8.3.1 (Frame Control field))."

with

"None of the MPDUs in the PPDU solicit an immediate acknowledgement (e.g., a QoS Data frame whose ack policy is neither Normal Ack nor Implicit BAR (see 9.2.4.5.4 (Ack Policy Indicator subfield(#1415)) and 9.8.3.1 (Frame Control field)), Action No Ack frame)."

* + - 1. Ready for motion.
		1. CID 2518 (MAC):
			1. Reviewed proposal. No objections.
			2. REVISED (MAC: 2019-06-25 20:22:45Z):

Agree in principle.

But, the proposed new text is a superset of the existing text.

TGmd Editor changes in Table 10-7 the following

"The ack policy of at least one of the MPDUs in the PPDU is Normal Ack or Implicit BAR."

with

"At least one of the MPDUs in the PPDU solicits an immediate acknowledgement, (e.g., a QoS Data frame whose ack policy is either Normal Ack or Implicit BAR, Action frame)."

* + - 1. Ready for motion.
		1. CID 2314 (MAC):
			1. Discussion points:
			2. Since S1G Control frames are redefined from the legacy definition, it is almost a new frame. It makes sense to keep the terminology to indicate it as a different kind of frame.
			3. Just because some Control frames are used by S1G STAs and others are not is not a reason to call it a new frame. There are hundreds of places where we have rules in the Spec for “control frames”, it isn’t clear if these apply to S1G Control frames or not.
			4. However, S1G Control frames have changed the control frame format, so they really are a different frame. Since S1G Control frames are defined to be “control frames carried by S1G PPDU”, they are clearly still “control frames”, so the legacy rules still apply.
			5. But, all new frames, like a DMG CTS frame, have new frame format. That doesn’t make them a new type of frame. Counter: If the Frame Control field is changed, that’s a bigger difference.
			6. Considered the subclause on rate selection, and how it applies to control frames. 10.6.6.
			7. There are 23 instances of “S1G Control” in D2.2.
			8. ACTION: Mark RISON to create a list of locations, and show the specific changes proposed.
			9. Revisit in July.
	1. **Review Doc 11-19/1034r0** – Mike MONTEMURRO (BlackBerry)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-1034-00-000m-proposed-resolutions-for-11aj-related-comments-in-revmd-lb236.doc>
		2. This document resulted from off-line discussions with Jaimin CHEN and Mark RISON and Mike MONTEMURRO.
		3. CID 2048 (PHY):
			1. Confusion if this represents the conclusion of off-line discussion.
			2. Need more time to review.
			3. Suggest another expert (Assaf, for example) to look at these.
			4. ACTION: Mike MONTEMURRO to check with Assaf
		4. CID 2024 (PHY):
			1. No objection.
			2. Revised. Make the changes shown in 11-19/1034r0 for CID 2024.
			3. Ready for motion.
		5. CID 2027 (PHY):
			1. No objection.
			2. Rejected. The description is similar with the existing description in 19.3.9.4.4, 21.3.10.3, and 23.3.8.2.5.
			3. Ready for motion.
		6. CID 2029 (PHY):
			1. This is larger, need to get off-line review.
			2. Agree with aligning the text.
			3. 20.3.10 needs fixing first, w.r.t. 19.3.19.6. Here are the diffs: 20.3.10 Received channel power indicator (RCPI) measurement. The RCPI is a measure of the received RF power in the selected channel as measured at the DMG Antenna output. This parameter shall be measured by the PHY of the received RF power in the channel measured over the preamble of the received frame. [Missing cf. 19.3.9.16: The received power shall be the average of the power in all active receive chains.] The RCPI encoding is defined in 15.4.6.6 (Received Channel Power Indicator Measurement). RCPI shall equal the received RF power with an accuracy of ± 5 dB with 95% confidence interval [formatting difference] within the specified dynamic range of the receiver. The received RF power shall be determined assuming a receiver noise equivalent bandwidth equal to the channel width multiplied by 1.1. The relative error between RF power measurements made within a 1 second interval should be less than ± 1 dB. [not in 19.3.9.16]
			4. ACTION: Mike MONTEMURRO to check with Assaf
			5. Assign to Assaf. We need a quick solution, or we’ll have to reject for lack of sufficient detail.
			6. For now, mark it rejected, and we can update if Assaf comes back with an agreed proposal.
			7. Rejected. The comment fails to identify changes in sufficient detail so that the specific wording of the changes that will satisfy the commenter can be determined.
			8. No objection.
			9. Ready for motion.
		7. CID 2032 (PHY):
			1. No objection.
			2. Revised. Make changes as shown in 11-19/1034r0 for CID 2032.
			3. Ready for motion.
		8. CID 2036 (PHY):
			1. Reviewed proposed change.
			2. DMG PHY (Figure 20-4, for example) seems to have 128 bit sequences in the header. Are we sure CMMG’s should be 32 bits? CDMG has 128 bit sequences.
			3. We’ll need to pick up with this tomorrow.
	2. Adjourned 17:02pm

**References:**

**Friday 24 May 2019:**

1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-01-000m-2019-may-june-tgmd-teleconference-agendas.docx>
3. <http://www.ieee802.org/11/email/stds-802-11/msg03708.html>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-0656-03-000m-proposed-comment-resolutions-2309-2310.doc>
5. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-02-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
6. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
7. <https://mentor.ieee.org/802.11/dcn/19/11-19-0449-02-000m-revmd-lb236-gen-comments.xls>
8. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-02-000m-2019-may-june-tgmd-teleconference-agendas.docx>
9. <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-07-000m-resolutions-to-s1g-phy.docx>
10. <https://mentor.ieee.org/802.11/dcn/19/11-19-0322-05-000m-lb236-comment-resolutions-montemurro.docx>
11. <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-00-000m-cid-resolution.docx>

Friday 31 May 2019:

1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-02-000m-2019-may-june-tgmd-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-07-000m-resolutions-to-s1g-phy.docx>
3. <https://mentor.ieee.org/802.11/dcn/19/11-19-0322-05-000m-lb236-comment-resolutions-montemurro.docx>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-00-000m-cid-resolution.docx>

Friday 21 June 2019:

1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-05-000m-2019-may-june-tgmd-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0306-03-000m-temporary-limited-connection.docx>
3. <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-00-000m-cid-resolution.docx>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-0841-01-000m-cid-resolution.docx>
5. <https://mentor.ieee.org/802.11/dcn/19/11-19-0396-02-000m-resolution-for-cids-related-to-multiple-bssid.docx>

Monday 24 June 2019:

1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-06-000m-2019-may-june-tgmd-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0656-04-000m-proposed-comment-resolutions-2309-2310.doc>
3. <https://mentor.ieee.org/802.11/dcn/19/11-19-0656-05-000m-proposed-comment-resolutions-2309-2310.doc>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-0396-04-000m-resolution-for-cids-related-to-multiple-bssid.docx>
5. <https://mentor.ieee.org/802.11/dcn/19/11-19-0405-01-000m-resolution-for-cids-2004-2007.docx>
6. <https://mentor.ieee.org/802.11/dcn/19/11-19-0720-03-000m-individually-addressed-probes-cid2216.docx>
7. <https://mentor.ieee.org/802.11/dcn/19/11-19-0721-01-000m-multiple-bssid-support-in-rnr.docx>
8. <https://mentor.ieee.org/802.11/dcn/19/11-19-0586-05-000m-pmksa-caching-and-mac-randomization.docx>

Tuesday 25 June 2019:

1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0958-06-000m-2019-may-june-tgmd-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-03-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
3. <https://mentor.ieee.org/802.11/dcn/19/11-19-0549-02-000m-lb236-s1g-related-mac-comment-resolutions.docx>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-1034-00-000m-proposed-resolutions-for-11aj-related-comments-in-revmd-lb236.doc>