IEEE P802.11
Wireless LANs

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| Minutes for REVmd - Nov 2018 - Bangkok |
| Date: 2018-11-15 |
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Abstract

Minutes for the 802.11md (REVmd) meetings during the IEEE 802 Plenary November 2018.

1. **802.11md (REVmd) Meetings - November 802 Plenary – Bangkok – Monday PM1: 13:30-15:30**
	1. **Called to order** at 1:34pm by the chair, Dorothy STANLEY (HPE)
	2. **Review patent policy**
		1. No issues noted.
	3. **Review Participation Policy**
	4. **Review Agenda** 11-18/1712r2
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-02-000m-2018-november-tgmd-agenda.pptx>
		2. Review of agenda provided several adjustments to clean up the order of document.
		3. Update of the agenda was posted in 11-18/1712r3
		4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-03-000m-2018-november-tgmd-agenda.pptx>
		5. Motion to Approve Agenda
			1. Moved: Emily QI 2nd: Graham SMITH
			2. Results - 9-0-0 Agenda Adopted.
	5. **Editor Report** – Emily QI (Intel)
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0920-13-000m-802-11revmd-editor-s-report.ppt>
		2. D1.6 is available and all Published Amendments included and comment resolutions from Sept Interim.
		3. Status of REVmd Draft:



* + 1. Comment Resolution status:



* 1. **Review doc 11-18/1930r4** – Menzo WENTINK (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-04-000m-assorted-comment-resolutions.docx>
		2. CIDs 1090, 1122, 1123, 1124, 1126, 1128, 1432, 1438, 1439 in 11-18-1930
		3. https://mentor.ieee.org/802.11/dcn/18/11-18-1930-04-000m-assorted-comment-resolutions.docx
		4. CID 1267 (MAC)
			1. Review comment
			2. Proposed resolution: CID 1267 (MAC): REJECTED (MAC: 2018-11-12 06:49:31Z): The wideband aspect is relative to the bandwidth of the base channel, and a wideband direct link is always wider than the base channel. The S1G modifications appear to have been added in a fairly natural way, so there would be no need to restructure the clause.
			3. No objection – Mark Ready for Motion
		5. CID 1263 (MAC)
			1. Review Comment
			2. Reviewed CID Status
			3. Xiaofei WANG has a presentation that may resovle skip for now.
			4. See doc 11-18/1968r0
				1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-00-000m-comment-resolution-for-cid-1263.docx>
		6. CID 1143 (MAC)
			1. Review Comment
			2. Review context and proposed changes
			3. Add a note to remove heading 9.9.3 and then the subsequent will auto renumber.
			4. In 10.6.6.6 (p1634.50) there is also an instance of “NDP Control frame”
				1. Discussion on if this needed to be changed or not to “NDP CMAC frame”
			5. Consensus to change to “NDP CMAC frame that is not an NDP Probe Request frame”.
			6. In 3133.28, change “Control NDP frame to “NDP CMAC frame”.
			7. Also, at 3153.30 change “Control NDP frame” to “NDP CMAC frame”.
			8. Need to verify the change on 1634.5 with an 802.11ah expert.
			9. CID 1143 (MAC): Proposed resolution will (probably) need to be updated to be self-consistent, based on the response from an S1G expert.
		7. CID 1142 (MAC)
			1. Review Comment
			2. Proposed Resolution: Rejected - PV1 frames can carry a payload of significant size. NDP CMAC frames are different in the sense that they cannot carry a payload of any significant size, hence their being limited to control type frames. The NDP aspect is material to this limitation, because there are specific requirements on the transmission of an NDP. 11ah had a lot of discussion on this topic, and ultimately the group converged to representing the CMAC content as a parameter that is transferred from the MAC to the PHY as part of TXVECTOR parameter (i.e., not a PSDU).
			3. After discussion, it was decided to use a Reject with Insufficient detail would be used as the resolution.
			4. Updated Proposed Resolution: CID 1142 (MAC): REJECTED (MAC: 2018-11-12 07:15:58Z): 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.
			5. No Objection – Mark Ready for Motion
		8. CID 1128 (MAC)
			1. Review Comment
			2. Proposed Resolution: REJECTED (MAC: 2018-11-12 07:19:41Z): Rejected - 9.2.3 does not describe PV1 frames but refers to 9.8 for their definition.
			3. No objection Mark Ready for Motion
		9. CID 1126 (MAC)
			1. Review Comment
			2. Review context
			3. Review use of “S1G Band”.
			4. Proposal is to add a definition.
			5. Also add articles where missing
			6. After several checks, it was determined that more work was needed.
			7. A draft Proposed resolution was started: CID 1126 (MAC): Not done. Have so far: REVISED (MAC: 2018-11-12 07:24:29Z):

In 3.1, add "S1G band: Frequency band for which an S1G operating class is defined in Annex E."

At P879.30, change "non-S1G Band" to "a non-S1G band"

At P889.51, change "S1G Band" to "an S1G band"

At P889.54, add an "an" before "S1G band"

* + - 1. Will bring back for review
		1. CID 1124 (MAC)
			1. Review comment
			2. Review context
			3. An email exchange between some needed to be reviewed and brought to the group later.
			4. Draft Proposed Resolution: CID 1124 (MAC): Not done. Have so far: REJECTED (MAC: 2018-11-12 07:31:29Z): The definition at 173.36 is a shorthand definition of a non-TIM STA. 11.2.3.2 provides the normative behavior.
		2. CID 1123 (MAC)
			1. Review Comment
			2. Proposed changes need to be reviewed.
			3. Needs to be reviewed off-line and reconsidered.
		3. CID 1122 (MAC)
			1. Review Comment
			2. Proposed Resolution: ACCEPTED (MAC: 2018-11-12 07:35:15Z)
			3. No Objection – Mark Ready for Motion
		4. CID 1110 (MAC)
			1. Review comment
			2. Review proposed changes on page 7 of the submission.
			3. Proposed Resolution: REVISED (MAC: 2018-11-12 07:36:47Z): Incorporate changes as shown in 11-18/1930r4 (https://mentor.ieee.org/802.11/dcn/18/11-18-1930-04-000m-assorted-comment-resolutions.docx) for CID 1110. These changes resolve the infinite loop, with an alternative approach to the exceptions.
			4. No Objection – Mark Ready for Motion
		5. CID 1090 (MAC)
			1. Review Comment
			2. Review proposed change
			3. Adjustment of plural to singular.
			4. Proposed Resolution: REVISED (MAC: 2018-11-12 07:47:22Z): Incorporate changes as shown in 11-18/1930r5 (<https://mentor.ieee.org/802.11/dcn/18/11-18-1930-05-000m-assorted-comment-resolutions.docx> ) for CID 1090.
			5. No Objection – Mark Ready for Motion
		6. CID 1088 (MAC):
			1. Needs more review off-line.
		7. CID 1432 (GEN):
			1. Needs more work off-line.
		8. CID 1438 (GEN):
			1. Needs more work off-line.
		9. CID 1439 (GEN):
			1. Needs more work off-line.
		10. CID 1583 (PHY)
			1. Review Comment
			2. Proposed resolution: 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.
			3. Mark Ready for Motion
		11. Back to CID 1432 (GEN):
			- 1. Proposed Resolution: 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.
		12. CID 1284 (PHY):
			1. This was discussed on a teleconference.
			2. Concern that this rejection will result in a direction different from what the WFA is doing.
			3. We'll discuss this when the motions are proposed and consider pulling this one for more discussion at that time.
			4. Draft Resolution: REJECTED (PHY: 2018-09-13 01:05:01Z)

Rejected; User Interface benefits from the solution proposed by the commenter are not sufficient to justify the extra bit allocations in the Extended Capabilities field and longer Beacon frames.

* 1. **Review doc 11-18/1306r6,** Mark RISON:
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
			1. CID 1456 and 1524 (GEN):
			2. Reviewed the changes, done in 11-18/1306r6.
			3. No objections.
			4. Mark Ready for motion (per the drafted resolutions already in the database, to incorporate the changes in 11-18/1306r6)
			5. Proposed Resolution: REVISED (GEN: 2018-10-15 16:43:55Z) Make the changes shown under “Proposed changes” for CID 1456 in 11-18/1306r6 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>>, which address the issues raised.
			6. Mark both CIDs Ready for Motion
	2. **Review doc 11-18/0669r14** – Mark HAMILTON (Ruckus/ARRIS)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-14-000m-revmd-mac-comments-assigned-to-hamilton.docx>
		2. CID 1511 (MAC)
			1. Review Comment
			2. Proposed Resolution: ACCEPTED (MAC: 2018-11-13 16:36:26Z)
			3. Mark ready for motion.
		3. CID 1519 (MAC)
			1. Review Comment
			2. Proposed Resolution: ACCEPTED (MAC: 2018-11-13 16:35:19Z)
			3. Mark ready for motion
		4. CID 1520 (MAC)
			1. Review Comment
			2. Proposed Resolution: ACCEPTED (MAC: 2018-11-13 16:34:58Z)
			3. Mark Ready for motion
		5. CID 1532 (MAC)
			1. Review Comment
			2. Some discussion on what it means that the key is undefined.  Will work off line with Dan.
		6. CID 1545 (MAC)
			1. Review comment
			2. Proposed Resolution: REJECTED (MAC: 2018-11-13 16:34:19Z): The TCLAS element’s Classifier Type 2 relies on 802.1Q-2003, and that version of 802.1Q specifically. While Classifier Type 2 has been recently deprecated, the reference to 802.1Q-2003 is still needed in the Standard until such time as Classifier Type 2 is completely removed (if ever).
			3. Mark Ready for motion.
		7. CID 1556 (MAC)
			1. Review comment
			2. Mark R. – there is no definition on of a nominal frame – in 14.9.2 – add “… a nominal frame, of standard size B(t) – this would kind of define what a nominal frame is.  (P2557.57 and 54,55).
			3. Therefore, revised as above, work off line.  Will update the spreadsheet – but will correct text – to include revised text
			4. Revised – ready for motion (assume changes above are completed in the resolution).
		8. CID 1620 (MAC)
			1. Review Comment
			2. Proposed Resolution: REJECTED (MAC: 2018-11-13 16:33:29Z): The material in this NOTE (and the similar one on the next page) is normatively required per behaviour in clause 10. As such, it would create a duplicated normative requirement to change this information to a normative requirement in the cited location. Further, this is a behavioural requirement, where the contents of this frame depend on other information provided earlier in other frame exchange(s). Such behavioural material should be in clauses 10 or 11, not clause 9 – and it is there. Therefore, the use of a NOTE, and the use of ‘can’ are both appropriate for this information.
			3. Mark Ready for motion.
		9. CID 1498 (MAC)
			1. Review Comment
			2. Proposed Resolution: REVISED (MAC: 2018-11-13 16:32:49Z): At P1089.6 (in Table 9-177), Change “Indicates use of DSSS/CCK mode in a 20/40 MHz BSS.”

To “Indicates the BSS is operating in a mode that allows transmission of DSSS/CCK PPDUs, when the operating channel width is 40 MHz.”

Change “Set to 0 if the BSS does not allow transmission of DSSS/CCK PPDUs”

To “Set to 0 if the BSS is operating in a mode that does not allow transmission of DSSS/CCK PPDUs”

Change “Set to 1 if the BSS allows transmission of DSSS/CCK PPDUs”

To “Set to 1 if the BSS is operating in a mode that allows transmission of DSSS/CCK PPDUs”

* + - 1. Mark Ready for Motion
	1. **Recessed** at 3:30pm
1. **802.11md (REVmd) Meetings - November 802 Plenary – Bangkok – Tuesday PM1: 13:30-15:30**
	1. **Called to order** at 13:32 by the chair, Dorothy STANLEY (HPE)
	2. **Reviewed Patent Policy**
		1. No issues
	3. **Review Agenda** – see doc 18/1712r3.
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-03-000m-2018-november-tgmd-agenda.pptx>
		2. Request by Emily QI asked to defer 11-18/1364, on CID 1066, until Jan.
			1. It was determined that we must resolve CID 1066, with a reject reason, but with the intent that it'll come back next time.
			2. Proposed Resolution for CID 1066 (GEN): REJECTED (GEN: 2018-11-14 18:32:00Z) 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.
		3. Mike M added CID 1193. to today's meeting.
		4. With those changes, approved the agenda without objection
		5. That will create the r4 of the Agenda
	4. **Review doc 11-18/1306r6**.- Mark RISON (Samsung)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
		2. CID 1453 (GEN) and 1435 (GEN):
			1. Review Comments
			2. This would be complicated to correct, in the direction suggested by the commenter.
			3. On the other hand, very few of these parameters are used by the MAC, anyway. So, suggestion is to just remove them, instead.
			4. Proposed Resolution: REVISED (GEN: 2018-11-14 18:40:35Z) Make the changes shown under “Proposed changes” for CID 1453 and CID 1435 in 11-18/1306r6 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>>, which define the PHY header and delete from PLME-CHARACTERISTICS.confirm PHY characteristics that are not used by the MAC.
			5. No objections. Mark ready for motion.
		3. CID 1388 (EDITOR):
			1. Pulled back from motion.52
			2. Request to double-check with Sigurd.
				1. He had no concern with the resolution in 11-18/1306r6.
			3. Propose to change the agreed resolution to be the resolution in 11-18/1306r6 instead.
			4. Update Proposed resolution: Revised; Make the changes shown under “Proposed changes” for CID 1388 in 11-18/1306r6 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>>, which make consistent throughout the existing rule (see 19.3.5) that a VHT AP is not required to support 2SS while an HT AP that is not a VHT AP is required to do so.
			5. Mark Ready for Motion
			6. These changes make no technical change, they remove the NOTE which stated a different requirement and was confusing.
	5. **Review doc 11-18/1260r6** -– Guido HIERTZ –
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1260-06-000m-resolution-to-cid-1195.docx>
		2. CID 1195 (MAC)
			1. Review changes suggested
			2. Changes in R5 to R6 reviewed
				1. Last paragraph updated.
			3. An R7 was required as there is an article “the” that needed to change to “an” in the new bullet list.
			4. Proposed Resolution: REVISED (MAC: 2018-10-05 15:20:17Z): Incorporate the changes shown in 11-18/1260r7 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1260-07-000m-resolution-to-cid-1195.docx>>. This accomplishes the feature requested by the commenter.
			5. No Objection - Mark ready for Motion
	6. **Review doc 11-18/1829r0** – Mark HAMILTON (Ruckus/ARRIS)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1829-00-000m-lb232-cr-on-dot11edcatable.docx>
		2. CID 1080 and 1081 (MAC)
			1. Review comment
			2. Review proposed changes
			3. Typo of “implementatio” – should be “implementation”
			4. Proposed Resolution: CIDs 1080 (MAC), 1081 (MAC): REVISED (MAC: 2018-11-13 06:59:39Z): Incorporate the text changes in 11-18/1829r1 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1829-00-000m-lb232-cr-on-dot11edcatable.docx>>, which update the text in the direction suggested by the comment.
			5. No Objection – Mark ready for Motion
	7. **Review doc 11-18/1930r6** – Menzo WENTINK (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-06-000m-assorted-comment-resolutions.docx>
		2. CID 1583 (PHY)
			1. Review comment
			2. Rationale for the resolution: - VHT DL MU-MIMO supports max. 4 users per transmissions. In order to identify which users are included in a particular DL MU-MIMO transmission, the AP sends the Group ID Management frame, which indicates the position of a user within each Group ID. For example, Group ID 12 may have STA1 in position 0, STA2 in position 1, STA3 in position 2 and STA4 in position 3. Then, when the VHT-SIG-A indicates Group ID = 12, STAs 1-4 know their user position to demodulate the packet (e.g. how to perform channel estimation to extract the correct spatial streams (potentially) addressed to it). However, there may be cases where even though a Group ID was assigned to 4 (or more) users, there is data for only, say, 3 users at the time of transmission. For example, continuing the case discussed above, AP finds that it has data for STA1, STA3 and STA4, but none for STA2. Then, the AP would be transmitting a VHT DL MU-MIMO packet using Group ID = 12, but with only 3 users. But the “user position” would be “0, 2, 3” (note that user position 1 is skipped). So, “u” would be 0, 1, 2 the PPDU, but “USER\_POSITION” would be 0, 2, 3.
			3. Proposed Resolution: Modify as shown under CID 1583 in doc 11-18/1930r6 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1930-06-000m-assorted-comment-resolutions.docx>> which addresses the commenters concern.
		3. CID 1126 (MAC)
			1. Review where we left off yesterday:
				1. A draft Proposed resolution was started: CID 1126 (MAC): Not done. Have so far: REVISED (MAC: 2018-11-12 07:24:29Z):

In 3.1, add "S1G band: Frequency band for which an S1G operating class is defined in Annex E."

At P879.30, change "non-S1G Band" to "a non-S1G band"

At P889.51, change "S1G Band" to "an S1G band"

At P889.54, add an "an" before "S1G band"

* + - 1. Review other S1G band locations
				1. 1970.8 and 3168.24 and 3168.51 put an “an” before “S1G band”.
			2. Add those locations to the resolution:
			3. Proposed Resolution: REVISED (MAC: 2018-11-12 07:24:29Z):

In 3.2, add "S1G band: Frequency band for which an S1G operating class is defined in Annex E."

At P879.30, change "non-S1G Band" to "a non-S1G band"

At P889.51, change "S1G Band" to "an S1G band"

At P889.54, add an "an" before "S1G band"

At 1970.8, change "S1G band" to "an S1G band"

At 3168.24, change "S1G band" to "an S1G band"

At 3168.51, change "S1G band" to "an S1G band"

* + - 1. No objection – Mark Ready for Motion
			2. An R7 will be posted.
	1. **CID 1193 (GEN)** – Michael MONTEMURRO (Blackberry) (10-minute limit)
		1. Review comment
		2. Review proposed resolution that had been posted to the REVmd reflector.
		3. Proposed Resolution: REVISED (GEN: 2018-11-13 07:30:33Z) At 361.47 (relative to D1.0) change:

“Zero or more OUIs that specify the OUIs known by the AP. The AP uses the known OUIs to determine if it should respond to the Probe Request frame as defined in 11.1.4.3.4 (Criteria for sending a response(11ai)).”

To

“Zero or more OUIs that specify the OUIs considered known by the AP, in the context of determining if it should respond to certain Probe Request frames, as defined in 11.1.4.3.4 (Criteria for sending a response(11ai)).”

At 1954.31 (relative to D1.0) change:

“If the OUI Response Criteria field is present in the FILS Request Parameters element and if any OUIs specified by the OUI Response Criteria field are not known to the AP (see Known OUIs, 6.3.5.2.2 (Semantics of the service primitive)(11ai) .”

To

“If the OUI Response Criteria field is present in the FILS Request Parameters element and if any of the OUIs specified by the OUI Response Criteria field are not in the list of known OUIs configured in the AP (see Known OUIs, 6.3.5.2.2 (Semantics of the service primitive)(11ai)."

* + 1. Mark ready for Motion
	1. **Review doc 11-18/669r15** – Mark HAMILTON (Ruckus/ARRIS)

* + 1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-15-000m-revmd-mac-comments-assigned-to-hamilton.docx>
		2. CID 1532 (MAC)
			1. Review comment
			2. Proposed Resolution: REVISED (MAC: 2018-11-13 16:31:57Z):

Replace the paragraph at line 1277.31 with:

The Key Type field values are as follows:

0: Reserved.

1: FILS Public Key field contains an X.509v3 certificate encoded according to IETF RFC 5280.

2: FILS Public Key field contains an uncertified public key encoded according to IETF RFC 5480.

3: FILS Public Key field contains an uncertified public key encoded according to IETF RFC 3279.

4-255: Reserved.

* + - 1. No objection – Mark Ready for Motion
		1. CID 1556 (MAC)
			1. Review Comment
			2. After reviewing the proposed resolution, it was thought that the two clauses being changed were not the same, and a desire to make them so would require more work.
		2. CID 1609 (MAC)
			1. Review Comment
			2. Proposed Resolution: REJECTED (MAC: 2018-11-13 16:31:21Z): To update any/all normative references in clause 2 requires the specific change to be provided, and a demonstration that the analysis has been done that such an update will not invalidate any 802.11 assumptions about the referenced concepts. Such an analysis has not been provided.
			3. No Objection – Mark Ready for Motion
		3. CID 1557 (MAC)
			1. Review Comment
			2. Proposed Resolution: REJECTED (MAC: 2018-11-13 16:30:55Z): 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.
			3. No Objection – Mark Ready for Motion
		4. CID 1043, 1044, 1045, 1046 (GEN)
			1. Review comments
			2. Proposed Resolution: REVISED (GEN: 2018-11-14 18:57:04Z) In 6.3.4.2.2, add “DMG Capabilities” and “S1G Capabilities” to the parameter list for MLME-JOIN.request, after VHT Capabilities.

Copy the rows for “DMG Capabilities” and “S1G Capabilities” from the table in 6.3.7.2.2 (MLME-ASSOCIATE.request’s semantics subclause) to new rows inserted into the table in 6.3.4.2.2, after the “VHT Capabilities” row.

Delete “DMG Capabilities” and “S1G Capabilities” from the parameter lists in 6.3.7.2.2, and 6.3.8.2.2. Also, delete the rows for these parameters from the tables in those sub-clauses.

* + - 1. No objection – Mark Ready for Motion
		1. CID 1417 (GEN)
			1. Review Comment
			2. Proposed Resolution: REVISED; Add the parameters “OperationalRateSet”, “HT Capabilities” and “VHT Capabilities” to the parameter list for MLME-SCAN.request in 6.3.3.2.2.

At the end of the table in the referenced subclause, add the OperationalRateSet, HT Capabilities and VHT Capabilities rows from the table in 6.3.4.2.2 (MLME-JOIN.request), adding "Present only if ScanType = ACTIVE." to the end of the rightmost cell of each added row.

* + - 1. No objection – Mark Ready for Motion
		1. CID 1434 (GEN)
			1. Review Comment
			2. Review Proposed Resolution: REJECTED (GEN: 2018-11-14 19:06:44Z) There are parameters of the RXVECTOR such as RCPI which are (though not explicitly, as in Table 17-2) generated only at the end of reception of a PPDU. These parameters are provided to the MAC at the PHY-RXEND.indication, in the RXVECTOR.;
			3. No objection – Mark Ready for Motion
		2. CID 1444 (MAC)
			1. Review Comment
			2. Review proposed changes
			3. Proposed Resolution: REVISED (MAC: 2018-11-13 16:28:45Z): In general principle for this subclause, occurrences of “frame” make sense when referencing specific frame types (as per our general convention) and occurrences of “MPDU” make sense in other contexts.

In Table 9-492, change “QoS Null MPDU” to “QoS Null frame”, in all 4 occurrences.

Change the title of Table 9-495 by deleting “MPDUs”.

At P1678L4, change “Control MPDU” to “Control frame” and change “QoS Null MPDU” to “QoS Null frame”.

At P1692L24, change “QoS Null MPDU” to “QoS Null frame”.

* + - 1. No Objection – Mark Ready for Motion
			2. Request that the rules for the use of frame vs MSDU be created at some point, but not now.
		1. CID 1563 (GEN)
			1. Review comment
			2. Proposed Resolution: Revised. Replace Figure 6-16 as shown as “Suggested Resolution” in 11-18/0669r16 <<https://mentor.ieee.org/802.11/dcn/18/11-18-0669-16-000m-revmd-mac-comments-assigned-to-hamilton.docx> > for CID 1563. (Visio will be provided to the Editor):
			3. No Objection – Mark Ready for Motion
		2. CID 1555 (PHY) and CIDs 1558, 1559, 1564 (GEN)
			1. Propose to be rejected with the proposed resolution of insufficient details.
			2. Proposed resolution: 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.
			3. No objection – Mark all 4 ready for Motion
		3. CID 1066 (MAC)
			1. Will have a resolution prepared for insufficient detail as well.
			2. Proposed resolution: 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.
			3. Mark Ready for Motion
	1. **Review Doc 11-18/1724r2** – Matthew FISCHER (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1724-02-000m-response-to-d1p1-tgah-comments-from-1099.docx>
		2. Abstract: This document provides proposed responses and draft text changes to TGmd D1.5 that are based on comments submitted outside of the 802.11 WG LB232 process and which appear in 11-18-1099-01-000m-11ah-text-issues. Because these comments were not generated as part of the LB232 process, they do not have CID numbers assigned to them and they do not appear in the official LB232 document 11-18-0611.

The draft of reference for these comments is D1.1, not D1.0 as is the case for LB232 comments.

**The proposed changes on this document are based on TGax Draft 1.5.**

* + 1. Review submission
		2. An Issue was noted, and a note was added to “fix the description of the field presence and meaning” was added in 9.3.1.21 TACK frame load.
		3. Row #13 comment, generally accepted, but needs to be merged with changes to this same text area that are in 11-18/1306 to prevent editor conflicts. Matt will work on this offline.
	1. **Return to review doc 11-18/669r15** - Mark HAMILTON (Ruckus/ARRIS)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-15-000m-revmd-mac-comments-assigned-to-hamilton.docx>
		2. CID 1565 (MAC)
			1. Review comment
			2. Reviewed how the primitives would be changed.
			3. Proposed Resolution: REVISED (MAC: 2018-11-13 16:26:02Z): Incorporate the changes shown for CID 1565 in 11-18/0669r16. These changes are more complete, in the direction requested by the commenter.
			4. Mark Ready for Motion
	2. **Recess** at 15:35 (3:35pm)
1. **802.11md (REVmd) Meetings - Nov 802 Plenary – Bangkok – Wednesday PM1: 13:30-15:30**
	1. **Called to order** at 1:31pm by the chair, Dorothy STANLEY (HPE)
	2. **Review patent Policy**
		1. No issues
	3. **Review Agenda** for today: 11-18/1712r4
	4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-04-000m-2018-november-tgmd-agenda.pptx>
* Abhishek PATIL – CID 1096 in 11-18/1716
* Xiaofei WANG – CID 1263
* Security Documents 11-18/1870, 11-18/1924, 11-18/1990, 11-18/2011
* Mark HAMILTON CIDs –1556, 1567, 1507, 1525
* Jerome HENRY/Pascal THUBERT – 11-18/1919
* Yunsong YANG – 11-18/1989
	+ 1. No objection to agenda plan
	1. **Review doc 11-18/1716r0** – Abhishek Patil (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1716-00-000m-resolution-for-cid-1096.docx>
		2. CID 1096 (GEN)
			1. Review Comment
			2. Review proposed changes
				1. Agree with the comment.
				2. By definition only one BSSID (i.e., the transmitted BSSID) in a multiple BSSID set transmits beacons. Therefore, the adjective ‘transmitted BSSID’ is not required. Deleted the term transmitted BSSID as suggested by the comment. Applied the same fix to 11.1.3.9.
				3. Added text in 11.1.3.8 to clarify that the Partial Virtual Bitmap field referenced in the text is a field in the TIM element and the mapping of the first 2^n bits in the bitmap correspond to TxBSSID and nonTxBSSID in a multiple BSSID AP.
				4. Added text in 11.1.3.9 to include DMG Beacon and S1G Beacon frame for receiving TSF.
			3. Proposed Resolution: REVISED (GEN: 2018-11-14 06:43:14Z): Incorporate the changes in 11-18/1716r1 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1716-01-000m-resolution-for-cid-1096.docx>> which resolved the comment in the direction suggested by the commenter.
			4. No objection – Mark Ready for Motion
	2. **Review doc 11-18/1968r2** – Xiaofei WANG (Interdigital)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-02-000m-comment-resolution-for-cid-1263.docx>
		2. CID 1263 (MAC)
			1. Review submission
			2. Review proposed changes.
			3. Add “transmitted” prior to “Reachable Address Update Frame in Condition 1and 2; and Condition 3.
			4. Discussion on fine tuning the language of the change.
			5. Discussion on the behaviour of receiving these types of frames.
			6. We could not come to consensus on the final bit of changes.
			7. More work to be done on R3.
	3. **Review doc 11-18/669r16** – Mark HAMILTON (Ruckus/ARRIS)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-16-000m-revmd-mac-comments-assigned-to-hamilton.docx>
		2. CID 1556 (MAC)
			1. Review comment
			2. Review proposed changes
			3. Proposed Resolution: (MAC): REVISED (MAC: 2018-11-14 07:26:28Z): Incorporate text changes as shown in 11-18/0669r17 (https://mentor.ieee.org/802.11/dcn/18/11-18-0669-17-000m-revmd-mac-comments-assigned-to-hamilton.docx) for CID 1556. These changes make the Proposed Change and other similar changes for consistency.
			4. No objection – Mark Ready for Motion
		3. CID 1567 (GEN)
			1. Review comment
			2. Review proposed changes
			3. Proposed Resolution: REVISED (GEN: 2018-11-14 07:44:39Z); Incorporate the changes for CID 1567 in 11-18/669r16 <<https://mentor.ieee.org/802.11/dcn/18/11-18-0669-16-000m-revmd-mac-comments-assigned-to-hamilton.docx> > which resolves the comment in the direction suggested by the commenter.
			4. No Objection – Mark Ready for Motion
		4. CID 1507 and 1525 (GEN)
			1. Review comment
			2. Review proposed change
			3. The Proposed Resolution from the 2 November Telecon removes just the TXBUSY IDLE State.
			4. This proposal addresses merging with CCA and gets rid of all the TXBUSY primitives.
			5. Discussion on the use of “as follows”. Do we have to have bullets, or can it be ended in “as follows”? determined that we would just delete “as follows”.
			6. Update the Proposed Resolution
			7. Updated Proposed Resolution: REVISED (GEN: 2018-11-14 07:22:17Z) ; Incorporate the changes for CID 1507/1525 in 11-18/669r17 < <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-17-000m-revmd-mac-comments-assigned-to-hamilton.docx>> which removes the PHY-TXBUSY primitives.
	4. **Review doc 11-18/1870r0** Dan Harkins (HPE)
		+ 1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1870-00-000m-suite-b-pmkid.docx>
			2. Abstract:

The way PMKID is derived for Suite B AKMs is somewhat inconvenient since KCK is used as an input parameter and that means PMKID cannot be generated before going through PTK derivation, i.e., 4-way handshake. In addition to the that extra complexity during creation of the PMKSA, the standard is not very clear on whether the PMKID of the PMKSA might change whenever deriving a new KCK. It would be simpler to clearly define the PMKID to never change for the PMKSA and just point the first KCK to be used whenever using the PMKSA.

There have been some interoperability issues in this area that resulted in PMKSA caching not working due to different interpretations on which PMKID is used. This contribution proposes changes to REVmd/D1.6 to make this Suite B PMKID use defined explicitly in the standard in hope to minimize risk of such interoperability issues. It would be good to get this included in REVmd since Wi-Fi Alliance has already launched a certification program that uses these Suite B AKMs.

* + - 1. Review the submission
			2. Discussion on the submission was done.
			3. A separate Motion will be made to adopt R1 of the submission during Thursday PM1.
	1. **Review Doc 11-18/1990r3** Dan HARKINS (HPE)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1990-03-000m-kill-the-kracken.docx>
		2. Abstract:

“Release the Kracken: New Kracks in the 802.11 standard” describes a key reinstallation attack that bypasses the existing key reinstallation countermeasures. It also describes improved countermeasures to deal with it (see 6.3.2):

“A more efficient defense is to track the latest (integrity) group key installed in response to an EAPOL-Key frame, and the latest (integrity) group key installed in response a WNM-Sleep frame. This means that two normal group keys are saved, and two integrity group keys are also saved. When now receiving a new key in either an EAPOL-Key or WNM-Sleep frame, the new (integrity) group key must only be installed if it differs from both of the two saved (integrity) group keys. Additionally, we require that the client disconnects from the network if it did not receive a WNM-Sleep response frame when exiting sleep mode. We also recommend that a client deletes the current (integrity) group key before entering WNM-Sleep mode.”

* + 1. Review submission and the proposed changes.
		2. A separate Motion will be made to adopt the submission during Thursday PM1.
		3. Discussion that an “if any” needed to be added to 6.3.19.1.4. after WNM sleep mode citation.
		4. After a bit more of discussion on the editing of the document
		5. Assign CID to Dan – This document will be to address CID 1321 (GEN)
		6. Proposed Resolution: REVISED (GEN: 2018-11-14 19:29:31Z) Incorporate the changes in 11-18/1990r4 <https://mentor.ieee.org/802.11/dcn/18/11-18-1990-04-000m-kill-the-kracken.docx> which resolved the comment in the direction suggested by the commenter.
		7. Will bring back an R4 to review with a separate motion.
	1. **Review doc 11-18/2011r1** – Dan HARKINS (HPE)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-2011-01-000m-indicating-a-password-identifier.docx>
		2. CID 1284 (PHY)
			1. Review comment
		3. Proposed Resolution: Revised; Incorporate the changes in 11-18/2011 <<https://mentor.ieee.org/802.11/dcn/18/11-18-2011-01-000m-indicating-a-password-identifier.docx> > which resolves the comment in the direction suggested by the commenter.
			1. This resolution replaces the one proposed in September (a rejected comment that had not been motioned yet).
			2. No objection – Mark Ready for Motion
	2. **Review doc 11-18/1924r0** Thomas Derham (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1924-00-000m-fixing-missing-refs-to-ft-akms.doc>
		2. Abstract:

There are multiple places in the 802.11 standard where a list of all Fast BSS Transition (FT) AKMs is (intended to be) enumerated. Currently, these lists are mutually inconsistent, and also incomplete with respect to all the FT AKMs listed in the AKM Suite Selector table (e.g. FILS+FT and FT-PSK-SHA384 AKMs are missing in most all cases).

While one solution is to fix each of these lists, it seems evident that future maintenance of multiple such lists scattered around the standard will be error-prone and burdensome. In addition, in certain cases the explicit lists of valid AKMs would appear to preclude the use of vendor-specific (or other OUI) FT AKMs with FT protocol (e.g. requiring peer to reject authentication if the indicated AKM is not on the list), which is unnecessarily restrictive.

Therefore, it is proposed to replace these lists with a more generic reference to FT authentication AKMs, plus a pointer to the AKM Suite Selector table.

In addition, the following related points are addressed:

* In Initial FT Mobility Domain Association over FILS, Section 13.2.4 requires STA to include FTE in Assoc Request, but there is no entry for FTE in the Assoc Req frame body definition in Section 9 – this entry is added
* A note in 9.4.2.24.3 states that the FILS+FT AKMs are used only with FILS Authentication algorithms; however, they can be used with both FILS Auth and FT authentication algorithms – this is removed and replaced with a reference to a new column in AKM suite selector table which specifies the mapping of AKMs to corresponding auth algos
* The ways to establish an RSNA defined in 12.2.4 do not include FILS – this is added, and a sentence that states Open/FT are the only allowed authentication algorithms in an RSNA is modified

The location of the section defining FT Initial Mobility Domain Association Over FILS

* + 1. Review submission
		2. Issue with the order that the new FTE field was added. – need to review requirement and put at the end.
		3. Discussion on the authentication methods.
		4. A Separate Motion will be made to incorporate R1 of the submission on Thursday PM1.
	1. **Review doc 11-18/1989r0** – Yunsong YANG (Huawei)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1989-00-000m-security-issues-in-802-11ah.pptx>
		2. Review Submission and identified security vulnerabilities found in 802.11ah-2016.
		3. Discussion on how to process the TWT in order to consider this condition. How to detect this condition.
		4. Discussion on which Key should be used to protect the frames. A Solution was not firmly thought out.
		5. Straw Poll 1:
			1. Do you support that TGmd define a protected version of TWT Teardown frame under the category of S1G action frame?
* a non-AP STA or AP may request protected TWT Teardown operation in its TWT Setup frame and subsequently ignore any unprotected TWT Teardown frames received; and
* a non-AP STA or AP receiving a protected TWT Teardown frame is required to verify the MIC in the frame successfully before tearing down the TWT mode.
	+ - 1. Results: 13-0
		1. Straw Poll 2:
			1. Do you support that TGmd define a protected version of TWT Setup frame under the category of S1G action frame?
			2. Results: 13-0
		2. The Author will take the results and discussion into consideration and bring a proposal in the future.
	1. **Review doc 11-18/1919r0** - Jerome Henry (Cisco)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1919-00-000m-proxy-nd-discovery-text-proposal.docx>
		2. Abstract:

802.11-2016 11.22.14 describes a WNM STA ARP Proxy, and also adds an IPv6 ARP Proxy. However, there is no such thing as ARP in IPv6. The equivalent function to IPv4 ARP Proxy is IPv6 ND Service. This function operates differently from what 11.22.14 describes, as assuming equivalence with IPv4 ARP Proxy is an oversimplification. This submission proposes a correction to the text, aiming at accurately stating the function description.

* + 1. Review submission
		2. Discussion on the value of the proposed new text if we were to put it in the standard.
		3. Discussion on when the RFC will be published, but concern that we not put it in until the RFC is finally published.
		4. Concern that we have had Proxy ARP in the past, and now we are looking to add a new Proxy Neighbor Discovery.
		5. Discussion on where the reference should be made – normative or informative. There may be some parts that need to be in the normative text and some may be in some informative annex.
		6. More work will also need to be done to incorporate this.
		7. Other groups may have already referring to the 2016 standard names, and we cannot change that fact.
		8. There is a concern that there needs to be better framing of the new text.
	1. **Recess** at 3:32pm
1. **802.11md (REVmd) Meetings - Nov 802 Plenary – Bangkok – Wednesday PM2: 16:00-18:00**
	1. **Called to order** at 4pm by the chair, Dorothy STANLEY (HPE)
	2. **Review Patent Policy** – call for LOA
		1. No issues noted.
	3. **Review Agenda** for this slot. – 11-18/1712r5
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-05-000m-2018-november-tgmd-agenda.pptx>
		2. Wednesday PM2
* Motions
* Xiaofei Wang – CID 1263
* Edward AU – EDITOR2 CID 1095
* Menzo CIDs – 1123, 1088, 1438, 1439
* Matthew Fischer: 11-18-1724 11ah, 11-18-1438
	1. **Motions:**
		1. **#B1:** Approve Prior Minutes
			1. Approve the minutes of

September 2018 meeting: <https://mentor.ieee.org/802.11/dcn/18/11-18-1402-01-000m-minutes-for-revmd-sept-2018-waikoloa.docx>

Sept-Nov teleconferences: <https://mentor.ieee.org/802.11/dcn/18/11-18-1701-04-000m-minutes-for-revmd-telecon-in-sept-and-oct.docx>

* + - 1. Moved Emily Qi, 2nd: Mark Hamilton
			2. **Results #B1: Unanimous – Motion Passes**
		1. **Motion #78:** Waikoloa and Teleconference CIDs
			1. Approve the comment resolutions in the
* “Motion-EDITOR-G” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0657-07-000m-revmd-wg-lb232-comments-for-editor-ad-hoc.xls>
* “Motion MAC-V” and “Motion MAC-W” tabs in [https://](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls)[mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls)
* “PHY Motion I” and “PHY Motion J” tabs in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-14-000m-lb232-revmd-phy-sec-comments.xls>
* “Gen Motion Oct Telecon” and “Gen Motion Waikoloa” tabs in <https://mentor.ieee.org/802.11/dcn/18/11-18-0614-04-000m-revmd-lb232-gen-comments.xls> except for CIDs 1507 and 1525

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Jon ROSDAHL 2nd: Michael MONTEMURRO
			2. **Results for Motion #78: 13-0-0 Motion passes**
		1. **Motion #79** Teleconference Editorial items
			1. Incorporate the changes indicated in <https://mentor.ieee.org/802.11/dcn/18/11-18-1431-01-000m-proposed-resolutions-for-editor-s-notes-in-revmd-d1-4.doc> into the TGmd draft.
			2. Moved: Emily QI; 2nd: Stephen McCann
			3. **Results for Motion #79: Unanimous Consent – Motion Passes**
		2. **Motion #80** Reference clean-up
			1. Incorporate the following changes into the TGmd draft:

Change

IEEE Std 802.1Q™-2003, IEEE Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks.

to

IEEE Std 802.1Q™-2003, IEEE Standards for local and metropolitan area networks- Virtual Bridged Local Area Networks.

And Change

IEEE Std 802.1QTM-2011, IEEE Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks

to

IEEE Std 802.1QTM, IEEE Standard for Local and Metropolitan Area Networks- Bridges and Bridged Networks

* + - 1. Moved: Guido HIERTZ, Jerome HENRY
			2. **Results for Motion #80 – Unanimous Consent – Motion Passes.**
		1. **Motion #81** Reject – Submission Required
			1. Resolve the CIDs in the

“Submission Required” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-14-000m-lb232-revmd-phy-sec-comments.xls>

as “Rejected” with a resolution of “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.” Except 1471 and 1475**.**

* + - 1. Moved: Michael MONTEMURRO; 2nd: Edward AU
			2. Discussion: none
			3. **Results #81: Unanimous Consent – Motion Passes**
	1. **Review doc 11-18/1968r3**, Xiaofei WANG
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-03-000m-comment-resolution-for-cid-1263.docx>
		2. New proposed resolution for CID 1263 (MAC), with text agreed off-line.
		3. Proposed Resolution: REVISED (MAC: 2018-11-14 09:34:11Z): Incorporate the text changes in 11-18/1968r3 (<https://mentor.ieee.org/802.11/dcn/18/11-18-1968-03-000m-comment-resolution-for-cid-1263.docx>. ). This corrects/clarifies the text to cover the situation described.
		4. No objections. Ready for motion.
	2. **Review doc 11-18/1566r2** – Edward AU (Huawei)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1566-02-000m-proposed-resolution-for-cid-1095.docx>
		2. CID 1095 (EDITOR2)
			1. Review Comment
			2. There was no objection the direction, but there are 10 steps to deprecate a MIB variable and that was not reflected in the document.
	3. **Review doc 11-18/1930r9** – Menzo WENTINK (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-09-000m-assorted-comment-resolutions.docx>
		2. CID 1123 (MAC)
			1. Review changes from the last time we reviewed this CID.
			2. Discussion on Non-TIM STA definition and if the definition is consistent.
			3. More work is needed to close on this item.
		3. CID 1088 (MAC)
			1. Review comment
			2. Review context of proposed changes.
			3. Proposed Resolution: Revised - at 725.31 change “a 32-bit CRC based on ITU-T V.42[B54]” to a 32-bit CRC based on ITU-T V.42 [B55] (see 9.2.4.8 (FCS Field)”

at 1538.12 change "an IEEE 32-bit CRC" to "a 32-bit CRC based on ITU-T V.42 [B55] (see 9.2.4.8 (FCS Field))".

* + - 1. No Objection – Mark Ready for Motion
		1. CID 1438/1439 (GEN)
			1. Review Comments
			2. Discussion: - the base channel is always a 20 MHz channel. This is specified in 11.21.1 (General), but indeed not very explicit from the definition of the base channel in 3.2.
			3. Discussion on consistantly using “20 MHz primary channel”.
			4. Discussion on the “off” channel for 80 MHz channel.
			5. Proposed Resolution: REVISED (GEN: 2018-11-14 10:09:54Z) Incorporate the changes for CID 1438/1439 in 11-18/1930r10 <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-10-000m-assorted-comment-resolutions.docx> which clarifies the defintion and use of the primary channel.
			6. No objection – Mark Ready for Motion
	1. **Review status of Comment database**
		1. Need more work to know the number of CIDs left.
		2. Note: The remaining un-motioned PHY comments are: 1284 (Dan’s document); and 1470, 1471, and 1475 (Sean’s document)
	2. **Review doc 11-18/1724r3** – Matthew FISCHER (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1724-03-000m-response-to-d1p1-tgah-comments-from-1099.docx>
		2. Review changes to the document
			1. Text that was highlighted in yellow is the changes being described. The black text not underlined is from the base text.
			2. Need a note of the order of changes to apply the changes to the draft.
			3. The Document is using11-18/1306 as a baseline and the changes are relative to that document.
		3. Change “does contain” to “contains”
		4. A new R4 was created as edits were made.
		5. Review colors of the document to ensure Editor will understand the changes to be made.
		6. A new set of Editor Instructions were also created.
		7. Review of the document was requested and a motion on R4 will be made on Thursday PM1.
	3. **Review plans for tomorrow**
		1. CIDs 1471, 1475, 1470 are missing – need document on Server for discussion tomorrow
		2. CID 1095 in 11-18-1566 – Edward AU
		3. CID 1123 Menzo
		4. CID 1117 – Assigned to Menzo
		5. Reviewed GEN Submission Required list
	4. **Recess at 5:55pm**
1. **802.11md (REVmd) Meetings - Nov 802 Plenary – Bangkok – Thursday PM1: 13:30-15:30**
	1. **Called to order** at 1:33pm by the chair, Dorothy STANLEY (HPE)
	2. **Review Agenda** for today – 11-18/1712r7
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-07-000m-2018-november-tgmd-agenda.pptx>
		2. Thursday PM1
		* CIDs 1471, 1475, 1470 - Sean
		* CID 1095 in 11-18-1566 – Edward Au
		* CID 1123, 1117, 1108 – Menzo
		* CID 1191 - Lepp, Montemurro
		* Motions
		* Matthew Fischer: 11-18-1438
		* Jerome Henry 11-18-1919
		* Plans for November 2018 – January 2019,
		* Adjourn
		1. No objection to the final agenda.
	3. **Review doc Doc 11-18/1048r3** - Sean Coffey
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1048-03-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>
		2. CID 1471, 1470 (PHY)
			1. Review proposed Changes
			2. Rationale for change was documented, but not unanimous in agreement.
			3. Straw Poll – Do you support
			4. Results 8-1
			5. CID 1471 (PHY) is the same as CID 1470, but for the other clause. The same resolution addresses both comments.
			6. CID 1471 (PHY), 1470 (PHY): Revised. Incorporate the changes in 11-18/1048r3.
			7. Mark ready for motion
		3. CID 1095 (EDITOR2):
			1. Document 11-18/1566r3
			2. Proposed Resolution: Revised: Incorporate the changes in 11-18/1566r3.
			3. Mark ready for motion
	4. **Review doc 11-18/1930r11** – Menzo WENTINK
		* 1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-11-000m-assorted-comment-resolutions.docx>
			2. We have discussed this CID before, we need to come to consensus for a decision.
			3. Changes have been made to improve the proposal, but the desire to change too much more is low.
			4. CID 1123 (MAC)
				1. Also related, perhaps, to CID 1117. However, that CID is not addressed by this document, and the cited location for CID1117 is not obvious, so we probably need to reject it anyway.
				2. Proposed Resolution: revised - incorporate the text changes in 11-18/1930r11 for CID 1123.
				3. Mark Ready for Motion
			5. CID 1117 (MAC)
				1. Review comment again
				2. Discussion on if the location was cited correctly.
				3. Review the cited location
				4. Discussion on which field is being requested to be changed.
				5. P1314.56 – Review the definition and the proposed change. The “Definition” is the heading of the column and the “Encoding” is the second column
				6. Agree that the changes are better than what's there.
				7. Changed to revised to fix the reference points for the change, and that we retain the "Set to 0 otherwise" in the Encoding column,
				8. Those changes are put into 11-18/1930r12. Resolution will be to incorporate the changes in 11-18/1930r12 for CID 1117.
				9. Proposed Resolution: REVISED (GEN: 2018-11-15 07:05:48Z) incorporate the changes for CID 1117 in 11-18/1930r12 < <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-11-000m-assorted-comment-resolutions.docx> >
				10. Mark Ready for Motion
		1. CID 1108 (GEN)
			1. Review status from last presentation
			2. Review the features list – change “only 2” to “>4” then “not supported”
			3. Proposed Resolution: REVISED (GEN: 2018-11-15 07:05:48Z) incorporate the changes for CID 1108 in 11-18/1930r12 < <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx> >
			4. Mark Ready for Motion
		2. Discussion on if “20 MHz Primary Channel” was included in 1439 and 1438.
		3. CID 1439/1438 (GEN)
			1. We had prepared a resolution earlier, but another change was thought to make an improvement.
			2. Change the Proposed Resolution to point to R12.
			3. No objection to the updated resolution.
	5. **Motion preparation:**
		1. Approve the Resolutions for the CIDS Listed:
			1. 1191, 1475, 1471, 1470, 1095, 1123, 1117, 1108
		2. Approve the Proposed Resolutions from Weds CID

PHY Motion K in 11-18670r15

GEN Motion Bangkok – in 11-18/614r5 except 1438 and 1439

* + - 1. Review GEN AdHoc File:
				1. Change Proposed Resolution for CID 1125 to Rejected insufficient details.
				2. Review 1076 – Reject Insufficient details –
				3. Review the Submission Required TAB
				4. 1248 – insufficient details.
				5. 1458 – Insufficient details.
				6. 1457 – insufficient details.
			2. Review MAC AdHoc file: - resolutions prepared in 11-18/2042
				1. 1088 ok- we have agreed to this resolution.
				2. 1145 – Rejected -
				3. 1161 – Rejected no submission given
				4. 1307 – Editor Note needs fixing, and it has been removed.
				5. 1466 – insufficient detail
				6. 1483 – insufficient detail
	1. **Motions:**
		1. **Motion #82** Weds CIDs
			1. **Approve the comment resolutions in the**

“PHY Motion K” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-15-000m-lb232-revmd-phy-sec-comments.xls>

“Gen Motion Bangkok ” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0614-05-000m-revmd-lb232-gen-comments.xls> except for CIDs 1438 and 1439

“Motion MAC-X” tab in https://[mentor.ieee.org/802.11/dcn/17/11-17-0927-30-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls)

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Jon Rosdahl 2nd: Dan HARKINS
			2. **Results Motion #82**: 14-0-0 – Motion Passes
		1. **Motion #83** – CID 1321
			1. Resolve CID 1321 as REVISED (GEN: 2018-11-14 19:29:31Z) Incorporate the changes in 11-18/1990r5 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1990-05-000m-kill-the-kracken.docx>>.
			2. Moved: Jon ROSDAHL 2nd: Stephen MCCANN
			3. Discussion – review the changes from R4.
				1. There is a concern that the added text being added is duplicative.
				2. Proposed replacement of the text: “Note –To prevent key reinstallation attacks, a STA maintains a copy of the most recent (I)GTK and does not reinstall the same key (See 6.3.19)”
				3. Proposal that being more verbose may help those that only read the cited section.
				4. Some concern that the added Notes would be a source of comments in the future.
				5. The cross-reference and the removal of duplication is the important issue.
				6. The changes seem to have 4 different cases, and

The copies of the keys that need to be kept include FT and FILS and WNM Sleep Mode, (2 sets – 4 keys).

* + - 1. **Results Motion #83:** 12-2-1 Motion Passes
		1. **Motion #84** – Suite B PMKID
			1. Incorporate the text changes indicated in 11=18/1870r2 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1870-02-000m-suite-b-pmkid.docx>> into the TGmd draft
			2. Moved: Stephen MCCANN 2nd: Menzo WINTINK
			3. **Results Motion #84**: Unanimous Consent – Motion Passes
		2. **Motion #85** – FILS AKMs
			1. Incorporate the text changes indicated in 11-18/1924r1 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1924-01-000m-fixing-missing-refs-to-ft-akms.doc>> into the TGmd draft
			2. Moved: Thomas = 2nd: Jerome Henry
			3. **Results Motion #85:** Unanimous Consent – Motion Passes
		3. **Motion #86** – 11ah Fixes
			1. Incorporate the text changes indicated in 11-18/1724r4 <[https://](https://mentor.ieee.org/802.11/dcn/18/11-18-1724-03-000m-response-to-d1p1-tgah-comments-from-1099.docx)[mentor.ieee.org/802.11/dcn/18/11-18-1724-04-000m-response-to-d1p1-tgah-comments-from-1099.docx>](https://mentor.ieee.org/802.11/dcn/18/11-18-1724-04-000m-response-to-d1p1-tgah-comments-from-1099.docx) into the TGmd draft
			2. Moved: Matthew FISCHER 2nd: Mark HAMILTON
			3. **Results Motion #86:** Unanimous Consent – Motion Passes.
		4. **Motion #87** Submission Required + MAC – GEN, MAC
			1. **Resolve the CIDs in the**

“Submission Required” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0614-05-000m-revmd-lb232-gen-comments.xls> except for CIDs 1458 and 1457 as “Rejected” with a resolution of “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.”

**And approve the CID resolutions in the**

“Resolutions Prepared” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-2042-00-000m-proposed-resolutions-for-last-remaining-lb-232-mac-ad-hoc-comments.xlsx>

* + - 1. Moved: Stephen MCCANN 2nd: Jon ROSDAHL
			2. **Results Motion #87**: Unanimous Consent – Motion Passes
		1. **Motion #88** Thursday CIDs
			1. Approve the resolutions for the CIDs listed below:
			- CID 1191 as “Rejected” with a resolution of “The commenter has withdrawn the comment”
			- CID 1475, 1125, 1076, 1457, 1458 as “Rejected” with a resolution of “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.”
			- CIDs 1471, 1470 as “Revised” with a resolution of “Incorporate the text changes for CID <1471><1470> in 11-18/1048r3 <<https://mentor.ieee.org/802.11/dcn/18/11-18-1048-03-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>>”
			- CID 1095 as “Revised” with a resolution of “Incorporate the text changes for CID 1095 in https://mentor.ieee.org/802.11/dcn/18/11-18-1566-03-000m-proposed-resolution-for-cid-1095.docx”
			- CID 1123 as “Revised” with a resolution of “Incorporate the text changes for CID 1123 in https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx”
			- CID 1117 as “Revised” with a resolution of “Incorporate the text changes for CID 1117 in https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx”
			- CID 1108 as “Revised” with a resolution of “Incorporate the text changes for CID 1108 in https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx”
			1. Moved: Mark HAMILTON 2nd: James LEPP
			2. **Results Motion #88**: Unanimous Consent – Motion Passes
		2. **Motion #89** CID 1438 and 1439
			1. Resolve CIDs 1438/1439 as “Revised” with a resolution of “REVISED (GEN: 2018-11-15 07:21:48Z) Incorporate the changes for CID 1438/1439 in 11-18/1930r12 < <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx> > which clarifies the definition and use of the primary channel.”
			2. Moved Joseph LEVY 2nd: Menzo WENTINK
			3. **Results Motion #89**: Unanimous Consent – Motion Passes
		3. **MOTION #90** – Recirculation WGLB
			1. Instruct the editor to prepare P802.11REVmd D2.0 and Approve a 30-day Working Group Technical Letter Ballot asking the question “Should P802.11REVmd D2.0 be forwarded to Sponsor Ballot?”
			2. Moved Graham SMITH 2nd: Mark RISON
			3. Discussion – Concern on end the ballot in January.
				1. Looking at schedule, expect it to end just prior to interim.
			4. **Results Motion #90**: 14-0-0 – Motion Passes.
	1. **Plan going forward** –
		1. No teleconference planed for now to January.
		2. No location determined for possible February adhoc mtg, expect more telecons
	2. **Thank You to everyone for their hard work to complete the comment processing.**
	3. **Adjourned at 3:29pm**

**References:**

**Monday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-02-000m-2018-november-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-03-000m-2018-november-tgmd-agenda.pptx>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0920-13-000m-802-11revmd-editor-s-report.ppt>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-04-000m-assorted-comment-resolutions.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-00-000m-comment-resolution-for-cid-1263.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-05-000m-assorted-comment-resolutions.docx>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-14-000m-revmd-mac-comments-assigned-to-hamilton.docx>

**Tuesday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-03-000m-2018-november-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-06-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1260-06-000m-resolution-to-cid-1195.docx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1260-07-000m-resolution-to-cid-1195.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-1829-00-000m-lb232-cr-on-dot11edcatable.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-1829-01-000m-lb232-cr-on-dot11edcatable.docx>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-06-000m-assorted-comment-resolutions.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-15-000m-revmd-mac-comments-assigned-to-hamilton.docx>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-1724-02-000m-response-to-d1p1-tgah-comments-from-1099.docx>

**Wednesday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-04-000m-2018-november-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1716-00-000m-resolution-for-cid-1096.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1716-01-000m-resolution-for-cid-1096.docx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-02-000m-comment-resolution-for-cid-1263.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-16-000m-revmd-mac-comments-assigned-to-hamilton.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-0669-17-000m-revmd-mac-comments-assigned-to-hamilton.docx>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-1870-00-000m-suite-b-pmkid.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1990-03-000m-kill-the-kracken.docx>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-2011-01-000m-indicating-a-password-identifier.docx>
10. <https://mentor.ieee.org/802.11/dcn/18/11-18-1924-00-000m-fixing-missing-refs-to-ft-akms.doc>
11. <https://mentor.ieee.org/802.11/dcn/18/11-18-1989-00-000m-security-issues-in-802-11ah.pptx>
12. <https://mentor.ieee.org/802.11/dcn/18/11-18-1919-00-000m-proxy-nd-discovery-text-proposal.docx>

**Wednesday PM2:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-05-000m-2018-november-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1402-01-000m-minutes-for-revmd-sept-2018-waikoloa.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1701-04-000m-minutes-for-revmd-telecon-in-sept-and-oct.docx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-0657-07-000m-revmd-wg-lb232-comments-for-editor-ad-hoc.xls>
5. [https://](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls)[mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls)
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-14-000m-lb232-revmd-phy-sec-comments.xls>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-0614-04-000m-revmd-lb232-gen-comments.xls>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1431-01-000m-proposed-resolutions-for-editor-s-notes-in-revmd-d1-4.doc>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-14-000m-lb232-revmd-phy-sec-comments.xls>
10. <https://mentor.ieee.org/802.11/dcn/18/11-18-1968-03-000m-comment-resolution-for-cid-1263.docx>
11. <https://mentor.ieee.org/802.11/dcn/18/11-18-1566-02-000m-proposed-resolution-for-cid-1095.docx>
12. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-09-000m-assorted-comment-resolutions.docx>
13. <https://mentor.ieee.org/802.11/dcn/18/11-18-1724-03-000m-response-to-d1p1-tgah-comments-from-1099.docx>

**Thursday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1712-07-000m-2018-november-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1048-03-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-11-000m-assorted-comment-resolutions.docx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-15-000m-lb232-revmd-phy-sec-comments.xls>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-0614-05-000m-revmd-lb232-gen-comments.xls>
7. https://[mentor.ieee.org/802.11/dcn/17/11-17-0927-30-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-29-000m-revmd-mac-comments.xls)
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1990-05-000m-kill-the-kracken.docx>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-1870-02-000m-suite-b-pmkid.docx>
10. <https://mentor.ieee.org/802.11/dcn/18/11-18-1924-01-000m-fixing-missing-refs-to-ft-akms.doc>
11. <https://mentor.ieee.org/802.11/dcn/18/11-18-1724-04-000m-response-to-d1p1-tgah-comments-from-1099.docx>
12. <https://mentor.ieee.org/802.11/dcn/18/11-18-2042-00-000m-proposed-resolutions-for-last-remaining-lb-232-mac-ad-hoc-comments.xlsx>
13. <https://mentor.ieee.org/802.11/dcn/18/11-18-1048-03-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>
14. <https://mentor.ieee.org/802.11/dcn/18/11-18-1930-12-000m-assorted-comment-resolutions.docx>