IEEE P802.11
Wireless LANs

|  |
| --- |
| LB279 Comment Resolution for CIDs in sec-9 part-1 |
| Date: 2024-01-30 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Ali Raissinia | Qualcomm Inc. |  |  | alirezar@qti.qualcomm.com |
|  |  |  |  |  |

Abstract

This document provides LB279 comment resolutions to CIDs in section 9 based on **11bkD1.0, 11beD5.0, and REVmeD4.2 references**. The CIDs including 1098, 1099, 1383, 1135, 1023, 1024, 1071, 1385, 1025, 1028, 1386, 1190, 1192, 1131, 1026, and 1073 (16 total).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1098 | 9.3.1.19 | 16.05 | In REVme D4.1 Subclause 9.3.1.19 (NDP Announcement Frame format) addresses specific HE-LTF congfigurations, HE Ranging NDP and secure HE-LTF with respect to Ranging NDP Announcement frames. No equivalent can be found for EHT-LTF configurations, EHT Ranging NDP or secure EHT-LTF. | Add the following changes in 11bk D1.0 9.3.1.19 based on REVme D4.1:1. Change 9.3.1.19 P675L42-44 as follows:to indicate the following R2I NDP's HE-LTF configuration (see 27.3.19.1 (HE Ranging NDP) and 36.3.4.1 (EHT Ranging NDP)); the I2R NSTS and the I2R Rep subfields are reserved2. Change 9.3.1.19 P675L48-50 as follows:to indicate the following I2R NDP's HE-LTF configuration, see 27.3.19.1 (HE Ranging NDP) and 36.3.4.1 (EHT Ranging NDP), while the R2I NSTS and R2I Rep subfields indicate the HE-LTF configuration of the R2I NDP sent in response by the RSTA, see 11.21.6.4.4 (Non-TB ranging measurement exchange)3. Change 9.3.1.19 P675L54-55 as follows:11.21.6.4.5.2 (TB ranging measurement exchange with secure LTF); it indicates the number of LTF to skip | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1099 | 9.3.1.19 | 16.05 | In REVme D4.1 Subclause 9.3.1.19 (NDP Announcement Frame format) address specific HE-LTF congfiguraitons, HE Ranging NDP and secure HE-LTF with respect to Ranging NDP Announcement frames. No equivalent can be found for EHT-LTF configuration, EHT Ranging NDP or secure EHT-LTF. | Add the following changes in 11bk D1.0 9.3.1.19 based on REVme D4.1:4. Change 9.3.1.19 P675L62-64 as follows:The R2I Rep and I2R Rep subfields are set to the number of LTF repetitions of the corresponding HE/EHT Ranging NDP minus 1; see 27.3.19.1 (HE Ranging NDP) and 36.3.4.1 (EHT Ranging NDP). If the I2R and R2I Rep subfields have a value equal to 0, then there is no LTF repetition in the I2R and R2I NDP respectively.5. Change 9.3.1.19 P676L23 as follows:see 11.21.6.4.5.3 (Non-TB ranging measurement exchange with secure LTF). | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1383 | 9.3.1.19 | 3.18 | Text (technical content) for VHT/HE/Ranging NDP Announcement frame format not defined in subclause 9.3.1.19, but reference in the draft | Provide text for VHT/HE/Ranging NDP Announcement frame format. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1135 | Baseline | 0.00 | In 9.3.1.19 of 802.11me D4.1, p 675 line 49, there are references to HE-LTF, should these be changed to LTF as has been done in other location in clause 9? This seems to be inconstant. | Please review baseline use of HE-LTF in clause 9 that relate to 802.11bk, and correct as necessary. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |

*Resolution for CIDs 1098, 1099, 1383 and 1135:*

*TGbk editor, change the text in section 9.3.1.19 of REVme D4.2 P686L41 until P687L23 as follows:*

(11az)When used as part of the non-TB ranging measurement exchange, the I2R NSTS and I2R Rep subfields are used to indicate the following I2R NDP’s HE-LTF configuration, see 27.3.19.1 (HE Ranging NDP(11az)) or I2R NDP’s EHT-LTF configuration, see 36.3.4.1 (EHT Ranging NDP), while the R2I NSTS and R2I Rep subfields indicate the HE-LTF configuration or EHT-LTF configuration of the R2I NDP respectively sent in response by the RSTA, see 11.21.6.4.4 (Non-TB ranging measurement exchange(11az)).

(11az)The LTF Offset subfield is used in the TB ranging measurement exchange protocol with secure LTF see 11.21.6.4.5.2 (TB ranging measurement exchange with secure ~~HE-~~LTF(11az)); it indicates the number of HE-LTF or EHT-LTF to skip when processing the following NDP. The LTF Offset subfield is set to 0 in all other cases.

(11az)The R2I NSTS and I2R NSTS subfields indicate the number of spatial streams of the corresponding NDP and is set to the number of spatial streams minus 1.

(11az)The R2I Rep and I2R Rep subfields are set to the number of HE-LTF repetitions of the corresponding HE Ranging NDP minus 1; see 27.3.19.1 (HE Ranging NDP(11az)) or EHT-LTF repetitions of the corresponding EHT Ranging NDP minus 1; see 36.3.4.1 (EHT Ranging NDP(11az). If the I2R and R2I Rep subfields have a value equal to 0, then there is no HE-LTF repetition nor EHT-LTF repetition in the I2R and R2I NDP respectively.

(11az)The Disambiguation subfield is set to 1 as in the STA Info field in an HE NDP Announcement frame regardless of the value of the AID11 subfield.

(11az)The format of the STA Info field in a Ranging NDP Announcement frame when the AID is equal to 2043 is shown in Figure 9-83 (STA Info field format in a Ranging NDP Announcement frame if the AID11 subfield is 2043(11az)). It is used in the non-TB ranging measurement exchange with secure LTF to carry the sequence authentication code (SAC).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 B10 | B11 B26 | B27 | B28 B31 |
|  | AID11 | SAC | Disambiguation | Reserved |
| Bits: | 11 | 16 | 1 | 4 |
| * STA Info field format in a Ranging NDP Announcement frame if the AID11 subfield is 2043(11az)
 |

(11az)The SAC subfield contains the 16-bit SAC used in the non-TB ranging measurement exchange with

secure LTF; see 11.21.6.4.5.3 (Non-TB ranging measurement exchange with secure ~~HE-~~LTF(11az)).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1023 | 9.3.1.22.1 | 16.08 | The change to the table for Trigger Type subfield encoding is already done by 802.11az-2022. | Delete the instruction starting from line 8 and Table 9-29c. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1024 | 9.3.1.22.1 | 16.13 | The change to the description for the User Info field is already done by 802.11az-2022. | Delete the instruction starting from line 13 and the paragraph starting from line 14. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1071 | 9.3.1.22.1 | 16.07 | Changes proposed in 9.3.1.22.1 appear to be already included in 802.11-REVme/D4.1. | No need to include these changes since 802.11-REVme/D4.1 should be the baseline for this Amendment. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1385 | 9.3.1.22.1 | 16.13 | The text change is not consistent with REVme D4.1. | Make the text change consistent with REVme D4.1 (e.g., the paragraph above Figure 9-92) | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |

*Resolution for CIDs 1023, 1024, 1071 and 1385:*

*TGbk editor, delete text in P16L8-18 of 11bkD1.0 as shown below as this text already exists in the REVmeD4.2 in P691L26 and P694L17-19.*

***~~Insert the following new row into Table 9-29c and change the reserve subfield values from 8-~~***~~8~~ ***~~15 to 9-15:~~*** ~~9~~

**~~Table 9-29c—Trigger Type subfield encoding~~** ~~10~~

|  |  |
| --- | --- |
| ~~11~~ **~~Trigger Type subfield value~~**  | **~~Trigger frame variant~~**  |
| ~~8~~  | ~~Ranging~~  |
| ~~9-15~~  | ~~Reserved~~  |

***~~Change the paragraph in 9.3.1.22.1 of draft 80211ax-2021 as shown below: (#202307-03)~~***

~~The User Info field is defined in Figure 9-64d (User Info field) for all Trigger frame variants, except the NFRP Trigger frame, which is defined in 9.3.1.22.9 (NDP Feedback Report Poll (NFRP) variant) and the Ranging Trigger frame which is defined in 9.3.1.22.10 (Ranging Trigger variant).~~

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1025 | 9.3.1.22.1 | 16.19 | 802.11-REVme/D4.1 already incorporates the changes made by 802.11ax-2021 and 802.11az-2022 to the table for UL Target Receive Power subfield in Trigger frame. The changes should be shown only for this amendment. | Use 802.11-REVme/D4.1 as the baseline and make changes to Table 9-54. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1028 | 9.2.1.22a | 0.00 | Update the subclause numbers, 9.3.1.22a and 9.3.1.22a.1-5, to 9.3.1.23 and 9.3.1.23.1-5, respectively. | As in comment. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1386 | 9.3.1.22.1 | 16.19 | The text change is not consistent with REVme D4.1. | Make the text change based on Table 9-54 of REVme D4.1 | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1190 | 9.3.1.22.1 | 17.01 | "Secured Sounding Ranging Trigger frame" -- no such frame | Change to "Secure Sounding Ranging Trigger frame" | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1192 | 9.3.1.22.1 | 17.01 | "the STA's transmit power is that used for HE-MCS 0 for an HE TB PPDU or that used for EHT-MCS 0 for an EHT TB PPDU" -- this will go stale when UHR comes along | Reword in terms of "that used for MCS 0 for the PHY corresponding to the PPDU" or something like that | Rejected. The spec is intended to limit NDP transmission in response to Sounding, Passive Sounding, Secure Sounding Trigger frames to be in the HE or EHT format. The future NDP formats (i.e., UHR) would need to be studied as to whether or not it brings a new value-add for Ranging, if so add it either in new TG or preferably as part of 11bn workload.  |
| 1131 | 9.3.1.22.1 | 17.01 | The text added seems to allows the STA to transmit at different power levels depending on what is being transmitted, but the current text does not make this clear. For the "if" case of a Sounding or Passive Sounding Ranging Trigger frame without an MCS the power will be the same a the power that would be used to transmit an HE-MCS 0 or an EHT TB PPDU, and if a Secured Sounding Ranging Trigger frame it has other criteria. So it seems that there are 3 cases being described in this text, hence there should be 3 ifs. 1) if the STA transmits a TB PPDU, 2) if the STA transmits a Sounding or Passive Sounding Ranging trigger frame, 3) if the STA transmits a Secured sounding Ranging trigger frame that does not have an assigned MCS.Lastly the Note is incorrect as the expected receive signal power is the STA's transmit power minus the path loss, there does not seem to be an assigned MCS for all of the cases considered above. | Correct the description text so that it is clear what power level is used for each of the types of frames. Or reference where the power level is specified for each of the types else where in the specification. Also correct the note to remove the ambiguity of "assigned MCS". | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |

*Resolution for CIDs 1025, 1386, 1190, 1191, and 1131, :*

*TGbk editor, replace Table 9-29j in 11bkD1.0 with Table 9-54 in the REVme D4.2 and make following changes shown below.*

|  |
| --- |
| * UL Target Receive Power subfield in Trigger frame(11ax)
 |
| UL Target Receive Power subfield | Description |
| 0–90 | The expected receive signal power, in units of dBm, is *Targetpwr* = –110 + *Fval*, where *Fval* is the subfield value |
| 91–126 | Reserved |
| 127 | The STA transmits the HE TB PPDU at the STA’s maximum transmit power for the assigned ~~HE-~~MCS.(11az)If the ~~Trigger frame is a~~ Sounding Ranging Trigger frame or the Passive Sounding Ranging Trigger frame ~~that~~ does not assign an ~~HE-~~MCS, then the assigned STA’s transmit power is ~~that used for~~ HE-MCS 0 for an HE TB PPDU or EHT-MCS 0 for an EHT TB PPDU. . (11az)If the ~~Trigger frame is a~~ Secure~~d~~ Sounding Ranging Trigger frame ~~that~~ does not assign an ~~HE-~~MCS, then the assigned ~~HE-MCS is assumed to be HE-MCS 6 in terms of setting the~~ STA’s transmit power is HE-MCS 6 for an HE TB PPDU or EHT-MCS 6 for an EHT TB PPDU.(11az)NOTE—The expected receive signal power is then the STA's ~~maximum~~ transmit power ~~for the assigned HE-MCS~~ minus the path loss. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1026 | 9.3.1.22.1 | 17.02 | Refer to 802.11-REVme/D4.1, not 802.11ax-2021. | Update the instruction. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |
| 1073 | 9.3.1.22.1 | 17.02 | "Change the paragraph in 9.3.1.22.1 of 80211ax-2021 as shown below: (202307-03)". Amendment should not use reference to 11ax. Moreover, the proposed change appears to already be included in 802.11-REVme/D4.1 | Update to correct reference. Remove changes that are no longer relevant. | Revised<https://mentor.ieee.org/802.11/dcn/24/11-24-0212-00-00bk-lb279-comment-resolutions-for-cids-in-sec-9-part-1.docx> |

*Discussion:* text in P691L35-39 of REVmeD4.2 is shown as below hence no need to have the current text in the 11bk spec.

The More TF subfield of the Common Info field indicates whether (11az) or not a subsequent Trigger frame is scheduled for transmission. The More TF subfield is set as defined in 26.8.2 (Individual TWT agreements), 26.8.3.2 (Rules for TWT scheduling AP), and 11.21.6.4.3 (TB ranging measurement exchange(11az)).(11az)

*Resolution for CIDs 1026 and 1073:*

*TGbk editor, delete text in P17L2-7 as updated text exists in P691L35-39 of REVmeD4.2*

***~~Change the paragraph in~~* ~~9.3.1.22.1~~ *~~of 80211ax-2021 as shown below: (202307-03)~~***

~~The More TF subfield of the Common Info field indicates whether or not a subsequent Trigger frame is scheduled for transmission. The More TF subfield is set as defined in 26.8.2 (Individual TWT agreements), and 26.8.3.2 (Rules for TWT scheduling AP) and 11.21.6.4.3 (TB ranging measurement exchange).~~

**References: P802.11bkD1.0, P802.11beD5.0 & P802.11REVmeD4.0**