IEEE P802.11
Wireless LANs

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| LB286 Comment Resolution Section 3 and 36 |
| Date: 2024-05-08 |
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Abstract

This submission proposes to address the following CID 2057, 2062, 2063, 2108, 2109, 2110 and 2111 changes are relative to Draft P802.11be\_D5.1, Draft P802.11REVme\_D5.0, and Draft P802.11bk D2.0.

Revisions:

1. Update CID by +2000, incorporate changed during discussion
2. More updates due to discussoin

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbk Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbk Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbk Editor: Editing instructions preceded by “TGbk Editor” are instructions to the TGbk editor to modify existing material in the TGbk draft. As a result of adopting the changes, the TGbk editor will execute the instructions rather than copy them to the TGbk Draft.***

**The text preceded by “Discussion” is not part of the adopted changes.**

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **2057** | 15.09 | 3.1 | The definition of LTF repetitions only includes HE-LTF and EHT-LTF symbols, but not NGV-LTF symbols, see REVme D5.0 clause 32.3.16 | Please change definition to:LTF repetitions: Multiple transmissions of HE-LTF, NGV-LTF, or EHT-LTF symbols in an HE RangingNDP, HE TB Ranging NDP, NGV Ranging NDP, EHT Ranging NDP, or EHT TB Ranging NDP, where an LTFrepetition value of 1 indicates no repetitions, and, for example, a value of 2 would indicatetwice as many HE-LTF, NGV-LTF, or EHT-LTF symbols, respectively. | **Revised**TGbk editor, make the changes identified in document <https://mentor.ieee.org/802.11/dcn/24/11-24-0845-02-00bk-lb286-comment-resolution-section-3-and-36.docx> |
| **2062** | 15.17 | 3.2 | “An LTF present in an initiating STA (ISTA) “ – an LTF is present in PPDUs, not in a STA | I’m not sure what this is trying to say – “An LTF present in an NDP sent by an initiating STA (ISTA) “? | **Revised**TGbk editor, make the changes identified in document<https://mentor.ieee.org/802.11/dcn/24/11-24-0845-02-00bk-lb286-comment-resolution-section-3-and-36.docx> |
| **2063** | 15.23 | 3.2 | “with either the Validation SAC subfield in the Secure HE-LTF Parameters element in the last transmitted FTM frame, or the last transmitted Location Measurement Report frame to the ISTA, or is equal to 0” makes no sense | Delete “, or is equal to 0” | **Revised**TGbk editor, make the changes identified in document<https://mentor.ieee.org/802.11/dcn/24/11-24-0845-02-00bk-lb286-comment-resolution-section-3-and-36.docx> |
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| **2108** |  | 36.2.2 | “If SECURE\_LTF\_FLAG is 1, indicating the number of users of an EHT Ranging NDP with secure EHT-LTF. “ is vague | Change to “If SECURE\_LTF\_FLAG is 1, set to the number of users of an EHT Ranging NDP with secure EHT-LTF. “ | **Accepted** |
| **2109** |  | 36.2.2 | “; using commas to clarify 8 statements of the type “(A or B) and C” to “either A or B, and C”. (#1304) “ – the changes have to stand on their own, without clarification | Delete the cited text | **Accepted** |
| **2110** |  | 36.2.2 | The “either”s in this table don’t add anything | Delete the 8 “either”s (but keep the commas after the second argument thereof) | **Accepted** |
| **2111** |  | 36.2.2 | I don’t think you can have a TXVECTOR parameter that “is present” without a value | In the rows for RANGING\_FLAG say “set to 1” or something like that | **Rejected**This is copied exactly from baseline spec, take it up in Rev ME. |

3.1 Definitions

1. ***TGbk Editor: Change text on page 15 Clause 3.1 Definitions (starting at line 9) and add editor instructions as follows:***

***Change subclause 3.1 as follows:***

**~~HE-~~LTF repetitions**: Multiple transmissions of HE-LTF, NGV-LTF, or EHT-LTF symbols in an HE Ranging NDP, ~~or~~ HE TB Ranging NDP, NGV Ranging NDP, EHT Ranging NDP, or EHT TB Ranging NDP, where an ~~HE-~~LTF repetition value of 1 indicates no repetitions, and, for example, a value of 2 or 3 would indicate twice or three times as many HE-LTF, NGV-LTF, or EHT-LTF symbols, respectively.(#2057)(11az)

1. 3.2 Definitions specific to IEEE 802.11
2. ***Change subclause 3.2 as follows:***
3. **~~Null-SAC-HE-LT~~F**~~:~~ **Null-sequence authentication code (SAC)-long training field (LTF)**: [Null-SAC-LTF] An HE-LTF or EHT-LTF field value as a result of a SAC mismatch between ~~present in~~ an initiating STA (ISTA) ~~to~~and a responding STA (RSTA). ~~null data PPDU (NDP), or RSTA to ISTA NDP~~ ~~in the Ranging frame exchange~~, ~~resulting from a mismatch of sequence authentication code (SAC) subfield in the STA Info field of a Ranging NDP Announcement frame, or the SAC subfield in the Trigger Dependent User Info field in the Ranging Secure Sounding Trigger frame, with either the Validation SAC subfield in the Secure HE-LTF Parameters element in the last transmitted FTM frame, or the last transmitted Location Measurement Report frame to the ISTA, or is equal to 0. The TXVECTOR LTF\_KEY and LTF\_IV parameter corresponding to this LTF are set to generate any secure HE-LTF or null.~~ (#**1037**, #**1094, #1130**) (#**2062**, #**2063**)

36.2.2 TXVECTOR and RXVECTOR parameters

1. ***TGbk Editor: Change text on page 86 Clause 36.2.2 TXVECTOR and RXVECTOR parameters and editor instructions as follows:***
2. ***Change the existing rows for parameters “APEP\_LENGHT” and “PSDU\_LENGTH”. Insert new rows at end of Table 36-1 (but before the notes) as follows.(#2109)***
3. Table 36-1—TXVECTOR and RXVECTOR parameters

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| --- | --- | --- | --- | --- |
| Parameter | Condition | Value | TXVECTOR | RXVECTOR |
| APEP\_LENGTH | FORMAT is EHT\_MU or EHT\_TB | Integer.If 0 and FORMAT is EHT\_MU, indicates an EHT sounding NDP or EHT Ranging NDP. If 0 and FORMAT is EHT\_TB, indicates an EHT TB Ranging NDP.Otherwise, indicates the number of octets in the range 1 to aPSDUMaxLength in the A-MPDU pre-EOF padding (see Table 36-70 (EHT PHY characteristics)) that is carried in the PSDU. | MU | N |
| FORMAT is PHY\_VER\_UNKNOWN | Not present. |
| Otherwise | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters) or Table 27-1 (TXVECTOR and RXVECTOR parameters). |
| PSDU\_LENGTH | FORMAT is EHT\_MU or EHT\_TB  | Indicates the number of octets in the PSDU in the range 0 to aPSDUMaxLength octets (see Table 36-70 (EHT PHY characteristics)). A value of 0 indicates an EHT sounding NDP, an EHT Ranging NDP or an EHT TB Ranging NDP. | N | Y |
| FORMAT is PHY\_VER\_UNKNOWN | Not present. |
| Otherwise | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters) or Table 27-1 (TXVECTOR and RXVECTOR parameters). |
|  | (…existing fields…) |
| NUM\_USERS | FORMAT is EHT\_MU and RANGING\_FLAG is present | If SECURE\_LTF\_FLAG is 0, set to 1. If SECURE\_LTF\_FLAG is 1, set to the the number of users of an EHT Ranging NDP with secure EHT-LTF.(#2108) If NUM\_USERS is larger than 1, NUM\_STS, LTF\_REP and LTF\_KEY are arrays with number of entries equal to NUM\_USERS  | Y | N |
| FORMAT is EHT\_MU or HE\_TB,and RANGING\_FLAG is not present | Not present. |
| Otherwise | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters) or Table 27-1 (TXVECTOR and RXVECTOR parameters). |
| (…existing fields…) |
| TIME\_OF\_DEPARTURE\_REQUESTED | FORMAT is EHT\_MU orEHT\_TB, and RANGING\_FLAG is present | True indicates that the MAC entity requests that the PHY entity measure and report time of departure parameters corresponding to the time when the first frame energy is sent by the transmitting port. False indicates that the MAC entity requests that the PHY entity neither measures nor reports time of departure parameters. | O | N |
| FORMAT is EHT\_MU orEHT\_TB, and RANGING\_FLAG is not present  | Not present |
| Otherwise | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters) or Table 27-1 (TXVECTOR and RXVECTOR parameters). |
| LTF\_KEY | FORMAT is EHT\_MU or EHT\_TB, and RANGING\_FLAG is present, and SECURE\_LTF\_FLAG is 1 | Contains the *rsta-ltf-key* or *ista-ltf-key* (see [11.21.6.4.5.4](#H11o21o6o4o5o4)) when the secure EHT-LTFs are used (see [11.21.6.4.5](#H11o21o6o4o5)).   | Y | N |
| Otherwise | Not present  |
| LTF\_IV | FORMAT is EHT\_MU or EHT\_TB, and RANGING\_FLAG is present and SECURE\_LTF\_FLAG is 1 | Contains the *ltf-iv* (see [11.21.6.4.5.4](#H11o21o6o4o5o4)) used to generate the secure EHT-LTFs | Y | N |
| Otherwise | Not present  |
| LTF\_REP | FORMAT is EHT\_MU or EHT\_TB, and RANGING\_FLAG is present  | Indicates the number of EHT-LTF repetitions.  | Y | N |
| Otherwise | Not present  |
| RANGING\_FLAG  | FORMAT is EHT\_MU | If present, indicates the PPDU is an EHT Ranging NDP. Not present otherwise. | O | N |
| FORMAT is EHT\_TB | If present, indicates the PPDU is an EHT TB Ranging NDP.Not present otherwise. | O | N |
| Otherwise | Not present. | N | N |
| SECURE\_LTF\_FLAG | FORMAT is EHT\_MU or EHT\_TB, and the RANGING\_FLAG is present. | Set to 1 when the EHT Ranging NDP or EHT TB Ranging NDP uses secure EHT-LTF.Set to 0 otherwise. | Y | N |
| Otherwise | Not present.  |
| TX\_WINDOW\_FLAG | FORMAT is EHT\_MU or EHT\_TB, and RANGING\_FLAG is present and SECURE\_LTF\_FLAG is 1 | Set to 1 when the secure EHT-LTF of an EHT Ranging NDP or EHT TB Ranging NDP uses the optional frequency domain Tx window.Set to 0 otherwise. | Y | N |
| Otherwise | Not present.  |