IEEE P802.11
Wireless LANs

|  |
| --- |
| LB266 CR for EHT TRS Part I |
| Date: August 8, 2022 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Jason Yuchen Guo | Huawei |  |  | guoyuchen@huawei.com |
| Ming Gan | Huawei |  |  |  |
| Yunbo Li | Huawei |  |  |  |
| Guogang Huang | Huawei |  |  |  |
| Mengyao Ma | Huawei |  |  |  |
| Hongjia Su | Huawei |  |  |  |
| Yousi Lin | Huawei |  |  |  |

 Abstract

This submission proposes resolutions for following 10 CIDs received for TGbe LB266:

10997 10999 11000 11001 12128

13439 13940 13968 13970 13990

Revisions:

* Rev 0: Initial version of the document.

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 TGbe Draft. This introduction is not part of the adopted material.

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

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 10997 | Yanjun Sun | 486.45 | 35.5.2.2.4 | The current text looks confusing. Does it mean that an EHT MU PPDU cannot include a 4x996-tone RU or a 4x996-tone RU cannot be indicated by TRS? Please clarify. | As in comment | Revised-To clarify:The EHT MU PPDU can include a 4x996-tone RU if the 4x996-tone RU does not include the TRS Control subfield.TGbe editor:Please implement changes as shown in this document tagged as 10997. |
| 10999 | Yanjun Sun | 488.14 | 35.5.2.3.3 | To be consistent with the PHY section, please change NSYM and FVAL into subscripts | As in comment | Revised-Agree with the comment. TGbe editor:Please implement changes as shown in this document tagged as 10999. |
| 11000 | Yanjun Sun | 488.55 | 35.5.2.3.3 | The DEFAULT\_PE\_DURATION parameter is missing. Please add | As in comment | Revised-Agree in principle with the comment. TGbe editor: |
| 11001 | Yanjun Sun | 488.57 | 35.5.2.3.3 | A better subclause to refer to is 35.5.2.4 UL MU CS mechanism for EHT STAs instead of 26.5.2.5. Please update. | As in comment | Revised-Agree with the comment. TGbe editor:Please implement changes as shown in this document tagged as 11001. |
| 12128 | JINYOUNG CHUN | 486.45 | 35.5.2.2.4 | There's no reason to exclude 320MHz UL transmission by EHT MU PPDU with TRS control subfield. Clarify it. | As the comment | Rejected-To clarify:When the DL data frame is sent in a 4×996-tone RU of an EHT MU PPDU, there are two possible cases. Case 1 is the SU transmission, where it is more efficient to use the EHT MU PPDU rather than the EHT TB PPDU to send the acknowledgement. Case 2 is the MU MIMO transmission, where we can also use the Trigger frame to solicit the acknowledgement. Another reason is that the task group agrees to use the implicit way to decide the PS160 for the UL PPDU depending on the location of the 160 MHz channel with more data tones of the RU or MRU that carries the frame with the TRS control subfield, which does not fit the 320MHz EHT MU PPDU, and we can always use the Trigger frame to solicit the acknowledgement. |
| 13439 | Liwen Chu | 486.27 | 35.5.2.2.4 | Move this paragraph to the right subclause. | As in comment. | Revised-Agree with the comment. This sentence is no longer needed since it is also mentioned in 35.5.2.3.1 (General).TGbe editor:Please implement changes as shown in this document tagged as 13439. |
| 13940 | Ming Gan | 486.01 | 35.5.2.2.4 | Please add "with dot11EHTBaseLineFeaturesImplementedOnly " after "An EHT AP" | please clarify this is R1 AP | Rejected-Some of the rules in this subclause should be applied to both R1 and R2 EHT AP, e.g., AID 2007 indicates special user info, UL length setting, etc. |
| 13968 | Geonjung Ko | 488.07 | 35.5.2.3.3 | The DEFAULT\_PE\_DURATION parameter setting is missing. | Add the TXVECTOR paramter DEFAULT\_PE\_DURATION setting. | Revised-Agree with the comment. The setting of the DEFAULT\_PE\_DURATION parameter is added.TGbe editor:Please implement changes as shown in this document tagged as 13968. |
| 13970 | Geonjung Ko | 488.13 | 35.5.2.3.3 | The L\_LENGTH parameter is set to a multiple of 3 by computing it as described in Equation (36-17). However, following Page 640 Line 5, the LENGTH field is set to the TXVECTOR parameter L\_LENGTH + 2. Therefore, the resulting LENGTH field is not a multiple of 3. | Correct the rule to make the Length field value as a multiple of 3. | Revised-Agree in principle with the comment. The L\_LENGTH parameter needs to be computed according to equation (27-11) to align with the Trigger frame case.TGbe editor:Please implement changes as shown in this document tagged as 13970. |
| 13990 | Geonjung Ko | 486.35 | 35.5.2.2.4 | The UL Length subfield setting is defined to solicit an EHT TB PPDU, but Equation (27-11) is referencing the TXTIME equation for HE PPDU. | Use the equation for EHT PPDUs rather than the equation for HE PPDUs.The UL Length subfield should be set to the value given by Equation (36-17) minus 2. | Revised-Agree in principle with the comment. We only need to change the reference of the TXTIME to be Equation (36-110) which is for EHT PPDU.TGbe editor:Please implement changes as shown in this document tagged as 13990. |

***TGbe editor: Please note baselines are Draft P802.11be\_D2.1 and REVme D1.3***

**35.5.2.2.4 Allowed settings of the Trigger frame fields and TRS Control subfield**

An EHT AP may transmit a Trigger frame that solicits an EHT TB PPDU from an EHT STA subject to the rules defined in 26.5.2.2 (Rules for soliciting UL MU frames) and the additional rules defined below.

…… (existing text)

 (#13439)…… (existing text)

An EHT AP shall set the UL Length subfield of a transmitted Trigger frame that solicits an EHT TB PPDU to the value given by Equation (27-11) with m = 2 except that TXTIME is defined by Equation (36-110)(#13990).

…… (existing text)

An AP shall not send an EHT MU PPDU with a 4×996-tone RU if the 4×996-tone RU (#10997)carries a TRS Control subfield.

**35.5.2.3.3 TXVECTOR parameters for EHT TB PPDU response to TRS Control subfield**

A non-AP STA transmitting an EHT TB PPDU in response to a frame containing a TRS Control subfield shall set the TXVECTOR parameters as follows:
— The FORMAT parameter is set to EHT\_TB if the RXVECTOR parameter FORMAT of the PPDU carrying the frame with the TRS Control subfield is equal to EHT\_MU.
— The TRIGGER\_METHOD parameter is set to TRS.
— The L\_LENGTH parameter is computed as described in Equation (27-11)(#13970) using the TXTIME value. The TXTIME is defined by Equation (36-110) where *NSYM* is set to  *FVAL*+ 1, where  *FVAL*is the value of the UL Data Symbols subfield of the TRS Control subfield. (#10999)
— The RU\_ALLOCATION parameter is set to the value indicated by the RU Allocation subfield of the TRS Control subfield and a PS160 bit which is determined based on the RU allocation in the EHT MU PPDU carrying the TRS control subfield according to Table 35-2 (PS160 for RU allocation in EHT TRS).
— The MCS parameter is set to the value of the UL MCS subfield of the TRS Control subfield.
— The CH\_BANDWITDTH parameter is set to the value of the RXVECTOR parameter CH\_BANDWIDTH of the soliciting DL EHT PPDU (see Table 36-1 (TXVECTOR and RXVECTOR parameters)).
— The BSS\_COLOR parameter is set to the values of the RXVECTOR parameter BSS\_COLOR of the soliciting DL EHT PPDU.
— The NUM\_EHT\_LTF parameter is set to 1.
— The STARTING\_STS\_NUM parameter is set to 0.
— The NUM\_STS parameter is set to 1.
— The FEC\_CODING parameter is set to BCC\_CODING if the RU Allocation subfield indicates an RU or MRU that is smaller than a 484-tone RU; otherwise it is set to LDPC\_CODING.
— The LDPC\_EXTRA\_SYMBOL parameter is set to 0 if the RU Allocation subfield indicates an RU or MRU that is smaller than a 484-tone RU; otherwise it is set to 1.
— The SPATIAL\_REUSE parameter is set to PSR\_AND\_NON\_SRG\_OBSS\_PD\_PROHIBITED.

— If the received EHT Default PE Duration subfield of the EHT Operation Parameters field in the EHT Operation element transmitted by the AP with which the non-AP STA is associated is set to 0, the DEFAULT\_PE\_DURATION parameter is set to the default PE duration value for UL MU response scheduling, which is indicated by the AP in the Default PE Duration subfield of the HE Operation element it transmits; Otherwise, the DEFAULT\_PE\_DURATION parameter is set to 20us.(#13968)
— The TXOP\_DURATION parameter is set as defined in 26.11.5 (TXOP\_DURATION).
— All U-SIG Disregarded and Validate bits are set to 1.
— If the RXVECTOR parameters EHT\_LTF\_TYPE and GI\_TYPE of EHT MU PPDU, carrying the frame with the TRS Control subfield are either: 4× EHT-LTF and 3u2s\_GI, respectively; or 2× EHTLTF and 1u6s\_GI, respectively; then the EHT\_LTF\_TYPE and GI\_TYPE parameters are set to 4× EHT-LTF and 3u2s\_GI, respectively. Otherwise, the EHT\_LTF\_TYPE and GI\_TYPE parameters are set to 2× EHT-LTF and 1u6s\_GI, respectively.
— The TXPWR\_LEVEL\_INDEX parameter is set to a value based on the computed transmission power (see 36.3.16.2 (Power pre-correction)) for an EHT TB PPDU, the value of the AP Tx Power subfield of the TRS Control subfield and the UL Target Receive Power subfield of the TRS Control subfield.

NOTE—A non-AP STA transmitting an EHT TB PPDU in response to a frame carrying a TRS Control subfield considers that both the physical CS and the virtual CS are set to 0 (see 35.5.2.4 (UL MU CS mechanism for EHT STAs)). (#11001)