IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 271 CR for 35.7.3 Part I | | | | |
| Date: 2023-04-05 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Zinan Lin | InterDigital |  |  | [zinan.lin@interdigital.com](mailto:zinan.lin@interdigital.com) |
| Rui Yang |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

##### This submission present proposed resolutions for the following 20 CIDs:

##### 17057, 17058, 17059, 17256, 17257, 16670, 17060, 17062, 15578, 17061, 17063, 17985, 17986, 17064, 17065, 17066, 17274, 17067, 17258, 17068

##### The proposed changes are based on 802.11be/D3.1.

##### Revision history:

##### r0 – initial version

r1 – Typo correction

## CID 17057

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17057 | 35.7.3 | 612.08 | "An example of an EHT non-TB sounding sequence with a single EHT beamformee" but the previous para says it's always with a single BFee | Delete "with a single EHT beamformee" | Accepted |

***TGbe editor: please make the following change in subclause 35.7.3***

***P618L08***

An example of an EHT non-TB sounding sequence (#17057) is shown in Figure 35-46 (An illustration of EHT non-TB sounding).

## CID 17058, 17059, 17256, 17257, 16670, 17060

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17058 | 35.7.3 | 612.24 | "An EHT beamformer that initiates the EHT non-TB sounding sequence" wrong article | Change "the" to "an" | Accept |
| 17059 | 35.7.3 | 612.25 | "the STA Info field having a value in the AID11 field other than 2047 and with the AID11 field in that STA Info field set to the AID of the STA identified by the RA field or to 0 if the STA identified by the RA field is an associated AP, mesh STA or IBSS STA." -- the last 2 conditions imply the first | Delete "the STA Info field having a value in the AID11 field other than 2047 and " | Revised.  After deleting the sentence mentioned in the comment, the whole sentence is reorganized to make the grammar of the sentence correct.  TGbe editor: make change in THIS DOCUMENT with tag 17059 |
| 17256 | 35.7.3 | 612.25 | AID11 is not a field | Change to "... AID11 subfield ..." | Revised.  This part is deleted per CID 17059 |
| 17257 | 35.7.3 | 612.26 | AID11 is not a field | Change to "... AID11 subfield ..." | Revised.  The sentence is changed. Please refer to CID 17059 with incorporating the suggested change in this CID.  TGbe editor: make change in THIS DOCUMENT with tag 17257 |
| 16670 | 35.7.3 | 612.36 | Mandating >1 STA Info for TB sounding is not good since the sounding with multiple beamformees may left one beamformee because of the partial successful previous TB sounding sequence. | As in comment | Rejected  Mandating >1 STA Info for TB sounding was defined in 802.11ax (REVme D2.1, subclause 26.7.3). Furthermore, if one beamformee is left from the previous TB sounding sequence, then non-TB sounding sequence can be initiated. |
| 17060 | 35.7.3 | 612.36 | "An EHT beamformer that initiates an EHT TB sounding sequence shall transmit an EHT NDP Announcement frame with two or more STA Info fields" -- why not allow an EHT TB sounding sequence with a single STA? | As it says in the comment | Rejected  Mandating >1 STA Info for TB sounding was defined in 802.11ax (REVme D2.1, subclause 26.7.3). If a single beamformee is solicited, then EHT non-TB sounding sequence can be initiated. |

***Tgbe editor: please make the following change in subclause 35.7.3***

***P618L24***

An EHT beamformer that initiates(#17058) an EHT non-TB sounding sequence shall transmit the EHT NDP Announcement frame with a single STA Info field. (#17059,#17257) The AID11 subfield of the STA Info field is set to the AID of the STA identified by the RA field or to 0 if the STA identified by the RA field is an associated AP, mesh STA or IBSS STA. The EHT NDP Announcement frame shall be followed after a SIFS by an EHT sounding NDP, which shall be followed after a SIFS by a PPDU containing one or more EHT Compressed Beamforming/CQI frames.

## CID 17062, 15578, 17061

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17062 | 35.7.3 | 612.36 | The figure shows there can be more than one BFRP Trigger frame but the text does not describe this | Add text to describe this. Maybe the text at 615.4 could be moved | Revised. Agree with the comment in principle.  TGbe editor: make change in THIS DOCUMENT with tag 17062 |
| 15578 | 35.7.3 | 615.06 | Change: with any STA being triggered only once within the TXOP To: with each STA identified in the NDP Announcement frame and any STA being triggered only once within the TXOP | As in comment | Revised.  Agree with the commenter in the principle. Per CID 17062’s suggestion, this sentence is moved to the sentence right after the definition of EHT TB sounding sequence (P618 L42 in 802.11be D3.1). Furthermore, as indicated in P621L14, not every STA that is identified in the NDP Announcement frame is mandated to be triggered by the BFRP ( “In the EHT TB sounding sequence, the STAs identified in the NDP Announcement frame should be the same as the ones identified in the Trigger frame(s) in the same TXOP.”).  TGbe editor: make change in THIS DOCUMENT with tag 15578 |
| 17061 | 35.7.3 | 612.39 | "Each EHT beamformee that is addressed by a BFRP Trigger frame" wrong article | Change "a" to "the" | Accepted |

Discussions:

Per CID 17062, The 2nd, 3rd and 4th paragraphs in P621 (802.11be D3.1) do not fit the context well. The paragraphs before and after these 3 paragraphs discuss the parameter settings of the EHT non-TB sounding sequence. Therefore, these 3 paragraphs are moved to the end of the paragraph in P618L42 (802.11be D3.1). To avoid redundancy, the paragraph on P618L44 is removed.

End of discussions

***Tgbe editor: please make the following change in subclause 35.7.3***

***P618L36***

An EHT beamformer that initiates an EHT TB sounding sequence shall transmit an EHT NDP Announcement frame with two or more STA Info fields and the RA field set to the broadcast address. The EHT NDP Announcement frame shall be followed after a SIFS by an EHT sounding NDP, which shall be followed after a SIFS by a BFRP Trigger frame. Each EHT beamformee that is addressed by (#17061) the BFRP Trigger frame shall respond after a SIFS with an EHT TB PPDU containing one or more EHT Compressed Beamforming/CQI frames. (#17062, 15578) that is identified in the NDP Announcement frame more than one EHT beamformee and In an EHT TB sounding sequence, a

***P621L4***

## CID 17063, 17985, 17986, 17064

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17063 | 35.7.3 | 0.00 | "feedback variant" is undefined (and only used on this page) | Delete "variant" where it appears in this construct on this page | Accepted |
| 17985 | 35.7.3 | 613.05 | "computed based on parameters supported by the EHT beamformee". I assume this refers to the TB Sounding Feedback Rate Limit, but it's a bit cryptic as worded here. | Add reference to TB Sounding Feedback Rate Limit. | Revised.  “Parameters” refer to all the beamformee related parameters included in the EHT PHY Capabilities Information field defined in 9.4.2.313.3. To make the text clearer, the reference is added.  TGbe editor: make change in THIS DOCUMENT with tag 17985 |
| 17986 | 35.7.3 | 613.05 | The second sentence of the paragraph on lines 5-9 is redundant. The first sentence already states that the beamformer can ONLY use parameters supported by the beamformee. There is no "otherwise". | Delete sentence starting with "; otherwise the EHT (...) " | Rejected.  The first sentence uses “may”. Therefore, it would be better to mandate what shall not be done. The 2nd sentence is revised per CID 17064. |
| 17064 | 35.7.3 | 613.04 | "otherwise the EHT beamformer shall not solicit a feedback variant computed based on parameters not supported by the EHT beamformee (see 35.7.2 (EHT sounding protocol))." is over-egging the pudding | Change para to "An EHT beamformer shall not initiate an EHT TB sounding sequence if the feedback is computed based on parameters not supported by the EHT beamformee (see 35.7.2 (EHT sounding protocol))." | Revised. Agree with the comment in principle.  After discussion with the commenter, the sentence is modified to “An EHT beamformer shall not initiate an EHT TB sounding sequence if the feedback would be computed based on …”  TGbe editor: make change in THIS DOCUMENT with tag 17064 |

***Tgbe editor: please make the following change in subclause 35.7.3***

***P619L01***

An EHT beamformer may initiate an EHT TB sounding sequence to solicit SU, MU, or CQI feedback (#17063) .

An EHT beamformer may initiate an EHT TB sounding sequence to solicit feedback (#17063) only if the feedback is computed based on parameters (#17985) (see 9.4.2.313.3 (EHT PHY Capabilities Information field) supported by the EHT beamformee. (#17064) An EHT beamformer shall not initiate an EHT TB sounding sequence if the feedback (#17063) would be computed based on parameters not supported by the EHT beamformee (see 35.7.2 (EHT sounding protocol)).

## CID 17065, 17066, 17274, 17067, 17258, 17068

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17065 | 35.7.3 | 613.17 | "An AP that transmits an EHT NDP Announcement frame identifying EHT STAs" -- an EHT NDPA necessarily identifies EHT STAs | Delete "identifying EHT STAs" | Accepted |
| 17066 | 35.7.3 | 613.20 | "in which case," spurious comma | Delete comma | Accepted |
| 17274 | 35.7.3 | 613.24 | They are two conditions for setting the TA field of the EHT NDP Announcement frame which are indicated in 10.6.6.6. One is channel width 40 MHz or wider and another is channel width 20 MHz. It may want to mention both conditions. | The last sentence of the paragraph is changed to "If the EHT NDP Announcement frame is transmitted in a non-HT duplicate PPDU (channel width 40 MHz or wider) then the TA field of the EHT NDP Announcement frame is a bandwidth signaling TA; if the EHT NDP Announcement frame is transmitted in a non-HT PPDU (channel width 20 MHz), then the TA field of the EHT NDP Announcement frame may be a bandwidth signaling TA (see 10.6.6.6 (Channel Width selection for Control frames)). | Accepted |
| 17067 | 35.7.3 | 613.26 | "An EHT beamformer that transmits an EHT NDP Announcement frame to an EHT beamformee that is an associated AP, mesh STA, or IBSS STA, shall include one STA Info field" -- I think this is trying to say exactly one | Change "one" to "exactly one" | Revised.  P618L24 (802.11be D3.1) states that “An EHT beamformer that initiates the EHT non-TB sounding sequence shall transmit the EHT NDP Announcement frame with a single STA Info field, the STA Info field having a value in the AID11 field other than 2047 and with the AID11 field in that STA Info field set to the AID of the STA identified by the RA field or to 0 if the STA identified by the RA field is an associated AP, mesh STA or IBSS STA.” It implies that if the beamformee is an associated AP, mesh STA or IBSS, it can only be non-TB sounding sequence. Therefore, to be consistent with the sentence on P618L24, “One STA Info field” is changed to “a single STA”  TGbe editor: make change in THIS DOCUMENT with tag 17067 |
| 17258 | 35.7.3 | 613.29 | AID11 is not a field | Change to "... AID11 subfield ..." | Accepted |
| 17068 | 35.7.3 | 613.33 | "to 11 LSBs" missing article | Add "the" after "to" | Accepted |

***Tgbe editor: please make the following change in subclause 35.7.3***

***P619L18***

An AP that transmits an EHT NDP Announcement frame (#17065) shall set the TA field of the frame to the MAC address of the AP, unless dot11MultiBSSIDImplemented is true and the EHT NDP Announcement frame identifies STAs from at least two different BSSs of the multiple BSSID set, in which case (#17066) the AP shall set the TA field of the frame to the transmitted BSSID. If the EHT NDP Announcement frame is transmitted in a non-HT duplicate PPDU (#17274) (channel width 40 MHz or wider), then the TA field of the EHT NDP Announcement frame is a bandwidth signaling TA (see 10.6.6.6 (Channel Width selection for Control frames)); (#17274) if the EHT NDP Announcement frame is transmitted in a non-HT PPDU (channel width 20 MHz), the TA field of the EHT NDP Announcement frame may be a bandwidth signaling TA (see 10.6.6.6 (Channel Width selection for Control frames)).

***P619L26***

An EHT beamformer that transmits an EHT NDP Announcement frame to an EHT beamformee that is an associated AP, mesh STA, or IBSS STA, shall include (#17067) a single STA Info field in the EHT NDP Announcement frame and shall set the AID11 (#17258) subfield in the STA Info field of the frame to 0.

***P61931***

When an EHT beamformer is an AP and EHT beamformees are non-AP STAs, the EHT beamformer that transmits an EHT NDP Announcement frame to one or more EHT beamformees shall set the AID11 subfield to (#17068) the 11 LSBs of the AID of each EHT beamformee.