IEEE P802.11
Wireless LANs

|  |
| --- |
| CC36 CR for CIDs in Clause 35.5.2 |
| Date: 2021-07-08 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Zinan Lin | InterDigital Inc. | 111 West 33rd StreetNew York, NY 10120USA |  | zinan.lin@interdigital.com |
| Xiaofei Wang |  |  |
| Hanqing Lou |  |  |
| Wook Bong Lee | Samsung |  |  |  |

Abstract

This submission proposes the resolution for CID 6838, 6839, 6840, 6841, 6842, 6843, 6844, 6845, 6846, 6847, 6848, 6849, 6850, 6851, 7923, 7924, 8364, 8365, 8366, 8367, and 8368. The baseline for this comment resolution document is 802.11be Draft 1.1.

**Revisions:**

Rev 0: first draft of the document.

Rev 1: Typo correction

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed change** | **Resolution** |
| 6838 | ron porat | 35.5.2 | 290.35 | An EHT beamformee indicates the maximum number of EHT-LTF symbols it can receive in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Beamformee SS ≤ 80 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Beamformee SS ≤ 80 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6838. |
| 6839 | ron porat | 35.5.2 | 290.44 | An EHT beamformee indicates the maximum number of EHT-LTF symbols it can receive in a 160 MHz EHT sounding NDP in the Beamformee SS = 160 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 160 MHz EHT sounding NDP in the Beamformee SS = 160 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6839. |
| 6840 | ron porat | 35.5.2 | 290.48 | An EHT beamformee indicates the maximum number of EHT-LTF symbols it can receive in a 320 MHz EHT sounding NDP in the Beamformee SS = 320 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 320 MHz EHT sounding NDP in the Beamformee SS = 320 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6840. |
| 6841 | ron porat | 35.5.2 | 290.53 | An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of EHT-LTF symbols indicated in the Beamformee SS ≤ 80 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams indicated in the Beamformee SS ≤ 80 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6841. |
| 6842 | ron porat | 35.5.2 | 290.59 | An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of EHT-LTF symbols indicated in the Beamformee SS = 160 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams indicated in the Beamformee SS = 160 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6842. |
| 6843 | ron porat | 35.5.2 | 291.1 | An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of EHT-LTF symbols indicated in the Beamformee SS = 320 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams indicated in the Beamformee SS = 320 MHz subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6843. |
| 6844 | ron porat | 35.5.2 | 291.7 | An EHT beamformer indicates the maximum number of EHT-LTF symbols it might transmit in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Number Of Sounding Dimensions . 80 MHz subfield. | An EHT beamformer indicates the maximum number of spatial streams it might transmit in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Number Of Sounding Dimensions . 80 MHz subfield. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6844. |
| 6845 | ron porat | 35.5.2  | 291.11 | An EHT beamformer indicates the maximum number of EHT-LTF symbols it might transmit in a 160 MHz EHT sounding NDP in the Number Of Sounding Dimensions = 160 MHz subfield. | An EHT beamformer indicates the maximum number of spatial streams it might transmit in a 160 MHz EHT sounding NDP in the Number Of Sounding Dimensions = 160 MHz subfield. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6845. |
| 6846 | ron porat | 35.5.2  | 291.14 | An EHT beamformer indicates the maximum number of EHT-LTF symbols it might transmit in a 320 MHz EHT sounding NDP in the Number Of Sounding Dimensions = 320 MHz subfield.  | An EHT beamformer indicates the maximum number of spatial streams it might transmit in a 320 MHz EHT sounding NDP in the Number Of Sounding Dimensions = 320 MHz subfield. | Revised: replace “the maximum number of EHT-LTF symbols” by “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6846. |
| 6847 | ron porat | 35.5.2  | 291.18 | An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP where the number of EHT-LTF symbols exceeds the value indicated in the Number Of Sounding Dimensions ≤ 80 MHz subfield. | An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP where the number of spatial streams exceeds the value indicated in the Number Of Sounding Dimensions ≤ 80 MHz subfield. | Revised: replace “the number of EHT-LTF symbols” by “the number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6847. |
| 6848 | ron porat | 35.5.2  | 291.22 | An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP where the number of EHT-LTF symbols exceeds the value indicated in the Number Of Sounding Dimensions = 160 MHz subfield. | An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP where the number of spatial streams exceeds the value indicated in the Number Of Sounding Dimensions = 160 MHz subfield. | Revised: replace “the number of EHT-LTF symbols” by “the number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6848. |
| 6849 | ron porat | 35.5.2 | 291.26 | An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP where the number of EHT-LTF symbols exceeds the value indicated in the Number Of Sounding Dimensions = 320 MHz subfield. | An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP where the number of spatial streams exceeds the value indicated in the Number Of Sounding Dimensions = 320 MHz subfield. | Revised: replace “the number of EHT-LTF symbols” by “the number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6849. |
| 6850 | ron porat | 35.5.2 |  | A separate clause is needed to mention about extra LTFs for EHT NDP | The maximum number of EHT-LTFs supported for reception of an EHT NDP is specified in Maximum Number Of Supported EHT-LTFs subfield in the EHT PHY Capabilities Information field | Revised: agree in principle with the comment. Changes are made as suggested. Additional clarifications are also included to address the maximum number of EHT-LTF symbols an EHT beamformer should transmit in an EHT sounding NDP. TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6850. |
| 6851 | ron porat | 35.5.2 |  | A separate clause is needed to mention about beamformer not exceeding the extra LTF capability of the STA during transmission of EHT NDP | An EHT beamformer shall not transmit an EHT sounding NDP where the number of EHT-LTF symbols exceeds the value indicated in the Maximum Number Of Supported EHT-LTFs subfield of any of the participating STA(s) | Revised: agree in principle with the comment. Changes are made as suggested. Additional clarifications are also included to address the maximum number of EHT-LTF symbols an EHT beamformer should transmit in an EHT sounding NDP. TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 6851. |
| 7923 | Youhan Kim | 35.5.2 | 290.46 | D1.0 P290L40 says"An EHT beamformee shall set the Beamformee SS &#8804; 80 MHz subfield to indicate a maximum number of EHT-LTF symbols of 4 or greater."Similar requirement should be added for 160 and 320 MHz as well if the beamformee supports 160 and/or 320 MHz. | Add the following at the end of D1.0 P290L46:"An EHT STA which supports operation in 160 MHz channel width and is an EHT Beamformee shall set the Beamformee SS (=160 MHz) subfield to a value greater than or equal to 3."Add the following at the end of D1.0 P290L51:"An EHT STA which supports operation in 320 MHz channel width and is an EHT Beamformee shall set the Beamformee SS (=320 MHz) subfield to a value greater than or equal to 3." | Revised: agree in principle with the comment. Changes are made. The newly added sentences follow the structure of the sentence on P290L40.TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 7923. |
| 7924 | Youhan Kim | 35.5.2 | 290.36 | In Table 9-322ar, the name for "Beamformee SS" has "()" around the bandwidth numbers. | Change "Beamformee SS <= 80 MHz" to "Beamformee SS (<= 80 MHz)" at P290L36/40/56.Change "Beamformee SS = 160 MHz" to "Beamformee SS (= 160 MHz)" at P290L45/61.Change "Beamformee SS = 320 MHz" to "Beamformee SS (= 320 MHz)" at P290L49, P291L3. | Accepted |
| 8364 | Zinan Lin | 35.5.2  | 290.34 | There is a subfield called "Maximum Number Of Supported EHT-LTFs" in EHT PHY Capabilities Information field (Figure 9-788ev) | A new sentence should be added "Maximum Number Of Supported EHT-LTFs in EHT PHY Capabilities Information field in the EHT Capabilities element indicates the maximum number of EHT-LTF symbols that an EHT STA can receive." | Revised: agree in principle with the comment. Changes are made as suggested. Additional clarifications are also included to address the maximum number of EHT-LTF symbols an EHT beamformer should transmit in an EHT sounding NDP. TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 8364. |
| 8365 | Zinan Lin | 35.5.2  | 290.35 | The definition of Beamformee SS (<=80MHz) (the maximum number of spatial streams that the STA can receive in an EHT sounding NDP) in Table 9-322ar is different from what is described here (the maximum number of EHT-LTF symbols). | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Beamformee SS ≤ 80 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised:Change “the maximum number of EHT-LTFs” to “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 8365. |
| 8366 | Zinan Lin | 35.5.2  | 290.44 | The definition of Beamformee SS (<=80MHz) is the maximum number of spatial streams.  | An EHT beamformee shall set the Beamformee SS ≤ 80 MHz subfield to indicate a maximum number of spatial streams of 4 or greater. | Revised:Change “the maximum number of EHT-LTFs” to “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 8366. |
| 8367 | Zinan Lin | 35.5.2  | 290.44 | The definition of Beamformee SS (=160MHz) (the maximum number of spatial streams that the STA can receive in an EHT sounding NDP) is different from what is described here (the maximum number of EHT-LTF symbols). Maximum number of Supported EHT-LTFs is defined in Table 9-322ar. | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 160 MHz EHT sounding NDP in the Beamformee SS = 160 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised:Change “the maximum number of EHT-LTFs” to “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 8367. |
| 8368 | Zinan Lin | 35.5.2  | 290.49 | The definition of Beamformee SS (=320MHz) (the maximum number of spatial streams that the STA can receive in an EHT sounding NDP) is different from what is described here (the maximum number of EHT-LTF symbols). Maximum number of Supported EHT-LTFs is defined in Table 9-322ar. | An EHT beamformee indicates the maximum number of spatial streams it can receive in a 320 MHz EHT sounding NDP in the Beamformee SS = 320 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits. | Revised:Change “the maximum number of EHT-LTFs” to “the maximum number of spatial streams”TGbe editor: please incorporate changes shown in 11-21/1281r1 under the tag 8368. |

***TGbe Editor: Please modify Clause 35.5.2 EHT sounding protocol as follows (802.11be Draft 1.1)***

An EHT beamformee indicates the maximum number of spatial streams [#6838, #8365] it can receive in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Beamformee (SS ≤ 80 MHz) [#7924] subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits.

An EHT beamformee shall set the Beamformee SS (≤ 80 MHz) [#7924] subfield to indicate a maximum number of spatial streams [#8366] of 4 or greater.

An EHT beamformee shall set the Beamformee SS (= 160 MHz) subfield to indicate a maximum number of spatial streams of 4 or greater [#7923].

An EHT beamformee shall set the Beamformee SS (= 320 MHz) subfield to indicate a maximum number of spatial streams of 4 or greater [#7923].

An EHT beamformee indicates the maximum number of spatial streams [#6839, #8367] it can receive in a 160 MHz EHT sounding NDP in the Beamformee SS (= 160 MHz) [#7924] subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits.

An EHT beamformee indicates the maximum number of spatial streams [#6840, #8368] it can receive in a 320 MHz EHT sounding NDP in the Beamformee SS (= 320 MHz) [#7924] subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element it transmits.

An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams [#6841] indicated in the Beamformee (SS ≤ 80 MHz) [#7924] subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame.

An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams [#6842] indicated in the Beamformee SS (= 160 MHz) [#7924] subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame.

An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP with a TXVECTOR parameter NUM\_STS that is greater than the maximum number of spatial streams [#6843] indicated in the Beamformee SS (= 320 MHz) [#7924] subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame.

An EHT beamformer shall not transmit an EHT sounding NDP with a TXVECTOR parameter NUM\_EHT\_LTF that is greater than the maximum number of EHT-LTF symbols indicated in the Maximum Number Of Supported EHT-LTFs subfield of any STA identified by a STA Info field in the preceding EHT NDP Announcement frame. [#6850, #6851, #8364]

An EHT beamformer indicates the maximum number of spatial streams [#6844] it might transmit in a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP in the Number Of Sounding Dimensions (≤ 80 MHz) subfield.

An EHT beamformer indicates the maximum number of spatial streams [#6845] it might transmit in a 160 MHz EHT sounding NDP in the Number Of Sounding Dimensions (= 160 MHz) subfield.

An EHT beamformer indicates the maximum number of spatial streams [#6846] it might transmit in a 320 MHz EHT sounding NDP in the Number Of Sounding Dimensions (= 320 MHz) subfield.

An EHT beamformer shall not transmit a 20 MHz, 40 MHz, or 80 MHz EHT sounding NDP where the number of spatial streams [#6847] exceeds the value indicated in the Number Of Sounding Dimensions (≤ 80 MHz) subfield.

An EHT beamformer shall not transmit a 160 MHz EHT sounding NDP where the number of spatial streams [#6848] exceeds the value indicated in the Number Of Sounding Dimensions (= 160 MHz) subfield.

An EHT beamformer shall not transmit a 320 MHz EHT sounding NDP where the number of spatial streams [#6849] exceeds the value indicated in the Number Of Sounding Dimensions (= 320 MHz) subfield.