###  **IEEE P802.11Wireless LANs**

|  |
| --- |
| LB271 CR for 9.4.2.313.2 |
| Date: 2023-05-16 |
| Author(s): |
| Name | Affiliation | Address | Phone | Email |
| Yanjun Sun | Qualcomm |  |  |  |
| Alfred Asterjadhi |  |  |  |  |
| George Cherian |  |  |  |  |
| Youhan Kim |  |  |  |  |
| Bin Tian |  |  |  |  |
| Abhishek Patil |  |  |  |  |
| Duncan Ho |  |  |  |  |
| Gaurang Naik |  |  |  |  |
| Abdel Karim Ajami |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Abstract**

This submission proposes resolutions for the following 8 CIDs for TGbe LB271:

* 15845,17677,17678,17679,17680,17681,17682,17683

**Revisions:**

* Rev 0: Initial version of the document.

***TGbe editor: Please note Baseline is REVme\_D3.0 and 11be D3.1***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Clause | Page | Comment | Proposed Change | Resolution |
| 15845 | Muhammad Kumail Haider | 9.4.2.313.2 | 271.32 | Replace 'TXOP Return Support In TXOP Sharing Mode 2' with 'TXOP Return Support in Triggered TXOP Sharing Mode 2' in Figure 9-1002ah | as in comment | RevisedTgbe editor please implement changes as shown in doc 11-23/0822r1 tagged as #15845 and also update the text that refers to this field throughput the spec. |
| 17677 | Brian Hart | 9.4.2.313.2 | 271.49 | "+HTC-HE Support subfield is 1 in a STA" but how can a field be in a STA? And location of field is opaque. | Following P273L18 Try to include a) the field sender and b) the location of the field via: "For a STA that has set the +HTC-HE Support subfield in the HE Capbilities element to 1". Also sender and/or location are opaque at P273L55 and P274L7/12/16/21/24/42 so apply this style of change in each of those locations too | RevisedAgree with the commenter in principleTgbe editor please implement changes as shown in doc 11-23/0822r1 tagged as #17677 |
| 17678 | Brian Hart | 9.4.2.313.2 | 272.08 | Missing article | Try "Indicates support for transmitting or responding to an MU-RTS TXS Trigger frame with \*the\* Triggered TXOP Sharing Mode field equal to 1." Ditto P272:27 | Accepted |
| 17679 | Brian Hart | 9.4.2.313.2 | 272.29 | "to its associated AP" is ambiguous in a Triggered TXOP context. Almost surely "the (EHT) AP" is meant | Try "For an EHT AP: Set to 1 to indicate that the AP is capable of transmitting an MU-RTS TXS Trigger frame that allocates time to a STA to transmit non-TB PPDUs to other STAs or to \*the\* AP. | Accepted |
| 17680 | Brian Hart | 9.4.2.313.2 | 272.45 | "support for XX operation" reads better than "support for "the XX operation". | Try "Indicates support for R-TWT operation" / "Set to 1 if the STA supports R-TWT operation ..." | Accepted |
| 17681 | Brian Hart | 9.4.2.313.2 | 272.50 | "plural containing singular" is always confusing and best avoided since usually it really means manyOf(singular containing singular). Also, missing articles, unclear where the MIB variables reside, etc | Try "Indicates support for transmission and reception of a SCS Descriptor element that contains a QoS Characteristics subelement". Ditto last column: "Set to 1 by an EHT AP that supports transmission of an SCS Response frame containing a SCS Descriptor element that includes a QoS Characteristics element and the AP has dot11SCSActivated equal to true. Set to 1 by a non-AP EHT STA that supports transmission of an SCS Request frame containing an SCS Descriptor element that includes a QoS Characteristics element and the STA has dot11SCSActivated equal to true. ..." | RevisedAgree with the commenter in principleTgbe editor please implement changes as shown in doc 11-23/0822r1 tagged as #17681 |
| 17682 | Brian Hart | 9.4.2.313.2 | 273.06 | Very unclear why this parameter is reserved in 5 and 6 GHz given HE already supports 2.4 GHz too. | Add a table NOTE for the explanation | RevisedAgree with the commenter in principle. Instead of a NOTE, added a reference to 35.15.1 (Basic EHT BSS operation), which indicates that maximum MPDU length capability indicated in the VHT Capabilities element or the in the HE 6 GHz Band Capabilities element is used for the 5 GHz and 6 GHz bands respectively.Tgbe editor please implement changes as shown in doc 11-23/0822r1 tagged as #17682 |
| 17683 | Brian Hart | 9.4.2.313.2 | 273.14 | Too many "values"? | Editor to reviewand determine if these "values" conform to the style guide and if not then delete them .. Try "Set to the maximum A-MPDU exponent extension." | Accepted |

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.***

***Tgbe editor: Please update subclause 9.4.2.311.1 as follows (track change enabled):***

* + - 1. **EHT Capabilities element** **9.4.2.313.1 General**

A STA declares that it is an EHT STA by transmitting the EHT Capabilities element.

The EHT Capabilities element contains a number of fields that are used to advertise the EHT capabilities of an EHT STA. The EHT Capabilities element is defined in [Figure 9-1002ag (EHT Capabilities element for-](#bookmark212) [mat)](#bookmark212).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element ID | Length | Element ID Extension | EHT MACCapabilities Information | EHT PHYCapabilities Information | Supported EHT-MCSAnd NSS Set | EHT PPEThresholds (Optional) |

Octets: 1 1 1 2 9 variable variable

**Figure 9-1002ag—EHT Capabilities element format**

The Element ID, Length, and Element ID Extension fields are defined in [9.4.2.1 (General)](#bookmark109).

The EHT MAC Capabilities Information, EHT PHY Capabilities Information, Supported EHT-MCS And NSS Set, and EHT PPE Thresholds fields are defined in the subclauses below.

* + - * 1. **EHT MAC Capabilities Information field**

The format of the EHT MAC Capabilities Information field is defined in [Figure 9-1002ah (EHT MAC](#bookmark213) [Capabilities Information field format)](#bookmark213).

B0 B1 B2 B3 B4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EPCS Priority Access Support | EHT OM Control Support | Triggered TXOP Sharing Mode 1 Support | Triggered TXOP Sharing Mode 2 Support | Restricted TWT Support |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bits: | 1 |  | 1 |  | 1 | 1 | 1 |
|  | B5 | B6 |  | B7 | B8 | B9 | B10 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SCS Traffic Description Support | Maximum MPDU Length | MaximumA-MPDU Length Exponent Extension | EHT TRS Support | TXOP Return Support In (#15845)Triggered TXOP Sharing Mode 2 |

Bits: 1 2 1 1 1

B11 B12 B13 B14 B15

|  |  |  |
| --- | --- | --- |
| Two BQRs Support | EHT Link Adaptation Support | Reserved |

Bits: 1 2 2

**Figure 9-1002ah—EHT MAC Capabilities Information field format**

The subfields of the EHT MAC Capabilities Information field are defined in [Table 9-401l (Subfields of the](#bookmark214) [EHT MAC Capabilities Information field)](#bookmark214).

**Table 9-401l—Subfields of the EHT MAC Capabilities Information field**

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| EPCS Priority Access Support | Indicates whether or not EPCS prior- ity access is supported. | Set to 1 if dot11EHTEPCSPriorityAccessActi- vated is true (see 35.16 (EPCS priority access)).Set to 0 otherwise. |
| EHT OM Control Support | Indicates support for receiving a frame with an EHT OM Control sub- field. | (#17677)For a STA that has set the +HTC-HE Support subfield in the HE Capabilities element to 1:Set to 1 if the STA supports reception of the EHT OM Control subfield.Set to 0 otherwise.Reserved if the +HTC-HE Support subfield in the HE Capabilities element is equal to 0 (#17677). |

**Table 9-401l—Subfields of the EHT MAC Capabilities Information field *(continued)***

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| Triggered TXOP Sharing Mode 1 Sup- port | Indicates support for transmitting or responding to an MU-RTS TXS Trig- ger frame with (#17678)the Triggered TXOP Shar- ing Mode field equal to 1. | For an EHT AP:Set to 1 to indicate that the AP is capable of transmitting an MU-RTS TXS Trigger frame that allocates time to a STA to transmit non-TB PPDUs to the EHT AP (i.e., with Triggered TXOP Sharing Mode field equal to 1 (see 35.2.1.2 (Triggered TXOP sharing procedure))).Set to 0 otherwise.For an non-AP EHT STA:Set to 1 to indicate that the non-AP STA is capable of responding to an MU-RTS TXS Trigger frame that allocates time to the STA to transmit non-TB PPDUs to the EHT AP (i.e., with Triggered TXOP Shar- ing Mode field equal to 1 (see 35.2.1.2 (Triggered TXOP sharing procedure))).Set to 0 otherwise. |
| Triggered TXOP Sharing Mode 2 Sup- port | Indicates support for transmitting or responding to an MU-RTS TXS Trig- ger frame with (#17678)theTriggered TXOP Shar- ing Mode field equal to 2. | For an EHT AP:Set to 1 to indicate that the AP is capable of transmitting an MU-RTS TXS Trigger frame that allocates time to a STA to transmit non-TB PPDUs to other STAs or to (#17679)the AP (i.e., with Triggered TXOP Sharing Mode field equal to 2 (see35.2.1.2 (Triggered TXOP sharing proce- dure))).Set to 0 otherwise.For an non-AP EHT STA:Set to 1 to indicate that the non-AP STA is capable of responding to an MU-RTS TXS Trigger frame that allocates time to the STA to transmit non-TB PPDUs to other STAs or to its associated AP (i.e., with Triggered TXOP Sharing Mode field equal to 2 (see 35.2.1.2 (Triggered TXOP sharing procedure))).Set to 0 otherwise. |
| Restricted TWT Sup- port | Indicates support for (#17680)R-TWT operation. | Set to 1 if the STA supports (#17680) R-TWT opera- tion (see 35.8 (Restricted TWT (R-TWT))).Set to 0 otherwise. |
| SCS Traffic Descrip- tion Support | (#17681)Indicates support for transmission and reception of an SCS Descriptor element that contains a QoS Characteristics sub- element. | (#17681)Set to 1 by an EHT AP that supports transmis- sion of an SCS Response frame containing an SCS Descriptor element that includes a QoS Characteristics element .Set to 1 by a non-AP EHT STA that supports transmission of an SCS Request frame contain- ing an SCS Descriptor element with a QoS Char- acteristics element .Set to 0 otherwise. |

**Table 9-401l—Subfields of the EHT MAC Capabilities Information field *(continued)***

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| Maximum MPDU Length | Indicates the maximum MPDU length that the STA is capable of receiving (see 10.11 (A-MSDU operation)). | (#17682)Reserved when transmitted in 5 GHz or 6 GHz band (see 35.15.1 (Basic EHT BSS operation)).Otherwise,set to 0 for 3895 octets.set to 1 for 7991 octets.set to 2 for 11 454 octets. The value 3 is reserved. |
| Maximum A-MPDU Length Exponent Extension | Indicates the exponent extension for the maximum A-MPDU length sup- ported in reception (see 35.6 (A- MPDU operation in an EHT PPDU)). | (#17683)Set to the maximum A-MPDU exponent extension. |
| EHT TRS Support | For a non-AP STA, indicates support for transmitting an EHT TB PPDU after receiving a frame with a TRS Control subfield. | For a non-AP STA that has set the +HTC-HE Support subfield to 1:Set to 1 if the STA supports transmitting an EHT TB PPDU after receiving a frame with a TRS Control subfield.Set to 0 otherwise.Reserved for an AP or if the +HTC-HE Sup- port subfield is 0. |
| TXOP Return Sup- port In (#15845)Triggered TXOP Shar- ing Mode 2 | Indicates support for receiving a frame with the RDG/More PPDU sub- field in the CAS Control subfield of the HE variant HT Control field from a non-AP STA in (#15845)Triggered TXOP Sharing Mode 2 (see 35.2.1.2 (Triggered TXOP sharing procedure)). | For an EHT AP:Set to 1 to indicate that the AP is capable of receiving a QoS Data or QoS Null frame with the RDG/More PPDU subfield in the CAS Control subfield of the HE variant HT Control field from a non-AP STA in (#15845)Triggered TXOP Sharing Mode 2.Set to 0 otherwise.For (#15845)a non-AP EHT STA: Reserved. |

**Table 9-401l—Subfields of the EHT MAC Capabilities Information field *(continued)***

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| Two BQRs Support | For an AP, indicates support for receiving a frame with two BQR Con- trol subfields.For a non-AP STA, indicates support for generating a frame with two BQR Control subfields. | For an EHT AP:If the +HTC-HE Support subfield (#17677)in the HE Capabilities element is set to 1:Set to 1 to indicate that the AP is capable of receiving a frame with two BQR Con- trol subfields.Set to 0 otherwise.Reserved if the +HTC-HE Support sub- field in the HE Capabilities element is set to 0.For an non-AP EHT STA:If the +HTC-HE Support subfield (#17677)in the HE Capabilities element is set to 1:Set to 1 to indicate that the non-AP EHT STA is capable of transmitting a frame with two BQR Control subfields.Set to 0 otherwise.Reserved if the +HTC-HE Support subfield (#17677)in the HE Capabilities element is set to 0. |
| EHT Link Adaptation Support | Indicates support for link adaptation using the ELA Control subfield. | If the +HTC-HE Support subfield in HE MAC Capabilities Information field in HE Capabili- ties element is (#17677)set to 1:Set to 0 (No feedback) if the STA does not provide EHT MFB.Set to 2 (Unsolicited) if the STA can receive and provide only unsolicited EHT MFB.Set to 3 (Solicited and unsolicited) if the STA is capable of receiving and providing EHT MFB in response to EHT MRQ and if the STA can receive and provide unsolic- ited EHT MFB.The value 1 is reserved.EHT MFB and EHT MRQ are MFB and MRQ using ELA Control subfield, respectively.Reserved if the +HTC-HE Support subfield in HE MAC Capabilities Information field in HE Capabilities element is (#17677)set to 0. |