IEEE P802.11
Wireless LANs

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| CR for 9.4.2.313.4 supported EHT-MCS And NSS Set field |
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Abstract

This submission proposes comment resolution(s) for the following 6 CID(s) received in LB271 on TGbe D3.1

CIDs:

15170, 15214, 15373, 17716, 17717, 17718,

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Modify the resolution of CID 17717 base on comments during presentation.
* Rev 2: minor editorial changes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause**  | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 15170 | Po-Kai Huang | 9.4.2.313.4 | 284.33 | There are 3 "NSS" defined in this clasue. NSS, N\_SS and N\_SS (italic). It is hard to understandt if there is any differnce maong these 3. If there is any difference, then difference likely can not be understood and it is hard to understand if the writing follows any rules without mistake. | Change N\_ss to NSS in this clasue. Change N\_ss (italic) to NSS in this clasue. Otherwise, explain what is the difference between NSS and N\_ss (italic) | Revised.Agree with the commentor in principle.NSS and N\_SS (italic) are used in REVme D1.3. Both of them are kept in the resolution, and Nss is replaced.The instances that need to be modified in subclauses 9.4.2.313.4, 35.14.4.1 and 35.14.4.2 are provided in **11-23/0689r2**.**TGbe editor, please search through the whole IEEE802.11be D3.1 to replace the “Nss” in the title of a (sub) field, a figure, or a table with “NSS”. And to replace “Nss” with “*Nss*” in the instances that are used as a parameter.** |
| 15214 | Eunsung Park | 9.4.2.313.4 | 285.12 | Add desctription "Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indicated jointly with the Tx 1024-QAM And 4096-QAM < 242-tone RU support subfield" and "Support for the reception of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indicated jointly with the Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield". | As in comment | Revised.Agree with the commentor in principle.**TGbe editor, please make changes as shown in 11-23/0689r2 tagged 15214** |
| 15373 | John Wullert | 9.4.2.313.4 | 291.89 | The table title is confusing, describing the "number of Nss". | Revise title to "Encoding of the maximum number of spatial streams (Nss) for a specified MCS value" | Accepted |
| 17716 | Brian Hart | 9.4.2.313.4 | 285.15 | Field Rx 1024-QAM In Wider Bandwidth DL OFDMA Support is outside this field so should have more context provided | Append "in the EHT PHY Capabilities Information field (see 9.4.2.313.3 (EHT PHY Capabilities Information field))". Ditto P285L19, and 2x on P286 and again on P287 & P288 | Revised.Agree with the commentor**TGbe editor, please make changes as shown in 11-23/0689r2 tagged 17716** |
| 17717 | Brian Hart | 9.4.2.313.4 | 290.06 | "Rx Max Nss That Supports Specified EHT-MCS subfield" is not the way of dealing with these kinds of fields. Especially, a search on " Rx Max Nss That Supports EHT-MCS" wioll miss these fieldname instances | Try "Rx Max Nss That Supports EHT-MCS m-n subfield". Ditto for TX at P290L16 | Revised.Agree with the commentor**TGbe editor, please make changes as shown in 11-23/0689r2 tagged 17717** |
| 17718 | Brian Hart | 9.4.2.313.4 | 290.05 | Since this depends on other frames sent at other times, this is really procedural, and doesn't belong in clause 9 | Copy P290L5-22 to clause 35, rewrite this copy to make it informative and add a xref to clause 35 ("NOTE - As defined in section 35.xx, the maximum RX/TX NSS ...") | Rejected. While the comment is valid, considering similar structure are used in clause 9 for VHT and HE, it is better to keep the existing text in order to align with the current style used in REVme.Note to the commenter: suggest to bring this commenter to REVme for consideration. |

Discussion：

**Proposed spec text**

***TGbe editor: Please make the following changes in subclause 9.4.2.313.4 (Supported EHT-MCS And NSS Set field):***

**9.4.2.313.4 Supported EHT-MCS And NSS Set field**

The Supported EHT-MCS And NSS Set field indicates the combinations of EHT-MCS 0–13, and number of spatial streams *NSS*, that a STA supports for reception and the combinations that it supports for transmission. The format of the field is shown in Figure 9-1002aj (Supported EHT-MCS And NSS Set field format). EHT-MCS 14 and 15 can only be combined with a single stream, and are indicated in 9.4.2.313.3 (EHT PHY Capabilities Information field) EHT PHY Capabilities Information field.



**Figure 9-1002aj—Supported EHT-MCS And NSS Set field format**

The subfields of the Supported EHT-MCS And NSS Set field, and their presence, are defined in Table 9-401n (Subfields of the Supported EHT-MCS And NSS Set field).

**Table 9-401n—Subfields of the Supported EHT-MCS And NSS Set field**

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| EHT-MCS Map(20 MHz-Only Non-AP STA) | For a 20 MHz-only non-AP STA, indicates the maxi-mum number of spatial streams supported for reception and the maximum number of spatial streams that the STA can transmit, for each MCS value in a PPDU with a bandwidth of 20 MHz, 40 MHz, 80 MHz, 160 MHz or 320 MHz with the following additional restrictions:— Support for the reception of 1024-QAM in a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT DL OFDMA is indicated jointly with the Rx 1024-QAM In Wider Bandwidth DL OFDMA Support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). — Support for the reception of 4096-QAM in a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT DL OFDMA is indicated jointly with the Rx 4096-QAM In Wider Bandwidth DL OFDMA Support subfield(see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indicated jointly with the Tx 1024-QAM And 4096-QAM < 242-tone RU Support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)). (#15214)— Support for the reception of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indicated jointly with the Rx 1024-QAM And 4096-QAM < 242-tone RU Support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)). (#15214) | The format and encoding of this subfield are defined in Figure 9-1002ak (EHT-MCS Map (20 MHz-Only Non-AP STA) subfield and Basic EHT-MCS And NSS Set field format) and the associated description.For a non-AP STA:In 5 GHz and 6 GHz, if B1, B2, and B3 of the Supported Channel Width Set field in the HE PHY Capabilities Information field are all 0, then this subfield is present; other-wise, it is not present.In 2.4 GHz, if B0 of the Supported Channel Width Set field in the HE PHY Capabilities Information field is 0, then this sub-field is present; otherwise, it is not present.Not present for an AP. |
| EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) | Except for a 20 MHz-only non-AP STA, indicates the maximum number of spatial streams supported for reception and the maximum number of spatial streams that the STA can transmit, for each MCS value, in a PPDU with a bandwidth of 20 MHz, 40 MHz, or 80 MHz with the following additional restrictions:— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the Tx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). — Support for the reception of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).For a 20 MHz or 80 MHz operating non-AP STA, additionally indicates the maximum number of spatial streams supported for reception and the maximum number of spatial streams that the non-AP STA can transmit, for each MCS value, in a PPDU with a band-width of 160 MHz or 320 MHz with the following additional restrictions:— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT UL OFDMA is indicated jointly with the Tx 1024-QAM And 4096-QAM < 242-tone RU sup-port subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). — Support for the reception of 1024-QAM in a 160 MHz, or 320 MHz EHT DL OFDMA is indi-cated jointly with the Rx 1024-QAM In Wider Bandwidth DL OFDMA Support subfield, and support for the reception of 1024-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT DL OFDMA is addi-tionally jointly indicated with the Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).— Support for the reception of 4096-QAM in a 160 MHz, or 320 MHz EHT DL OFDMA is indi-cated jointly with the Rx 4096-QAM In Wider Bandwidth DL OFDMA Support subfield, and support for the reception of 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT DL OFDMA is addi-tionally jointly indicated with the Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). | The format and encoding of this subfield are defined in Figure 9-1002al (EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfield format) and the asso-ciated description.For an AP, this subfield is always present.For a non-AP STA:In 5 GHz or 6 GHz, if B1 of the Supported Channel Width Set field in the HE PHY Capabilities Infor-mation field is 1, then this subfield is present; other-wise, it is not present.In 2.4 GHz, if B0 of the Supported Channel Width Set field in the HE PHY Capabilities Information field is 1, then this sub-field is present; other-wise it is not present. |
| EHT-MCS Map(BW = 160 MHz) | If the operating channel width of the STA is greater than or equal to 160 MHz, indicates the maximum number of spatial streams supported for reception and the maximum number of spatial streams that the STA can transmit, for each MCS value, in a PPDU with a bandwidth of 160 MHz with the following additional restrictions:— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield and Tx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).— Support for the reception of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield and Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).For a 160 MHz operating non-AP STA, additionally indicates the maximum number of spatial streams sup-ported for reception and the maximum number of spa-tial streams that the non-AP STA can transmit, for each MCS value, in a PPDU with a bandwidth of 320 MHz with the following additional restrictions:— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT UL OFDMA is indicated jointly with the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield and Tx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).— Support for the reception of 1024-QAM in a 320 MHz EHT DL OFDMA is indicated jointly with the Rx 1024-QAM In Wider Bandwidth DL OFDMA Support subfield, and support for the reception of 1024-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT DL OFDMA is additionally jointly indicated with the Rx 1024-QAM And 4096-QAM < 242-tone RU sup-port subfield and the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). — Support for the reception of 4096-QAM in a 320 MHz EHT DL OFDMA is indicated jointly with the Rx 4096-QAM In Wider Bandwidth DL OFDMA Support subfield, and support for the reception of 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU in EHT DL OFDMA is additionally jointly indicated with the Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield and the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). | The format and encoding of this subfield are defined in Figure 9-1002al (EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfield format) and the asso-ciated description.If B2 of the Supported Chan-nel Width Set field in the HE PHY Capabilities Information field is 1, then this subfield is present; otherwise, it is not present. |
| EHT-MCS Map(BW = 320 MHz) | If the operating channel width of the STA is 320 MHz, indicates the maximum number of spatial streams sup-ported for reception and the maximum number of spa-tial streams that the STA can transmit, for each MCS value, in a PPDU with a bandwidth of 320 MHz with the following additional restriction:— Support for the transmission of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield and Tx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716).— Support for the reception of 1024-QAM and 4096-QAM on a 26-, 52-, and 106-tone RU and on a 52+26-tone and 106+26-tone MRU is indi-cated jointly with the EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA) subfield and Rx 1024-QAM And 4096-QAM < 242-tone RU support subfield (see 9.4.2.313.3 (EHT PHY Capabilities Information field)) (#17716). | The format and encoding of this subfield are defined in Figure 9-1002al (EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfield format) and the asso-ciated description.If the Support For 320 MHz In 6 GHz subfield, in the EHT PHY Capabilities Information field is 1, then this subfield is present; otherwise, it is not present. |

The EHT-MCS Map (20 MHz-Only Non-AP STA) subfield and the Basic EHT-MCS And NSS Set field have the format shown in Figure 9-1002ak (EHT-MCS Map (20 MHz-Only Non-AP STA) subfield and Basic EHT-MCS And NSS Set field format).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 B3 | B4 B7 | B8 B11 | B12 B15 |
|  | Rx Max NSS That Supports EHT-MCS 0–7 | Tx Max NSS That Supports EHT-MCS 0–7 | Rx Max NSS That Supports EHT-MCS 8–9 | Tx Max NSS That Supports EHT-MCS 8–9 |
| Bits: | 4 | 4 | 4 | 4 |
|  | B16 B19 | B20 B23 | B24 B27 | B28 B31 |
|  | Rx Max NSS That Supports EHT-MCS 0–7 | Tx Max NSS That Supports EHT-MCS 0–7 | Rx Max NSS That Supports EHT-MCS 8–9 | Tx Max NSS That Supports EHT-MCS 8–9 |
| Bits: | 4 | 4 | 4 | 4 |

**Figure 9-1002ak—EHT-MCS Map (20 MHz-Only Non-AP STA) subfield and Basic EHT-MCS And NSS Set field format**

The EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfields have the format shown in Figure 9-1002al (EHT-MCS Map (BW ≤ 80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfield format).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 B3 | B4 B7 | B8 B11 | B12 B15 | B16 B19 | B20 B23 |
|  | Rx Max NSS That Supports EHT-MCS 0–9 | Tx Max NSS That Supports EHT-MCS 0–9 | Rx Max NSS That Supports EHT-MCS 10–11 | Tx Max NSS That Supports EHT-MCS 10–11 | Rx Max NSS That Supports EHT-MCS 12–13 | Tx Max NSS That Supports EHT-MCS 12–13 |
| Bits: | 4 | 4 | 4 | 4 | 4 | 4 |

**Figure 9-1002al—EHT-MCS Map (BW** ≤ **80 MHz, Except 20 MHz-Only Non-AP STA), EHT-MCS Map (BW = 160 MHz), and EHT-MCS Map (BW = 320 MHz) subfield format**

The Rx Max NSS That Supports EHT-MCS 0–7 and Tx Max NSS That Supports EHT-MCS 0–7 subfields are encoded according to Table 9-401o (Encoding of the maximum number of Nss for a specified MCS value).

The Rx Max NSS That Supports EHT-MCS 8–9 and Tx Max NSS That Supports EHT-MCS 8–9 subfields are encoded according to Table 9-401o (Encoding of the maximum number of Nss for a specified MCS value).

The Rx Max NSS That Supports EHT-MCS 0–9 and Tx Max NSS That Supports EHT-MCS 0–9 subfields are encoded according to Table 9-401o (Encoding of the maximum number of Nss for a specified MCS value).

The Rx Max NSS That Supports EHT-MCS 10–11 and Tx Max NSS That Supports EHT-MCS 10–11 sub-fields are encoded according to Table 9-401o (Encoding of the maximum number of Nss for a specified MCS value).

The Rx Max NSS That Supports EHT-MCS 12–13 and Tx Max NSS That Supports EHT-MCS 12–13 sub-fields are encoded according to Table 9-401o (Encoding of the maximum number of Nss for a specified MCS value).

**Table 9-401o—Encoding of the maximum number of spatial streams (NSS) (#15373) for a specified MCS value**

|  |  |
| --- | --- |
| **Max NSS subfield value** | **Maximum number of spatial streams that supportsthe specified MCS set** |
| 0 | Not supported |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9-15 | Reserved |

A value that is reserved in Table 9-401o (Encoding of the maximum number of spatial streams (NSS) **(#15373)**for a specified MCS value) indicates a maximum *NSS* of greater than eight spatial streams.

The maximum receive *NSS* for a given EHT-MCS is equal to the smaller of:

—The value of the Rx Max NSS That Supports EHT-MCS *n*1 - *n*2 subfield (*n*1 and *n*2 indicate the range of EHT-MCSs to which the subfield applies) (#17717) for the given EHT-MCS

—The maximum supported *NSS* as indicated by the value of the Rx NSS field of the Operating Mode Notification frame or the Operating Mode Notification element if the value of Rx NSS Type is 0, or by the value of the Rx NSS field of the OM Control subfield (#17557)if an EHT OM Control sub-field is not present in the same A-Control field, or by the value of the Rx NSS Extension field of the EHT OM Control subfield combined with the value of the Rx NSS field of the OM Control subfield if an EHT OM Control subfield is present in the same A-Control field

The maximum transmit *NSS* for a given EHT-MCS is equal to the smaller of:

—The value of the Tx Max NSS That Supports EHT-MCS *n*1-*n*2 subfield (*n*1 and *n*2 indicate the range of EHT-MCSs to which the subfield applies) (#17717) subfield for the given EHT-MCS

—The maximum supported *NSS* as indicated by the value of the Tx NSTS field of the OM Control sub-field sent by a non-AP STA (#17557)if an EHT OM Control subfield is not present in the same A-Control field or by the value of the Tx NSTS Extension field of the EHT OM Control subfield com-bined with the value of the Tx NSTS field of the OM Control subfield sent by a non-AP STA if an EHT OM Control subfield is present in the same A-Control field

***TGbe editor: Please make the following changes in subclause 35.14.4.1 (Receive EHT-MCS and NSS Set):***

**35.14.4.1 Receive EHT-MCS and NSS Set**

The receive EHT-MCS and NSS set is the set of <EHT-MCS, NSS> tuples for PPDU bandwidths equal to 20 MHz, less than or equal to 80 MHz, less than or equal to 160 MHz PPDUs, less than or equal to 320 MHz PPDUs that a STA is capable of receiving. The receive EHT-MCS and NSS set for a first STA is determined by a second EHT STA for each <EHT-MCS, NSS> tuple, NSS = 1, 2, …, 8, and PPDU bandwidth (less than or equal to 20 MHz only, 80 MHz, and 160 MHz or 320 MHz) from the Supported EHT-MCS And NSS Set field in the EHT Capabilities element received from the first STA as follows:

—If support for the EHT-MCS for NSS spatial streams at that PPDU bandwidth is mandatory (see 36.1.1 (Introduction to the EHT PHY)), then the <EHT-MCS, NSS> tuple at that bandwidth is supported by the first STA on receive.

—Otherwise, if the Rx Max NSS that supports EHT-MCS *n*1–*n*2 (*n*1 and *n*2 indicate the MCS set being applied) in EHT-MCS Map b subfield for 20 MHz only for 20 MHz only STA, ≤ 80 MHz for 80 MHz STA, 160 MHz for 160 MHz STA, 320 MHz} indicates support and neither the Operating Mode field nor the OM Control subfield and the optional EHT OM Control subfield is received from the first EHT STA, then the <EHT-MCS, NSS> tuple at PPDU bandwidth *b* for a given operating channel width is supported by the first STA on receive as defined in 9.4.2.313.4 (Supported EHT-MCS And NSS Set field).

***TGbe editor: Please make the following changes in subclause 35.14.4.2 (Transmit EHT-MCS and NSS Set):***

**35.14.4.2 Transmit EHT-MCS and NSS Set**

The transmit EHT-MCS and NSS set is the set of <EHT-MCS, NSS> tuples for PPDU bandwidth less than or equal to 20 MHz only, 80 MHz, 160 MHz PPDUs or 320 MHz PPDUs that a STA is capable of transmitting. The transmit EHT-MCS and NSS set of a first STA is determined by a second STA for each <EHT-MCS, NSS> tuple, NSS = 1, 2, …, 8, and PPDU bandwidth (less than or equal to 20 MHz only for 20 MHz only STA, 80 MHz for 80 MHz STA, 160 MHz or 320 MHz) from the Supported EHT-MCS And NSS Set field received from the first STA as follows:

—If support for the <EHT-MCS, NSS> tuple at that bandwidth is mandatory (see 36.1.1 (Introduction to the EHT PHY)), then the <EHT-MCS, NSS> tuple at that PPDU bandwidth is supported by the first STA on transmit.

—Otherwise, if the Tx Max NSS that supports EHT-MCS *n*1–*n*2 (*n*1 and *n*2 indicate the MCS set being applied) in the EHT-MCS Map b subfield where *b* is the PPDU bandwidth indicates support, then the <EHT-MCS, NSS> tuple at PPDU bandwidth *b* for a given operating channel width is supported by the first STA on receive as defined in 9.4.2.313.4 (Supported EHT-MCS And NSS Set field).