IEEE P802.11
Wireless LANs

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| PDT/CR for CIDs 1244 and 1254 |
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This submission includes the resolutions for 2 CIDs, 1244 and 1254, on the comment collection on P802.11be D0.3. The changes presented in this submission are based on P802.11be D0.4.

##### Revision history:

##### R0 – initial version

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| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change | Proposed resolution |
| 1244 | 36.3.2.2 | 183 | 36 | Reoder the subsections. Move 36.3.2.2. support of widebandwidth after 36.3.2.4 after pilot subcarriers. This can group all the RU/MRU and tone plan discussion togegher | As in comment | REVISEDAgree with the comment in general and revise the structure of the subclause 36.3.2.TGbe editor: please revise the subclause 36.3.2 as described in 21/0754r0. |
| 1254 | 36.3.2.5 | 195 | 64 | Need to add a new section on 80MHz operating non-AP STAs and 160MHz operating non-AP STAs | As in comment | REVISEDAgree with the comment in general and revise the structure of the subclause 36.3.2.TGbe editor: please revise the subclause 36.3.2 as described in 21/0754r0. |

Propose to move all the text in Subclause 36.3.2.2 in P802.11 D0.4 to the newly added subclauses

 36.3.2.4 20 MHz operating non-AP EHT STAs

 36.3.2.6 80 MHz operating non-AP EHT STAs

 36.3.2.7 160 MHz operating non-AP EHT STAs

which will be arranged after 36.3.2.4 Pilot Subcarriers in P802.11 D0.4.

*The following information on the structure of Subclause* **36.3.2 Subcarrier and resource allocation** *is what the TGbe editor provides.*

* Remove Subclause **36.3.2.2 Support of wide bandwidth OFDM operation**
* Renumber Subclause **36.3.2.3 Subcarriers and resource allocation for multiple RUs** as **36.3.2.2 Subcarriers and resource allocation for multiple RUs**
* Renumber Subclause **36.3.2.4 Null subcarriers** as **36.3.2.3 Null subcarriers**
* Renumber Subclause **36.3.2.5 Pilot subcarriers** as **36.3.2.4 Pilot subcarriers**
* Add a new subclause **36.3.2.5 20 MHz operating non-AP EHT STAs**
* Keep the subclause numbering **36.3.2.6 RU and MRU restrictions for 20 MHz operation** unchanged
* Add a new subclause **36.3.2.7 80 MHz operating non-AP EHT STAs**
* Add a new subclause **36.3.2.8 160 MHz operating non-AP EHT STAs**

*TGbe editor: Move the texts related to 20 MHz operating STA of 36.3.2.2 Support of wide bandwidth OFDM operation proposed in 21/692r2 into 36.3.2.4 20 MHz operating non-AP EHT STAs and make the following changes.*

**36.3.2.4 20 MHz operating non-AP EHT STAs**

A 20 MHz operating non-AP EHT STA is a non-AP EHT STA whose current operating mode supports up to 20 MHz channel width (see 36.1.1 (Introduction to the EHT PHY)). The supported channel width of a non-AP EHT STA is indicated in the Supported Channel Width subfield in HE PHY Capabilities Information field (see 9.4.2.248.3 (HE PHY Capblities Information field)) and the Support For 320 MHz in 6 GHz subfield in EHT Capabilities element (see 9.4.2.295c.3 (EHT PHY Capabilities Information field)) and the operating channel width may be updated by Operating Mode Notification frame, Operating Mode Notification element with the Rx NSS Type subfield equal to 0, or Channel Width subfield in the OM Control subfield (see 9.2.4.6a.2 (OM Control)) if the EHT OM Control subfield (See 9.2.4.6a.8 (EHT OM Control)) is not present in the same A-Control field, or the Channel Extension subfield in the EHT OM Control subfield together and with the OM Control subfield sent by the EHT STA. A 20 MHz operating non-AP EHT STA is a non-AP EHT STA that is only capable of operating in 20 MHz channel width such as a 20 MHz-only non-AP EHT STA or a non-AP EHT STA that reduces its operating channel width to 20 MHz.

A 20 MHz operating non-AP EHT STA shall be able to participate in 20 MHz, 40 MHz, 80 MHz, or 160 MHz EHT DL and UL OFDMA transmissions. A 20 MHz operating non-AP EHT STA, excluding a 20 MHz-only non-AP EHT STA, shall also be able to participate in 320 MHz EHT DL and UL OFDMA transmissions.

A 20 MHz operating non-AP EHT STA shall support 26-tone RU, 52-tone RU, 106-tone RU, 242-tone RU, 52+26-tone MRU and 106+26-tone MRU when participating in EHT DL and UL OFDMA transmissions with PPDU bandwidth of 20 MHz (see Table 27-7 (Data and pilot subcarrier indices for RUs in a 20 MHz HE PPDU and in a non-OFDMA 20 MHz HE PPDU) and Table 36-8 (Indices for small size MRUs in an OFDMA 20 MHz EHT PPDU)). An EHT AP shall be able to allocate an RU (see Table 27-7 (Data and pilot subcarrier indices for RUs in a 20 MHz HE PPDU and in a non-OFDMA 20 MHz HE PPDU)) or MRU (see Table 36-8 (Indices for small size MRUs in an OFDMA 20 MHz EHT PPDU)) in a 20 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA.

A 20 MHz operating non-AP EHT STA shall support 26-tone RU, 52-tone RU, 106-tone RU, and 52+26-tone MRU in locations allowed in 36.3.2.5 (RU and MRU restrictions for 20 MHz operation(#3276)) when participating in EHT DL and UL OFDMA transmissions with PPDU bandwidth larger than 20 MHz and smaller than 320 MHz. A 20 MHz operating non-AP EHT STA may support 242-tone RU when participating in EHT DL transmissions with PPDU bandwidth larger than 20 MHz and smaller than 320 MHz (see 36.3.2.5 (RU and MRU restrictions for 20 MHz operation)). A 20 MHz operating non-AP EHT STA, excluding a 20 MHz-only non-AP EHT STA, shall also support 26-tone RU, 52-tone RU, 106-tone RU, and 52+26-tone MRU in locations allowed in 36.3.2.5 (RU and MRU restrictions for 20 MHz operation(#3276)) when participating in EHT DL and UL OFDMA transmissions with PPDU bandwidth of 320 MHz. A 20 MHz operating non-AP EHT STA, excluding a 20 MHz-only non-AP EHT STA, may also support 242-tone RU when participating in EHT DL transmissions with PPDU bandwidth of 320 MHz (see 36.3.2.5 (RU and MRU restrictions for 20 MHz operation)). An EHT AP with an operating channel width greater than 20 MHz shall be able to allocate an RU (see 36.3.2.1 (Subcarriers and resource allocation for wideband)) or MRU (see 36.3.2.3 (Subcarriers and resource allocation for multiple RUs)) on a 20 MHz channel within the BSS bandwidth in a 40 MHz, 80 MHz, or 160 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA depending on the AP’s operating channel width. AP’s operating channel is the same as BSS channel width. An EHT AP with 320 MHz operating channel width shall be able to allocate an RU (see 36.3.2.1 (Subcarriers and resource allocation for wideband)) or MRU (see 36.3.2.3 (Subcarriers and resource allocation for multiple RUs)) on a 20 MHz channel within the BSS bandwidth in a 320 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA, excluding a 20 MHz-only non-AP EHT STA. When an EHT AP assigns an RU or MRU to a 20 MHz operating non-AP EHT STA, the EHT AP shall follow the restrictions for 20 MHz operation specified in 36.3.2.5 (RU and MRU restrictions for 20 MHz operation).

A 20 MHz operating non-AP EHT STA shall be able to transmit the preamble and data in the allocated RU or MRU within its operating 20 MHz channel in a 20 MHz, 40 MHz, 80 MHz, or 160 MHz EHT TB PPDU. A 20 MHz operating non-AP EHT STA, excluding a 20 MHz-only non-AP EHT STA, shall also be able to transmit the preamble and data in the allocated RU or MRU within its operating 20 MHz channel in a 320 MHz EHT TB PPDU. When an EHT AP assigns an RU or MRU to a 20 MHz operating non-AP EHT STA, the EHT AP shall follow the restrictions for 20 MHz operation specified in 36.3.2.5 (RU and MRU restrictions for 20 MHz operation).

A 20 MHz operating non-AP STA shall be able to support the reception of the preamble and data in the allocated RU or MRU within its operating 20 MHz channel in a 20 MHz, 40 MHz, 80 MHz, or 160 MHz EHT MU PPDU. A 20 MHz operating non-AP STA, excluding a 20 MHz-only non-AP EHT STA, shall also be able to support the reception of the preamble and data in the allocated RU or MRU within its operating 20 MHz channel in a 320 MHz EHT MU PPDU. RU and MRU restrictions for 20 MHz operation are specified in 36.3.2.5 (RU and MRU restrictions for 20 MHz operation).

A 20 MHz operating non-AP EHT STA shall operate in the primary 20 MHz channel except when the 20MHz operating non-AP EHT STA sets dot11HESubchannelSelectiveTransmissionImplemented equal to true. In this exceptional case, the 20 MHz operating non-AP EHT STA may operate in any 20 MHz channel within the BSS bandwidth of 80 MHz or 160 MHz by following the procedure in 26.8.7 (HE subchannel selective transmission). The 20 MHz operating non-AP EHT STA may also operate in any 20 MHz channel within the primary 160 MHz when the BSS bandwidth is 320 MHz and the 20 MHz operating non-AP EHT STA is not a 20 MHz-only non-AP EHT STA by following the procedure in 26.8.7 (HE subchannel selective transmission).

An EHT AP shall not allocate an RU or MRU outside of the primary 20 MHz in an 80 MHz, 160 MHz, or 320 MHz EHT MU or EHT TB PPDU to an 20 MHz operating non-AP EHT STA if the 20 MHz operating non-AP EHT STA has not set up SST operation on the nonprimary 20 MHz channel with the EHT AP.

**36.3.2.6 80 MHz operating non-AP EHT STAs**

An 80 MHz operating non-AP EHT STA is a non-AP EHT STA whose current operating mode supports up to 80 MHz channel width (see 36.1.1 (Introduction to the EHT PHY)). The supported channel width and the operating channel width of an 80 MHz operating non-AP EHT STA are as described in 36.3.2.4 (20 MHz operating non-AP EHT STAs).

***TGbe Editor: the following text in this subsection is the same as Paragraphs 8-13 in 692r2 except few modifications highlighted.***

An 80 MHz operating non-AP EHT STA shall be able to participate in 80 MHz, 160 MHz and 320 MHz EHT DL and UL OFDMA transmissions. An EHT AP with an operating channel width greater than 80 MHz shall be able to allocate an RU (see 36.3.2.1 (Subcarriers and resource allocation for wideband) or MRU (see 36.3.2.3 (Subcarriers and resource allocation for multiple RUs)) on one 80 MHz channel within the BSS bandwidth in a 160 MHz or 320 MHz EHT MU or EHT TB PPDU to an 80 MHz operating non-AP EHT STA depending on the AP’s operating channel width.

An 80 MHz operating non-AP EHT STA shall operate in the primary 80 MHz channel except when the 80MHz operating non-AP EHT STA sets dot11HESubchannelSelectiveTransmissionImplemented equal to true and parks on an 80 MHz channel without preamble puncturing. In this exceptional case, the 80 MHz operating non-AP EHT STA may operate in any 80 MHz channel within the primary 160 MHz of the BSS bandwidth by following the procedure in 26.8.7 (HE subchannel selective transmission).

An EHT AP shall not allocate an RU outside of the primary 80 MHz in a 160 MHz or 320 MHz EHT MU or EHT TB PPDU to an 80 MHz operating non-AP EHT STA if the 80 MHz operating non-AP EHT STA has not set up SST operation on the nonprimary 80 MHz channel with the EHT AP or if there is a preamble puncturing in the non-AP EHT STA’s operating 80 MHz channel.

An 80 MHz operating non-AP EHT STA shall support all RU and MRU sizes within its operating 80 MHz channel when participating in 160 MHz or 320 MHz EHT DL and UL OFDMA transmissions.

An 80 MHz operating non-AP EHT STA shall be able to transmit the preamble and data in the allocated RU or MRU within its operating 80 MHz channel in a 160 MHz or 320 MHz EHT TB PPDU.

An 80 MHz operating non-AP STA shall be able to support the reception of the preamble and data in the allocated RU or MRU within its operating 80 MHz channel in a 160 MHz or 320 MHz EHT MU PPDU.

**36.3.2.7 160 MHz operating non-AP EHT STAs**

A 160 MHz operating non-AP EHT STA is a non-AP EHT STA whose current operating mode supports up to 160 MHz channel width (see 36.1.1 (Introduction to the EHT PHY)). The supported channel width and the operating channel width of a 160 MHz operating non-AP EHT STA are as described in 36.3.2.4 (20 MHz operating non-AP EHT STAs).

***TGbe Editor: the following text in Subsection 36.3.2.7 is the same as Paragraphs 14-17 in 692r2 except few modifications highlighted.***

A 160 MHz operating non-AP EHT STA shall be able to participate in 160 MHz and 320 MHz EHT DL and UL OFDMA transmissions. An EHT AP with an operating channel width greater than 160 MHz shall be able to allocate an RU or MRU on the primary 160 MHz channel within the BSS bandwidth in a 320 MHz EHT MU or EHT TB PPDU to a 160 MHz operating non-AP EHT STA. An EHT AP shall not allocate an RU or MRU on the secondary 160 MHz in a 320 MHz EHT MU or EHT TB PPDU to a 160 MHz operating non-AP EHT STA.

A 160 MHz operating non-AP EHT STA shall support all RU and MRU sizes within the primary 160 MHz channel when participating in 320 MHz EHT DL and UL OFDMA transmissions.

A 160 MHz operating non-AP EHT STA shall be able to transmit the preamble and data in the allocated RU or MRU on the primary 160 MHz channel in a 320 MHz EHT TB PPDU.

A 160 MHz operating non-AP STA shall be able to support the reception of the preamble and data in the allocated RU or MRU on the primary 160 MHz channel in a 320 MHz EHT MU PPDU.