IEEE P802.11
Wireless LANs

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| Proposed draft text for 34.x.x Support for large bandwidth |
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Abstract:

This document proposes draft text for “34.x.x Support for large bandwidth” in TGbe D0.1

The corresponding motions related to R1 of TGbe are shown in [1] and listed as below:

* Motions: 115 (#SP75)

R0: Initial proposed draft text.

R1: Modification of proposed text.

R2: Revised by 1) adding further descriptions on how to transmit and receive preamble and assigned RU when an 80/160 MHz operating non-AP EHT STA participates in a higher bandwidth EHT DL/UL OFDMA transmissions; 2) removing the descriptions related to 240/160+80 MHz transmission.

R3: Revised based on Jinsoo Choi’s comments.

R4: Revised based on Wook Bang Lee’s comment by adding description on multi-RU.

R5: Revised by adding descriptions on 20 MHz operating non-AP EHT STA and some other modifications.

**34.x.x Support for wide bandwidth OFDMA operation**

A 20 MHz, 80 MHz or 160 MHz operating non-AP EHT STA is a non-AP EHT STA that supports for only 20 MHz, 80 MHz or 160 MHz channel width, respectively, for the frequency band in which it is operating (see 34.1.1 Introduction to EHT PHY). Currently supported channel width of a non-AP EHT STA is indicated in the EHT Capabilities element (see 9.4.2.xxx (EHT PHY Capabilities Information field) or Channel Width field in an OM Control subfield.(See 9.2.4.6a.2 OM Control).

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

A 20 MHz operating non-AP EHT STA supports 26-tone RU, 52-tone RU, 106-tone RU, 242-tone RU and 26+52-tone, 26+106-tone MRU in locations allowed in section 34.3.x.x (RU/MRU restrictions for 20 MHz operation) when participating in EHT DL and UL OFDMA transmissions with PPDU bandwidth larger than 20MHz. An EHT AP shall be able to allocate an RU (see 34.3.2.2 (Subcarriers and resource allocation for wideband) or MRU (see 34.3.3 Subcarriers and Resource Allocation for Multiple RUs) on a 20 MHz channel within the BSS bandwidth in a 40 MHz, 80 MHz, 160 MHz, 80+80 MHz, 320 MHz or 160+160 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 be able to transmit the preamble and data in the allocated RU or MRU on the 20 MHz channel assigned by the EHT AP in a 40 MHz, 80 MHz, 160 MHz, 80+80 MHz, 320 MHz or 160+160 MHz EHT TB PPDU.

A 20 MHz operating non-AP STA shall be able to support the receiption of the preamble and data in the allocated RU or MRU on the 20 MHz channel assigned by the EHT AP in a 40MHz, 80 MHz, 160 MHz, 80+80 MHz, 320 MHz or 160+160 MHz EHT MU PPDU (some restrictions TBD).

A 20 MHz operating non-AP EHT STA shall operate in the primary 20 MHz channel with exception TBD.

An 80 MHz operating non-AP EHT STA shall be able to participate in 160 MHz, 80+80 MHz, 320 MHz and 160+160 MHz EHT DL and UL OFDMA transmissions. An EHT AP shall be able to allocate an RU (see 34.3.2.2 (Subcarriers and resource allocation for wideband) or MRU (see 34.3.3 Subcarriers and Resource Allocation for Multiple RUs) on one 80 MHz frequency segment within the BSS bandwidth in a 160 MHz, 80+80 MHz, 320 MHz or 160+160 MHz EHT MU or EHT TB PPDU to an 80 MHz operating non-AP EHT STA. An EHT AP shall not allocate an RU outside of the primary 80 MHz in a 160 MHz, 80+80 MHz, 320 MHz, or 160+160 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 non-primary 80 MHz channel with the EHT AP.

An 80 MHz operating non-AP EHT STA shall support all RU and MRU sizes within its operating 80 MHz segement when participating in 160 MHz, 80+80 MHz, 320 MHz or 160+160 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 on the 80 MHz frequency segment assigned by the EHT AP in a 160 MHz, 80+80 MHz, 320 MHz or 160+160 MHz EHT TB PPDU.

An 80 MHz operating non-AP STA shall be able to support the receiption of the preamble and data in the allocated RU or MRU on the 80 MHz frequency segment assigned by the EHT AP in a 160 MHz, 80+80 MHz, 320 MHz or 160+160 MHz EHT MU PPDU (some restrictions TBD).

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

A 160 MHz operating non-AP EHT STA shall support all RU and MRU sizes within its operating 160 MHz channel when participating in 320 MHz or 160+160 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 160 MHz channel assigned by the EHT AP in a 320 MHz or 160+160 MHz EHT TB PPDU.

A 160 MHz operating non-AP STA shall be able to support the receiption of the preamble and data in the allocated RU or MRU on the 160 MHz channel assigned by an EHT AP in a 320 MHz or 160+160 MHz EHT MU PPDU (some restrictions TBD).

**References:**

[1] 802.11-20/0566r66, Edward Au, Compendium of straw polls and potential changes to the specification framework document.