IEEE P802.11
Wireless LANs

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| Proposed Draft Text for RU/MRU Restrictions for 20 MHz Operation |
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Abstract

This submission proposes the draft text for Subclause 36.3.2.5 RU/MRU Restrictions for 20 MHz Operation in 802.11be D0.1. This document is based on the following motions in [1].

Motions 137: #SP270, #SP271, #SP272

Texts highlighted in yellow are TBD

Revisions:

* Rev 0: Initial version of the document.
* Rev 1, 2: Revision based on the feedback

References:

[1] 802.11-20/0566r90 Compendium of Stras Polls and Potential Changes to the Specification Framework Document

36.3.2.5 RU/MRU Restrictions for 20 MHz Operation

If a 20 MHz operating non-AP EHT STA is the receiver of a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT MU PPDU, or the transmitter of a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT TB PPDU, then the RU/MRU tone mapping in 20 MHz is not aligned with the 40 MHz, 80 MHz, 160 MHz or 320 MHz RU tone mapping (see 36.3.2.1 (Subcarriers and resource allocation for wideband)).

An AP shall not assign the following RUs/MRUs to a 20 MHz operating non-AP EHT STA where the RU index is defined in Table 27-8 (Data and pilot subcarrier indices for RUs in a 40 MHz HE PPDU and in a non-OFDMA 40 MHz HE PPDU) and the MRU index is defined in Table 36-x (Indices for small-size MRUs in an OFDMA 40 MHz EHT PPDU):

— 26-tone RU 5 and 14 of a 40 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU 2 and 5 (26-tone RU 5 + 52-tone RU 2 and 26-tone RU 14 + 52-tone RU 6) of a 40 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU 1, 2, 3 and 4 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 5 + 106-tone RU 2, 26-tone RU 14 + 106-tone RU 3 and 26-tone RU 14 + 106-tone RU 4) of a 40 MHz EHT MU PPDU and EHT TB PPDU

An AP shall not assign the following RUs/MRUs to a 20 MHz operating non-AP EHT STA where the RU index is defined in Table 36-5 (Data and pilot subcarrier indices for RUs in an 80 MHz EHT PPDU) and the MRU index is defined in Table 36-x (Indices for small-size MRUs in an OFDMA 80 MHz EHT PPDU):

— 26-tone RU 5, 14, 24 and 33 of an 80 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU 2, 5, 8 and 11 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 24 + 52-tone RU 10 and 26-tone RU 33 + 52-tone RU 14) of an 80 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU 1, 4, 5 and 8 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 24 + 106-tone RU 5 and 26-tone RU 33 + 106-tone RU 8) of an 80 MHz EHT MU PPDU and EHT TB PPDU

An AP shall not assign the following RUs/MRUs to a 20 MHz operating non-AP EHT STA where the RU index is defined in Table 36-6 (Data and pilot subcarrier indices for RUs in a 160 MHz EHT PPDU) and the MRU index is defined in Table 36-x (Indices for small-size MRUs in an OFDMA 160 MHz EHT PPDU):

— 26-tone RU 5, 14, 24, 33, 42, 51, 61 and 70 of a 160 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU 2, 5, 8, 11, 14, 17, 20 and 23 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 24 + 52-tone RU 10, 26-tone RU 33 + 52-tone RU 14, 26-tone RU 42 + 52-tone RU 18, 26-tone RU 51 + 52-tone RU 22, 26-tone RU 61 + 52-tone RU 26 and 26-tone RU 70 + 52-tone RU 30) of a 160 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU 1, 4, 5, 8, 9, 12, 13 and 16 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 24 + 106-tone RU 5, 26-tone RU 33 + 106-tone RU 8, 26-tone RU 42 + 106-tone RU 9, 26-tone RU 51 + 106-tone RU 12, 26-tone RU 61 + 106-tone RU 13 and 26-tone RU 70 + 106-tone RU 16) of a 160 MHz EHT MU PPDU and EHT TB PPDU

An AP shall not assign the following RUs/MRUs to a 20 MHz operating non-AP EHT STA where the RU index is defined in Table 36-7 (Data and pilot subcarrier indices for RUs in a 320 MHz EHT PPDU) and the MRU index is defined in Table 36-x (Indices for small-size MRUs in an OFDMA 320 MHz EHT PPDU):

— 26-tone RU 5, 14, 24, 33, 42, 51, 61, 70, 79, 88, 98, 107, 116, 125, 135 and 144 of a 320 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44 and 47 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 24 + 52-tone RU 10, 26-tone RU 33 + 52-tone RU 14, 26-tone RU 42 + 52-tone RU 18, 26-tone RU 51 + 52-tone RU 22, 26-tone RU 61 + 52-tone RU 26, 26-tone RU 70 + 52-tone RU 30, 26-tone RU 79 + 52-tone RU 34, 26-tone RU 88 + 52-tone RU 38, 26-tone RU 98 + 52-tone RU 42, 26-tone RU 107 + 52-tone RU 46, 26-tone RU 116 + 52-tone RU 50, 26-tone RU 125 + 52-tone RU 54, 26-tone RU 135 + 52-tone RU 58 and 26-tone RU 144 + 52-tone RU 62) of a 320 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29 and 32 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 24 + 106-tone RU 5, 26-tone RU 33 + 106-tone RU 8, 26-tone RU 42 + 106-tone RU 9, 26-tone RU 51 + 106-tone RU 12, 26-tone RU 61 + 106-tone RU 13, 26-tone RU 70 + 106-tone RU 16, 26-tone RU 79 + 106-tone RU 17, 26-tone RU 88 + 106-tone RU 20, 26-tone RU 98 + 106-tone RU 21, 26-tone RU 107 + 106-tone RU 24, 26-tone RU 116 + 106-tone RU 25, 26-tone RU 125 + 106-tone RU 28, 26-tone RU 135 + 106-tone RU 29 and 26-tone RU 144 + 106-tone RU 32) of a 320 MHz EHT MU PPDU and EHT TB PPDU

An AP shall not assign all 242-tone RUs to a 20 MHz operating non-AP EHT STA for 40 MHz, 80 MHz, 160 MHz and 320MHz EHT TB PPDU.

A 20 MHz operating non-AP EHT STA may support tone mapping of 242-tone RU for the reception of 40 MHz EHT MU PPDU (see Table 27-8 (Data and pilot subcarrier indices for RUs in a 40 MHz HE PPDU and in a non-OFDMA 40 MHz HE PPDU)) in the 2.4 GHz, 5 GHz and 6 GHz bands, 80 MHz and 160 MHz EHT MU PPDU (see Table 36-5 (Data and pilot subcarrier indices for RUs in an 80 MHz EHT PPDU) and Table 36-6 (Data and pilot subcarrier indices for RUs in a 160 MHz EHT PPDU)) in the 5 GHz and 6 GHz bands, and 320MHz EHT MU PPDU (see Table 36-7 (Data and pilot subcarrier indices for RUs in a 320 MHz EHT PPDU)) in the 6 GHz band. This support is indicated in the Supported Channel Width Set subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element (see x.xx (EHT PHY Capabilities Information field)).