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.

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 (Data and pilot subcarrier indices for MRUs in an 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 TBD1 and TBD2 (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 TBD1, TBD2, TBD3 and TBD4 (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

— 242-tone RU 1 and 2 of a 40 MHz 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 (Data and pilot subcarrier indices for MRUs in an 80 MHz EHT PPDU):

— 26-tone RU 5, 14, 23 and 32 of an 80 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU TBD1, TBD2, TBD3 and TBD4 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 23 + 52-tone RU 10 and 26-tone RU 32 + 52-tone RU 14) of an 80 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU TBD1, TBD2, TBD3 and TBD4 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 23 + 106-tone RU 5 and 26-tone RU 32 + 106-tone RU 8) of an 80 MHz EHT MU PPDU and EHT TB PPDU

— 242-tone RU 1, 2, 3 and 4 of an 80 MHz 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 (Data and pilot subcarrier indices for MRUs in an 160 MHz EHT PPDU):

— 26-tone RU 5, 14, 23, 32, 41, 50, 59 and 68 of a 160 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU TBD1, TBD2, TBD3, TBD4, TBD5, TBD6, TBD7 and TBD8 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 23 + 52-tone RU 10, 26-tone RU 32 + 52-tone RU 14, 26-tone RU 41 + 52-tone RU 18, 26-tone RU 50 + 52-tone RU 22, 26-tone RU 59 + 52-tone RU 26 and 26-tone RU 68 + 52-tone RU 30) of a 160 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU TBD1, TBD2, TBD3, TBD4, TBD5, TBD6, TBD7 and TBD8 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 23 + 106-tone RU 5, 26-tone RU 32 + 106-tone RU 8, 26-tone RU 41 + 106-tone RU 9, 26-tone RU 50 + 106-tone RU 12, 26-tone RU 59 + 106-tone RU 13 and 26-tone RU 68 + 106-tone RU 16) of a 160 MHz EHT MU PPDU and EHT TB PPDU

— 242-tone RU 1, 2, 3, 4, 5, 6, 7 and 8 of a 160 MHz 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 (Data and pilot subcarrier indices for MRUs in an 320 MHz EHT PPDU):

— 26-tone RU 5, 14, 23, 32, 41, 50, 59, 68, 77, 86, 95, 104, 113, 122, 131 and 140 of a 320 MHz EHT MU PPDU and EHT TB PPDU

— 26+52-tone MRU TBD1, TBD2, TBD3, TBD4, TBD5, TBD6, TBD7, TBD8, TBD9, TBD10, TBD11, TBD12, TBD13, TBD14, TBD15 and TBD16 (26-tone RU 5 + 52-tone RU 2, 26-tone RU 14 + 52-tone RU 6, 26-tone RU 23 + 52-tone RU 10, 26-tone RU 32 + 52-tone RU 14, 26-tone RU 41 + 52-tone RU 18, 26-tone RU 50 + 52-tone RU 22, 26-tone RU 59 + 52-tone RU 26, 26-tone RU 68 + 52-tone RU 30, 26-tone RU 77 + 52-tone RU 34, 26-tone RU 86 + 52-tone RU 38, 26-tone RU 95 + 52-tone RU 42, 26-tone RU 104 + 52-tone RU 46, 26-tone RU 113 + 52-tone RU 50, 26-tone RU 122 + 52-tone RU 54, 26-tone RU 131 + 52-tone RU 58 and 26-tone RU 140 + 52-tone RU 62) of a 320 MHz EHT MU PPDU and EHT TB PPDU

— 26+106-tone MRU TBD1, TBD2, TBD3, TBD4, TBD5, TBD6, TBD7, TBD8, TBD9, TBD10, TBD11, TBD12, TBD13, TBD14, TBD15 and TBD16 (26-tone RU 5 + 106-tone RU 1, 26-tone RU 14 + 106-tone RU 4, 26-tone RU 23 + 106-tone RU 5, 26-tone RU 32 + 106-tone RU 8, 26-tone RU 41 + 106-tone RU 9, 26-tone RU 50 + 106-tone RU 12, 26-tone RU 59 + 106-tone RU 13, 26-tone RU 68 + 106-tone RU 16, 26-tone RU 77 + 106-tone RU 17, 26-tone RU 86 + 106-tone RU 20, 26-tone RU 95 + 106-tone RU 21, 26-tone RU 104 + 106-tone RU 24, 26-tone RU 113 + 106-tone RU 25, 26-tone RU 122 + 106-tone RU 28, 26-tone RU 131 + 106-tone RU 29 and 26-tone RU 140 + 106-tone RU 32) of a 320 MHz EHT MU PPDU and EHT TB PPDU

— 242-tone RU 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 of a 320 MHz 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, and 80 MHz, 160 MHz and 320MHz EHT MU PPDU (see Table 36-5 (Data and pilot subcarrier indices for RUs in an 80 MHz EHT PPDU), Table 36-6 (Data and pilot subcarrier indices for RUs in a 160 MHz EHT PPDU) and Table 36-7 (Data and pilot subcarrier indices for RUs in a 320 MHz EHT PPDU)) in the 5 GHz and 6 GHz bands. 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)).