IEEE P802.11
Wireless LANs

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| Proposed Draft Text for 34.3.2.2 Wideband and noncontiguous spectrum utilization |
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Abstract:

This document proposes draft text for “34.3.2.2 Wideband and noncontigeous spectrum utilization” in TGbe D0.1

The corresponding motions shown in [1] are listed as below:

* Motions related to “34.3.2.2.1 Wideband spectrum utilization for PPDU transmission”: 10, 16, 17, 111 (#SP0611-01), 119 (#SP115), 119 (#SP116), 119 (SP#117), 122(SP#165),
* Motions related to “34.3.2.2.2 Subcarriers and resource allocation for wideband”: 11, 18, 19, 33, 34, 35, 112 (#SP42), 118.

R0: Initial proposed draft text.

**34.3.2 Subcarriers and resource allocation**

**34.3.2.1 General**

**34.3.2.2 Wideband and noncontiguous spectrum utilization**

**34.3.2.2.1 Wideband spectrum utilization for PPDU transmission (Eunsung Park)**

EHT PHY supports 320 MHz, 160+160 MHz, 240 MHz and 160+80 MHz PPDU transmissions.

For a 320 MHz PPDU transmission, a 320 MHz channel composed of any two adjacent 160 MHz channels is used. For a 160+160 MHz PPDU transmission, two non-adjacent 160 MHz channels are used.

For a 240 MHz PPDU transmission, two adjacent 160 MHz and 80 MHz channels within a 320 MHz channel are used, where one non-primary 80 MHz channel is punctured. For a 160+80 MHz PPDU transmission, two non-adjacent 160 MHz and 80 MHz channels within a 320 MHz/160+160 MHz channel are used, where one non-primary 80 MHz channel is punctured.

A 320/160+160 MHz PPDU transmission is subjected to 320/160+160 MHz PPDU transmit spectral masks and additional spectral mask(s) for the punctured channel(s) defined in Subclause xx.x.xx.x (Transmit spectral mask) according to the puncturing patterns and multi-RU allocation. A 240/160+80 MHz PPDU transmission is subjected to 320/160+160 MHz PPDU transmit spectral masks and additional spectral mask(s) for the punctured channel(s) defined in Subclause xx.x.xx.x (Transmit spectral mask) according to the puncturing patterns.

**34.3.2.2.2 Subcarriers and resource allocation for wideband (Shimi Shilo)**

The EHT PHY data subcarrier frequency spacing is identical to that of HE PHY subcarrier frequency spacing defined in Clause 27 (High Efficiency (HE) PHY specification) [2].

The EHT tone plan and RU locations for a 20MHz PPDU and 40MHz PPDU is identical to that of HE PHY defined in Clause 27 (High Efficiency (HE) PHY specification) [2], for both OFDMA and non-OFDMA cases. The EHT tone plan and RU locations for an 80MHz non-OFDMA PPDU and a 160/80+80MHz non-OFDMA PPDU is identical to that of HE PHY defined in Clause 27 (High Efficiency (HE) PHY specification) [2], with the eception of pilot locations. The EHT tone plan and RU locations for a 320/160+160MHz non-OFDMA PPDU is based on duplicated EHT 160MHz tone plan.

The EHT tone plan and RU locations for an 80MHz OFDMA PPDU is given in Figure XXX below. The same structure as used for SU, DL MU and TB PPDU formats with and without puncturing. A non-OFDMA full bandwidth 80MHz segment uses a 996-tone RU. Any punctured 80MHz segment uses the OFDMA plan shown in Figure XXX below. For each 80MHz segment in a 160/240/320MHz PPDU, if it is punctured or used for OFDMA, the plan shown in Figure XXX below is used. For each 80MHz segment in a 160/240/320MHz PPDU, if it is used for non-OFDMA and non-punctured, the 996-tone RU is used.



Figure XXX – RU Locations in an 80MHz EHT OFDMA PPDU

For a non-OFDMA 320/160+160MHz PPDU, 12 and 11 null tones are placed at the left and right edges, respectively, in each 160MHz segment.

The EHT tone plan for a 240/160+80MHz PPDU consists of three 80MHz segments. The tone plan for each of the 80MHz segments is identical to an EHT 80MHz tone plan.

**References:**

[1] 802.11-20/0566r59, Edward Au, Compendium of straw polls and potential changes to the specification framework document.

[2] P802.11ax\_D6.1.