IEEE P802.11
Wireless LANs

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| Proposed Draft Text for 34.3.2.2 Subcarriers and resource allocation for wideband |
| Date: 2020-09-10 |
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Abstract:

This document proposes draft text for “34.3.2.2 **Subcarriers and resource allocation for wideband**” in TGbe D0.1

The corresponding motions shown in [1] are: 11, 18, 19, 33, 34, 35, 112 (#SP42), 118.

R0: This is a revision of 20/1314r0 by removing Subsection “Wideband spectrum utilization for PPDU transmission”; changing the subclause 34.3.2.2 title to be “Subcarrier and resource allocation for wideband” and updating the corresponding text proposed in 20/1314r0.

R1: This is a revision of 20/1371r0 with modications by taking into account the received feedback.

**34.3.2 Subcarriers and resource allocation**

**34.3.2.1 General**

**34.3.2.2 Subcarriers and resource allocation for wideband**

The EHT PHY 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 20 MHz PPDU and 40 MHz PPDU is identical to that of HE PHY defined in Clause 27 (High Efficiency (HE) PHY specification) [2]. The EHT tone plan and RU locations for an 80 MHz PPDU is given in Figure XXX below. The same structure is used for an EHT MU and TB PPDU formats. An EHT PPDU spanning 160 MHz or wider is composed of multiple 80 MHz segments. The tone plan for each of the 80 MHz segments is identical to that of an EHT 80 MHz PPDU. Any 80 MHz segment in an EHT 80/160/320 MHz PPDU, if it is punctured or used with an OFDMA transmission, uses the tone plan shown in Figure XXX. Each non-punctured 80 MHz segment in a 160/320MHz PPDU uses a 996-tone RU as shown in Figure xxx



Figure XXX – RU Locations in an 80 MHz EHT PPDU

For an EHT PPDU using non-OFDMA transmission:

* The tone plan of an 80/160/80+80 MHz EHT PPDU is identical to that of HE PHY defined in Clause 27 (High Efficiency (HE) PHY specification), with the exception of pilot locations and the exception of any punctured 80 MHz segment.
* The EHT 160 MHz tone plan is used for both the primary and secondary 160 MHz channels within a 320/160+160 MHz EHT PPDU.

The location of the RUs are fixed as defined in Table XXX below.

Table XXX: Data and pilot subcarrier indices for RUs in an 80 MHz EHT PPDU

|  |  |
| --- | --- |
| **RU Type** | **RU index and subcarrier range** |
| 26-tone RU | RU 1[-499:-474] | RU 2[-473:-448] | RU 3[-445:-420] | RU 4[-419:-394] | RU 5[-392:-367] |
|  | RU 6[-365:-340] | RU 7[-339:-314] | RU 8[-311:-286] | RU 9[-285:-260] |  |
|  | RU 10[-252:-227] | RU 11[-226:-201] | RU 12[-198:-173] | RU 13[-172:-147] | RU 14[-145:-120] |
|  | RU 15[-118:-93] | RU 16[-92:-67] | RU 17[-64:-39] | RU 18[-38:-13] |  |
|  | RU 19]13:38] | RU 20[39:64] | RU 21[67:92] | RU 22[93:118] | RU 23[120:145] |
|  | RU 24[147:172] | RU 25[173:198] | RU 26[201:226] | RU 27[227:252] |  |
|  | RU 28[260:285] | RU 29[286:311] | RU 30[314:339] | RU 31[340:365] | RU 32[367:392] |
|  | RU 33[394:419] | RU 34[420:445] | RU 35[448:473] | RU 36[474:499] |  |
| 52-tone RU | RU 1[-499:-448] | RU 2[-445:-394] | RU3[-365:-314] | RU 4[-311:-260] |  |
|  | RU 5[-252:-201] | RU 6[-198:-147] | RU 7[-118:-67] | RU 8[-64:-13] |  |
|  | RU 9[13:64] | RU 10[67:118] | RU 11[147:198] | RU 12[201:252] |  |
|  | RU 13[260:311] | RU 14[314:365] | RU 15[394:445] | RU 16[448:499] |  |
| 106-tone RU | RU 1[-499:-394] | RU 2[-365:-260] | RU 3[-252:-147] | RU 4[-118:-13] |  |
|  | RU 5[13:118] | RU 6[147:252] | RU 7[260:365] | RU 8[394:499] |  |
| 242-tone RU | RU 1[-500:-259] | RU 2[-253:-12] | RU 3[12:253] | RU 4[259:500] |  |
| 484-tone RU | RU 1[-500:-259, -253:-12] | RU 2[12:253, 259:500] |  |  |  |
| 996-tone RU | RU 1[-500:-3, 3:500] |  |  |  |  |

**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.

Visio files

