IEEE P802.11
Wireless LANs

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| Comment Resolutions on Miscellaneous Comments |
| Date: 2017-09-12 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D0.1 as follows:

3430, 10346, 10347, 10348, 8869, 7849

In this contribution, we suggest to separate “HE SU PPDU And HE ER SU PPDU With 1x HE-LTF And 0.8 us GI” HE PHY Capability into two separate bits to be consistent with other definitions for HE SU and HE ER SU PPDUs in HE PHY Capabilities (e.g., 4x HE-LTF + 0.8 us GI Support).

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGax Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify existing material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

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| **CID** | **Clause Number** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 3430 | 9.4.1.63 | 59.38 | The S-tone and E-tone description needs clarification when comparing and referencing tables 9-76c and 9-76d. | Should read as follows lines 38 to 49:The S-tone and E-tone corresponding to the possible RU indices for 20MHz, 40MHz and 80 MHz channels are listed in Table 9-76c and Table 9-76d. Feedback subcarrier indices indicating start 26-tone RU index and end 26-tone RU index for Ng = 4 are shown in Table 9-76c, and for Ng = 16 in Table 9-76d.For 160 MHz, to determine the S-tone and E-tone, RUs 37 to 73 occupying the higher 80 MHz use the same entries in Table 9-76c for Ng = 4 and Table 9-76d Ng = 16 as RUs 0 to 36 occupying the lower 80 MHz.For 20 MHz, scidx(i), where 1 ╘δ± i ╘δ± Ns ╘δ± 2, includes all subcarrier indices between the S-tone and the E-tone subcarrier indices described in Table 9-76e (Feedback subcarrier indices for 20 MHz bandwidth for Ng = 4 and Ng = 16) for Ng = 4 and Ng = 16. | Reject:This is a duplicate of CID 3539, which is resolved in 11-17/303r2 (Motion 195) |
| 10346 | 9.4.1.63 | 58.04 | "possibly zero-length)." Not clear the need for zero length reference.  | Clarify the need for the term "zero length" or remove this. This comment is applicable to other sentences in the spec. | Reject:In case the beamforming feedback exceeds the maximum MPDU length, the beamforming feedback is split into up to 8 feedback segments. Each feedback segment is sent in a different feedback frame and contains successive beamforming feedback information.A beamformer through the use of a bitmap can ask retransmission of certain segments. A beamformee has two options* Transmit feedback segments indicated in the bitmap excluding the indicated segments that do not exist at the beamformee anymore
* Transmit all of the feedback segments that exist at the beamformee disregarding the bitmap.

In both the above cases, if none of the segments exist at the beamformee, then zero-length of beamforming report information makes sense. |
| 10347 | 9.4.1.64 | 63.64 | "possibly zero-length)." Not clear the need for zero length reference.  | Clarify the need for the term "zero length" or remove this. This comment is applicable to other sentences in the spec. | Reject:The reason of rejection is same as CID 10346. |
| 10348 | 9.4.1.65 | 65.12 | "possibly zero-length)." Not clear the need for zero length reference.  | Clarify the need for the term "zero length" or remove this. This comment is applicable to other sentences in the spec. | Reject:The reason of rejection is same as CID 10348. |
| 8869 | 28.3.8 | 258.16 | Add definition of "non-OFDMA HE PPDU" to definition section | See comment | Reject:This CID was resolved in 11-17/316r4 and returned back to ad-hoc by Editor.At this time, this CID is rejected. The definition of “non-OFDMA HE PPDU” is added through CID 5255, in D1.4. |
| 7849 | 26.1.1 | 210.08 | Reception of HE extended range SU PPDU should be optional | Move it to the optional list below | Reject:The HE ER SU PPDU is useful in outdoor use cases (e.g., 15/1309r1, 16/0047r0). The outdoor use case is listed in the PAR and CSD as an aim of the project. |

Discussion:

Bit B14 in HE PHY Capabilities, 9.4.2.237.3 is “HE SU PPDU And HE ER SU PPDU With 1x HE-LTF And 0.8 us GI”. The 1x HE-LTF and 0.8 us GI combination is useful for achieving higher throughputs for HE SU PPDUs. However, in case of HE ER SU PPDU, the intent of this PPDU format is for range extension and not throughtput maximization (e.g., the HE ER SU PPDU preamble is longer than HE SU PPDU).

To reduce implementation burden and interoperability test combinations we suggest separating this capability in two bits namely,

* HE SU PPDU With 1x HE-LTF And 0.8 us GI (1bit)
* HE ER SU PPDU With 1x HE-LTF And 0.8 us GI (1 bit)

On the other hand, currently 4x HE-LTF + 0.8 us GI for HE SU PPDU and HE ER SU PPDU is indicated through separate capability as well.

Proposal:

***TGax Editor: Change Figure 9-589cl (HE PHY Capabilities information field format) in D1.4***

B14: ~~HE SU PPDU And HE ER SU PPDU With 1x HE-LTF And 0.8 us GI~~ HE SU PPDU With 1x HE-LTF And 0.8 us GI

B69: HE ER SU PPDU With 1x HE-LTF And 0.8 us GI

***TGax Editor: Change Table 9-262aa (HE PHY Capabilities information field) in D1.4***

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| ***Subfield*** | ***Definition*** | ***Encoding*** |
| HE SU PPDU ~~And HE ER SU PPDU~~ With 1x HE-LTF And 0.8 us GI(#Ed)  | Indicates support of the reception of an HE SU PPDU ~~and HE ER SU PPDU~~ with 1x LTF and 0.8 us guard interval duration.  | Set to 0 if not supported. Set to 1 if supported  |
| HE ER SU PPDU With 1x HE-LTF And 0.8 us GI | Indicates support of the reception of an HE ER SU PPDU with 1x LTF and 0.8 us guard interval duration.  | Set to 0 if not supported. Set to 1 if supported  |
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**References:**

1. **IEEE P802.11axTM/D1.4, July 2017.**