### IEEE P802.11Wireless LANs

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| 11ax D2.3 MAC Comment Resolution for CID 12376 |
| Date: 2018-05-03 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Robert Stacey | Intel |  |  |  |
| Po-Kai Huang | Intel |  |  |  |
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Abstract

This submission proposes resolutions for comments of TGax Draft 2.3 with the following CIDs:

12376

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 D2.3 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D2.3 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** | **Commenter** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 12376 | Liwen Chu | 90.19 | 9.3.1.23 | B12 when RU is 2x996 is missing. | Add the following text in proper place: The first bit, B12, is set to 1 to indicate that the allocated RU is located within both the primary 80 MHz and the secondary 80 MHz. | Revised –The signalling for RU 2x996 had some ambiguity in early drafts as highlighted by the comment. A draft was recently changed to define a B12 setting for RU 2x996, but some early implementations may be incompatible as a result. RU 2x996 is unambiguously indicated by B19-B13 being 68. The B12 setting needs to be defined, but is not necessary for a correct response by the non-AP STA.We propose a capability bit so that STA can choose not to be triggered by AP for 2x996 RU.**TGax editor, please make changes as shown in doc 11-18/0944r0** |

**Propose:** Revised for CID 12376 per discussion and editing instructions in 11-18/0944r0.

* ***TGax editor: Change*** ***9.3.1.23 Trigger frame format as the following: (Track change on)***Trigger frame format

(…existing texts….)

For a 20 MHz, 40 MHz and 80 MHz PPDU, B12 is set to 0. For an 80+80 MHz and 160 MHz PPDU, B12 is set to 0 to indicate that the RU allocation applies to the primary 80 MHz channel and set to 1 to indicate that the RU allocation applies to the secondary 80 MHz channel.(#11915, #Ed) The mapping of subsequent 7 bits indices B19-B13 to RU index in each row depends on the UL BW subfield(#11372) in Common Info field:

* For a 20 MHz PPDU, the mapping of B19-B13 to RU allocation follows the RU index in Table 28-6 (Data and pilot subcarrier indices for RUs in a 20 MHz HE PPDU) in increasing order.
* The value 0 indicates 26-tone RU1 [121: 96], the value 8 indicates 26-tone RU9 [96: 121], and the values 9–36 are not used.
* The value 37 indicates 52-tone RU1 [121: 70], the value 40 indicates 52-tone RU4 [70: 121], and the values 41–52 are not used.
* The value 53 indicates 106-tone RU1 [122: 17], the value 54 indicates 106-tone RU2 [17: 122], and the values 55–60 are not used.
* The value 61 indicates 242-tone RU1 [122: 2, 2:122], and the values 62–64 are not used.
* For a 40 MHz PPDU, the mapping of B19-B13 to RU allocation follows the RU index in Table 28-7 (Data and pilot subcarrier indices for RUs in a 40 MHz HE PPDU) in increasing order.
* The value 0 indicates 26-tone RU1 [243: 218], the value 17 indicates 26-tone RU18 [218: 243], and the values 18–36 are not used.
* The value 37 indicates 52-tone RU1 [243: 192], the value 44 indicates 52-tone RU8 [192: 243], and the values 45–52 are not used.
* A similar ordering is followed for 106-tone RU, 242-tone RU and 484-tone RU.
* For an 80 MHz, 160 MHz and 80+80 MHz PPDU, the mapping of B19-B13 to RU allocation follows the RU index in Table 28-8 (Data and pilot subcarrier indices for RUs in an 80 MHz HE PPDU) in increasing order.
* The value 0 indicates 26-tone RU1 [499: 474], and the value 36 indicates 26-tone RU37 [474: 499].
* The value 37 indicates 52-tone RU1 [499: 448], and the value 52 indicates 52-tone RU16 [448: 499].
* A similar ordering is followed for 106-tone RU, 242-tone RU, 484-tone RU and 996-tone RU. For a 160 MHz and 80+80 MHz PPDU, B19-B13 are 68(#12223) indicates 2996-tone RU and B12 is set to 1 to indicate a 2996-tone-tone RU(#12165). A non-AP STA ignores B12 for 2x996-tone RU indication. (#12376)

(…existing texts….)

***TGax editor: Change 9.4.2.237.2 HE MAC Capabilities Information field as the following: (Track change on)***

* HE MAC Capabilities Information field

The format of the HE MAC Capabilities Information field is defined in Figure 9-589ck (HE MAC Capabilities Information field format).

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 | B3 B4 | B5 B7 | B8 B9 | B10       B11 | B12       B14 |
|  | +HTC HE Support | TWT Requester Support | TWT Responder Support | Fragmentation Support | Maximum Number Of Fragmented MSDUs/A-MSDUs Exponent(#11173) | Minimum Fragment Size | Trigger Frame MAC Padding Duration | Multi-TID Aggregation Rx Support(#12379) |
| Bits: | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 3 |

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|  | B15     B16 | B17 | B18 | B19 | B20 | B21 | B22 | B23 |
|  | HE Link Adaptation Support | All Ack Support | TRS Support(#13136) | BSR Support | Broadcast TWT Support | 32-bit BA Bitmap Support | MU Cascading Support | Ack-Enabled Aggregation Support |
| Bits: | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

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|  | B24 | B25 | B26 | B27    B28 | B29 | B30 | B31 | B32 |
|  | Reserved(#12490) | OM Control Support | OFDMA RA Support | Maximum A-MPDU Length Exponent | A-MSDU Fragmentation Support | Flexible TWT Schedule Support | Rx Control Frame to MultiBSS | BSRP BQRP A-MPDU Aggregation |
| Bits: | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |

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|  | B33 | B34 | B35 | B36 | B37 | B38 | B39       B41 |
|  | QTP Support | BQR Support | SR Responder | NDP Feedback Report Support | OPS Support | A-MSDU In A-MPDU Support | Multi-TID Aggregation Tx Support(#12379) |
| Bits: | 1 | 1 | 1 | 1 | 1 | 1 | 3 |

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|  | B42 | B43 | B44  B47 |
|  | HE Subchannel Selective Transmission Support(#11837) | UL 2x996-tone RU Support | Reserved |
| Bits: | 1 | 1(#12376) | 4 |
|  | * HE MAC Capabilities Information field format
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The subfields of the HE MAC Capabilities Information field are defined in Table 9-262z (Subfields of the HE MAC Capabilities Information field).

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| * Subfields of the HE MAC Capabilities Information field
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| Subfield | Definition | Encoding |
| (…existing fields…) | (…existing fields…) | (…existing fields…) |
| UL 2x996-tone RU Support(#12376) | Indicates support by a STA to receive a TRS Control field or a Trigger frame with a User Info field addressed to the STA with the RU Allocation subfield of the TRS Control field or the User Info field indicating 2x996-tone. | Set to 1 if the STA supports reception of a TRS Control field or a Trigger frame with a User Info field addressed to the STA with the RU Allocation subfield of the TRS Control field or the User Info field indicating 2x996-tone.Set to 0 otherwise. |

(…existing texts….)

***TGax editor: Change 27.5.3.2 Rules for soliciting UL MU frames: (Track change on)***

* Rules for soliciting UL MU frames
* General

An AP shall not send a frame that contains a TRS Control subfield(#13136) to a STA that has not set the TRS Support subfield(#13136) to 1 in the HE MAC Capabilities Information field of the HE Capabilities element it transmits.

An AP shall not send a TRS Control field or a Trigger frame with a User Info field addressed to a STA with the RU Allocation subfield of the TRS Control field or the User Info field indicating 2x996-tone if the STA has not set the UL 2x996-tone RU Support subfield to 1 in the HE MAC Capabilities Information field of the HE Capabilities element it transmits. (#12376)