IEEE P802.11
Wireless LANs

|  |
| --- |
| Comment resolutions for remaining CIDs in 27.15 |
| Date: 2017-05-01 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Alfred Asterjadhi | Qualcomm Inc. | 5775 Morehouse Dr, San Diego, CA 92109 | +1-858-658-5302 | aasterja@qti.qualcomm.com |
| George Cherian | Qualcomm Inc. |  |  |  |
| Abhishek Patil | Qualcomm Inc. |  |  |  |
| Raja Banerjea | Qualcomm Inc. |  |  |  |

Abstract

This submission proposes resolutions for multiple comments related to TGax D1.0 with the following CIDs (11 CIDs):

* 5111, 5512, 5513, 5514, 5515, 5516, 5517, 7153, 8327, 9317, 7583

Revisions:

* Rev 0: Initial version of the document (CIDs in green are in editor’s tab).

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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 5111 | Dong Guk Lim | 203.10 | Reference is wrong. Correct it . | Change the reference 26.5 with 28.5 | Accepted |
| 5512 | Graham Smith | 201.26 | "An HE STA may transmit an HE SU PPDU or a 242-tone HE extended range SU PPDU to a peer HE STA." Is the rule that an HE STA shall be capable of transmitting all these or is it all optional. I would suspect that the intention is that an HE STA shall be capable, if so needs to say so. | Replace cited text with "An HE STA shall be capable of transmitting an HE SU PPDU or a 242-tone HE extended range SU PPDU to a peer HE STA" | Revised –Transmission of PPDUs is always optional, and “may” is essentially pointing out that the STA may transmit, but is free to not to if it choses to do so. As such the proposed resolution is to keep the same normative behavior as exists in D1.2. However, we propose to fix an inconsistency in the DCM RX field setting which is actually a 3 bits, as such the capability of generating these frames is indicated by a nonzero value of the field rather than a value 1 only.TGax editor to make the changes shown in 11-17/0603r0 under all headings that include CID 5512. |
| 5513 | Graham Smith | 201.45 | "...shall be carried in the same format..." "shall be in the same format" is clearer. Looking at 802.11-2016, "Carried in" is normally used for a specific PPDU. Here it is general. | Replace cited text with "shall be in the same format" | Revised –Control frames are MPDUs that are carried in PPDUs. Keeping the existing terminology maintains this clear separation between the two layers. Inorder to make it clear propose resolution specifies “in the same PPDU format”.TGax editor to make the changes shown in 11-17/0603r0 under all headings that include CID 5513. |
| 5514 | Graham Smith | 201.47 | "...may be carried in any PPDU format..." Looking at 802.11-2016, "Carried in" is normally used for a specific PPDU. Here it is general. | Replace cited text with "...may be in any PPDU format..." | Rejected –Control frames are MPDUs that are carried in PPDUs. Keeping the existing terminology maintains this clear separation between the two layers.  |
| 5515 | Graham Smith | 201.63 | "...in non-HT PPDU..." Indefinite article missing | Replace cited text with "in a non-HT PPDU" | Accepted |
| 5516 | Graham Smith | 202.02 | "in HE extended range" Indefinite article missing | Replace cited text with "in an HE extended range" | Accepted |
| 5517 | Graham Smith | 202.28 | "A <HE-MCS, NSS> tuple", should be 'an' | Replace "A' with "An" | Accepted |
| 7153 | kaiying Lv | 201.33 | Change "HE extended range SU PPDU Payload field" to "HE ER SU PPDU Payload" | As in comment | Revised –The most recent terminology of this capability bit is Partial Bandwidth Extended Range field. Proposed resolution fixes it inline with the naming in the HE Capabilities element.TGax editor to make the changes shown in 11-17/0603r0 under all headings that include CID 7153. |
| 8327 | Peter Ecclesine | 201.10 | There are too many 'SHALL's in clause 27.15 PPDU format text | State what is mandatory and optional in 27.15.1, then remove redundant shalls from 27.15.x | Rejected –The comments fails to identify a technical issue and does not provide sufficient details that would satisfy the commenter. The CRC reviewed the subclause and identified that the normative behavior and declarative statements are appropriate with the level of details that this subclause provides for different parameters. Please note that the subclause covers the variety of PPDU formats, the MCS, NSS, BW selection rules, each of which needs their independent normative statements.  |
| 9317 | Tomoko Adachi | 203.18 | Wrong reference number. | Change 9.4.2.213.3 to 9.4.2.218.4 and show the subclause title in brackets. | Accepted Note to Editor: Already fixed in D1.2 by proposed resolutions for previous CIDs |
| 7583 | Liwen Chu | 201.53 | This bullet should be removed since there is no support of transmiting FTM in various HE PPDU formats. | As in comment | Rejected –An FTM frame is a Management frame that can be sent in various HE PPDUs. The generation and reception of FTM frames is widely discussed in the draft. Please refer to 11.24.6.4 (Measurement exchange), 27.11.6 (SPATIAL\_REUSE), 27.15.2 (PPDU format selection) for normative behaviors related to this frame. |

## Discussion: *None.*

* PPDU format, BW, MCS, NSS, and DCM selection rules
* PPDU format selection

**TGax Editor: *Change the paragraph below as follows (#CID 5512, 7153):***

An HE STA may transmit a 242-tone HE ER SU PPDU to a peer HE STA if it has received from the peer STA an HE Capabilities element with the DCM Rx field greater than 0*(#5512)* or with the Partial Bandwidth Extended*(#7153)* Range field equal to 1; otherwise the STA shall not transmit a 242-tone HE ER SU PPDU to the peer STA. An HE STA may transmit a 106-tone HE ER SU PPDU to a peer STA if it has received from the peer STA an HE Capabilities element with the Partial Bandwidth Extended*(#7153)* Range field equal to 1; otherwise the STA shall not transmit a 106-tone HE ER SU PPDU to the peer STA.

**TGax Editor: *Change the two items of the paragraph below as follows (#CID 5513, 5515, 5516):***

An HE STA shall send Control frames following the rules defined in 10.7.6 (Rate selection for Control frames)) with the following exceptions:

* A Control frame sent in response to an HE ER SU PPDU, HE SU PPDU that uses STBC shall be carried in the same PPDU*(#5513)* format as the soliciting PPDU
* …
* If the Control frame is sent as a response to a soliciting HE SU PPDU then the frame shall be carried in a*(#5515)* non-HT PPDU except when the most recent successfully received PPDU sent by the responding STA to the soliciting STA after association was an HE ER SU PPDU in which case the control frame shall be carried in an*(#5516)* HE ER SU PPDU
* MCS, NSS, BW and DCM selection

**TGax Editor: *Change the paragraph below as follows (#CID 5517):***

An HE STA that transmits an HE PPDU shall use an <HE-MCS, NSS> tuple supported by the receiver STA. An*(#5517)* <HE-MCS, NSS> tuple is supported if reported as such in the Supported HE-MCS and NSS Set field in the HE Capabilities element received from that STA. When the Supported HE-MCS and NSS set of the receiving STA or STAs is not known, the transmitting STA shall transmit using a <HE-MCS, NSS> tuple in the basic HE-MCS and NSS set if the basic HE MCS and NSS set is not empty, otherwise the transmitting STA shall transmit using a <HE MCS, NSS> tuple in the mandatory HE-MCS and NSS Set. An HE STA is subject to all of the rules for HT STAs and VHT STAs that apply to its operating band (see 10.26 (Protection mechanisms)).

**TGax Editor: *Change the paragraph below as follows (#CID 5512):***

An HE STA may transmit an HE PPDU with DCM to a peer STA if it has received from the peer STA an HE Capabilities element with the DCM Rx subfield in the HE PHY Capabilities Information field(#Ed) greater than 0*(#5112)*; otherwise the STA shall not transmit a HE PPDU with DCM to the peer STA. An HE STA transmits an HE TB PPDU with DCM as defined in 27.5.2.3 (STA behavior for UL MU operation).

* Rate selection constraints for HE STAs
* Rx Supported HE-MCS and NSS Set

**TGax Editor: *Change the item below of this paragraph as follows (#CID 5511):***

The Rx Supported HE-MCS and NSS Set of a first HE STA is determined by a second HE STA for each <HE-MCS, NSS> tuple NSS = 1, …, 8 and bandwidth (20 MHz, 40 MHz, 80 MHz, and 160 MHz or 80+80 MHz) from the Supported HE-MCS and NSS Set field of the HE Capabilities element received from the first STA as follows:

* If support for the HE-MCS for NSS spatial streams at that bandwidth is mandatory (see 28.5 (Parameters for HE-MCSs))*(#5111)*, then the <HE-MCS, NSS> tuple at that bandwidth is supported by the first STA on receive.
* …