IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Comment Resolution on CIDs on Clause 27.3.10.7 | | | | |
| Date: 2019-05-06 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | Email |
| Jianhan Liu | Mediatek |  |  | Jianhan.liu@mediatek.com |

Abstract:

This document contains comment resolutions on the following 15 CIDs for 27.3.10.7 and the proposed specification changes are in draft 4.2:

20727, 20728, 20729, 20730, 20896, 20936, 20941, 21389, 21391, 21392, 21393, 21411, 21412, 21563, 21564.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 20727 | 27.3.10.7.2 | 531 | 59 | Re CID 16058: resolution doesn't make sense. What b10 indicates is the midamble periodicity, as it says a few lines up (also there's no such thing as "PREAMBLE\_PERIODICITY"). Should use the same wording as for "B8-B9 is encoded as follows:" | In Table 27-20 for Number of HE-LTF Symbols And Midamble Periodicity change "B10 is set to 0 if the TXVECTOR parameter MIDAM- BLE\_PERIODICITY is 10 and set to 1 if the TXVEC- TOR parameter PREAMBLE\_PERIODICITY is 20." to "B10 is encoded as follows: 0 indicates 10 symbol midamble periodicity 1 indicates 20 symbol midamble periodicity" | Revised.  11ax editor, please see the discussion for instructions of CID 20727 in doc IEEE 802.11-19/1127r2. |

**Discussions for CID 20727:**

**Discussions:**

To make it simple, we should avoid MIDAMBLE\_PERIODICITY.

***TGax Editor: Please make the following changes (changed texts are in red) in the line 45-47, page 541 of D4.2***:

~~B10 is set to 0 if the TXVECTOR parameter MIDAMBLE\_ PERIODICITY is 10 and set to 1 if the TXVECTOR parameter PREAMBLE\_PERIODICITY is 20.~~ B10 is set to 0 to indicate 10 symbols midamble periodicity and set to 1 to indicate 20 symbols midamble periodicity.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 20728 | 27.3.10.7.2 | 529 | 12 | Re CID 16059: resolution doesn't make sense. To the receiver of the PPDU, what matters is what the bits in the HE-SIG-A field mean, not how the TXVECTOR was set to at the transmitter to achieve them. WIll ask to fix the two references to TXVECTOR in VHT in REVmd. | In Table 27-20 for UL/DL change "Set to the value indicated by the TXVECTOR parameter UPLINK\_FLAG." to ""Set to 1 if the HE PPDU is addressed to an AP. Set to 0 otherwise. See the TXVECTOR parameter UPLINK\_FLAG." | Revised.  The page number and line number are incorrect.  11ax editor, please see the discussion for instructions of CID 20738 in doc IEEE 802.11-19/1127r2. |

**Discussions for CID 20738:**

***TGax Editor: Please make the following changes (changed texts are in red) in the line 21-23, page 534 of D4.2***:

Indicates whether the PPDU is sent UL or DL. ~~Set to the value indicated by the TXVECTOR parameter UPLINK\_FLAG.~~ Set to 1 if the PPDU is addressed to an AP. Set to 0 otherwise. See the TXVECTOR parameter UPLINK\_FLAG."

***TGax Editor: Please make the following changes (changed texts are in red) in the line 46-49, page 538 of D4.2***:

Indicates whether the PPDU is sent UL or DL. ~~Set to the value indicated by the TXVECTOR parameter UPLINK\_FLAG.~~ Set to 1 if the PPDU is addressed to an AP. Set to 0 otherwise. See the TXVECTOR parameter UPLINK\_FLAG."

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 20729 | 27.3.10.7.2 | 531 | 22 | Re CID 16062: resolution doesn't make sense. To the receiver of the PPDU, what matters is what the bits in the HE-SIG-A field mean, not how the TXVECTOR was set to at the transmitter to achieve them. WIll ask to fix the two references to TXVECTOR in VHT in REVmd | Change the rightmost cell for the TXOP field in Table 27-20 to "Set to 127 to indicate no duration information. Otherwise, set to indicate duration information for NAV setting and protection of the TXOP as follows: - it the duration is less than 512 <micro>s, then B0 is set to 0 and B1-B6 is set to floor(TXOP\_DURATION/8) - otherwise, B0 is set to 1 and B1-B6 is set to floor ((TXOP\_DURATION - 512) / 128). See the TXVECTOR parameter TXOP\_DURATION." | Rejected:  Already resolved in draft D4.2. |
| 20730 | 27.3.10.7.2 | 525 | 11 | Re CID 16062: resolution doesn't make sense. To the receiver of the PPDU, what matters is what the bits in the HE-SIG-A field mean, not how the TXVECTOR was set to at the transmitter to achieve them. WIll ask to fix the two references to TXVECTOR in VHT in REVmd | Fix the descriptions of the UL/DL, BSS Color (3x), NSTS And Midamble, Periodicity, TXOP (3x), Spatial Reuse, Number of HE-LTF Symbols And Midamble Periodicity, Spatial Reuse 1-4 in the tables in the referenced subclause. Also fix STA-ID in Tables 27-27, 27-28 | Rejected.  For UL/DL, Midamble, Periodicity, and TXOP, they are already fixed in resolutions for comments 20727, 20728 and 20729.  For BSS color, it is a very long description that described in details in Txvector. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 20896 |  |  |  | The additions to 28.3.10.7/8.1 made by 18/1980r1 do not use the canonical wording of all other PHY clauses | Revert the changes referred to, and instead in Transmission Header General add "All numeric fields are encoded in unsigned binary, least significant bit first." | Rejected.  Already resolved in Draft 4.2 |
| 20936 | 27.3.10.7.2 |  |  | Re CID 16139: the resolution implies "MU-MIMO" requires more than one user. However, the case of a non-OFDMA MU PPDU with one user can be considered a special case of MU-MIMO. Even the definitions can't agree: "multi-user multiple input, multiple output (MU-MIMO): A technique by which \*\*\*multiple\*\*\* stations" v. "multi-user (MU) physical layer (PHY) protocol data unit (PPDU): A PPDU that carries one or more PHY service data units (PSDUs) for \*\*\*one or\*\*\* more stations (STAs)" | Add a "NOTE---An MU PPDU that carries only one PSDU, or a triggering PPDU that addresses only one STA, does not constitute MU-MIMO.". At the end of 530.53 add "The value 0 is reserved." | Rejected.  The proposed changes on “NOTE---An MU PPDU that carries only one PSDU, or a triggering PPDU that addresses only one STA, does not constitute MU-MIMO” are not necessary. The note does not add further clarifications. |
| 20941 |  |  |  | There are references to "PPDU with DCM" (either HE PPDU or HE TB PPDU), but this is ambiguous as DCM can be applied to HE-SIG-B or to the Data field | Append " applied to the Data field" after "PPDU with DCM" throughout | Accepted |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 21389 | 27.3.10.7.2 | 530 | 13 | Inconsistent terminology: "SIGB Compression field" on line 13, "HE-SIG-B Compression field" on line 30 | Use consistent terminology | Revised.  Multiple places need to be modified.  11ax editor, please see the discussion for instructions of CID 21389 in doc IEEE 802.11-19/1127r2. |
| 21391 | 27.3.10.7.2 | 534 | 15 | "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz: This Spatial Reuse field applies to the second 20 MHz subband." | For 20 MHz, there is no "second 20 MHz subband". Change "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz:" to "If the Bandwidth field indicates 40 MHz or 80 MHz:" | Accepted |
| 21392 | 27.3.10.7.2 | 535 | 14 | "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz: This Spatial Reuse field applies to the third 20 MHz subband." | For 20 and 40 MHz, there is no "third 20 MHz subband". Change "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz:" to "If the Bandwidth field indicates 80 MHz:" | Accepted |
| 21393 | 27.3.10.7.2 | 536 | 14 | "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz: This Spatial Reuse field applies to the fourth 20 MHz subband." | For 20 and 40 MHz, there is no "fourth 20 MHz subband". Change "If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz:" to "If the Bandwidth field indicates 80 MHz:" | Accepted |

**Discussions for CID 21389:**

***TGax Editor: Please make the following changes (changed texts are in red) in the line 44 and line 57, page 539 of D4.2***:

If the ~~SIGB~~ HE-SIG-B Compression field is 0:

If the ~~SIGB~~ HE-SIG-B Compression field is 1 then values 4–7 are reserved.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| |  | | --- | | 21412 | | 27.3.10.7.2 | 530 | 35 | |  | | --- | | A question on the two instances that B18-B21 set to 15: Is there any condition that is not true for the if conditions (even though the number of OFDM symbols may exceed 16)? I just want to understand if all conditions are covered in those if's. | | |  | | --- | | Please clarify and update as needed. | | Rejected:  The commenter asked a question.  The text clearly say the conditions for B18-B21 set to 15. |
| 21411 | 27.3.10.7.2 | 530 | 46 | "The exact number of OFDM symbols in the HE-SIG-B field is calculated based on the number of User fields in the HE-SIG-B content channel which is indicated by HE-SIG-B common field in this case." Are we supposed to add the numbers of User fields from both content channels (for 40 MHz and above) to denote the number of OFDM symbols? How is the common field covered? Does the PHY assume it is guaranteed covered by the MCS-SIG-B specified by the MAC? | Please clarify and update as needed. | Rejected:  The commenter asked questions.  The OFDM symbols are counted the same way as the duplicated HT format. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 21563 | 27.3.10.7.2 | 525 | 28 | Beam change = 1 does not mandate that the transmitter use different spatial mapping between pre-HE modulated fields and the first symbol of HE-LTF. For example, the spatial mapping matrix of the HE-LTF may be constructed such that the 1st symbol of HE-LTF happens to have the same 'net' spatial mapping as the pre-HE modulated fields. | Change "are spatially mapped differently" to "may be spatially mapped differently". | Rejected.  When the transmitter sets the signal filed, it should provide the true information. It is not a good practice to allow false indication.  If it happenly to have the same “net” spatial mapping as the pre-HE modulated fields and beam-change set to “1”. It is not an interoprable issue. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 21564 | 27.3.10.7.2 | 526 | 16 | "DCM is applied to..." may be confused to mean that DCM "has" to be applied. | Change "DCM is applied to only" to "DCM is applicable to only" at D526L16 and D526L17. | Revised.  There are multiple places need to be modified.  11ax editor, please see the discussion for instructions of CID 21564 in doc IEEE 802.11-19/1127r2. |

**Discussions for CID 21564:**

***TGax Editor: Please make the following changes (changed texts are in red) in the line 42-43, page 460 of D4.2***:

NOTE—DCM is ~~applied only to~~ applicable to only HE-MCSs 0, 1, 3 and 4. DCM is ~~applied only to~~ applicable to only 1 and 2 spatial streams.

***TGax Editor: Please make the following changes (changed texts are in red) in the line 21-22, page 516 of D4.2***:

The use of DCM in the Data field of an HE MU PPDU is indicated in the HE-SIG-B field. DCM is ~~applied only for~~ applicable to only the HE-MCSs 0, 1, 3 and 4.

***TGax Editor: Please make the following changes (changed texts are in red) in the line 44-45, page 534 of D4.2***:

NOTE—DCM is ~~applied only to~~ applicable to only HE-MCSs 0, 1, 3 and 4. DCM is ~~applied only to~~ applicable to only 1 and 2 spatial streams. DCM is not ~~applied~~ applicable in combination with STBC.

***TGax Editor: Please make the following changes (changed texts are in red) in the line 12-15, page 604 of D4.2***:

DCM is ~~applied only to~~ applicable to only HE-MCSs 0, 1, 3 and 4. DCM ~~applied only to~~ applicable only with *NSS* = 1 or *NSS* = 2 (in the case of single user RU in an HE MU PPDU, *NSS,r,u* = 1 or *NSS,r,u* = 2). DCM is not ~~applied~~ applicable with MU-MIMO or with STBC.

***TGax Editor: Please make the following changes (changed texts are in red) in the line 28-29, page 614 of D4.2***:

DCM is ~~applied only to~~ applicable to only HE-MCSs and HE-SIG-B-MCSs with indices 0, 1, 3 and 4.