IEEE P802.11
Wireless LANs

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| Comment Resolutions on CID 1052 and 2519 |
| Date: 2016-07-07 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Lin Yang | Qualcomm, Inc. | 5775 Morehouse Dr.San Diego, CA 92121 | +1.858.845.5220 | linyang@qti.qualcomm.com |
| Bin Tian |

Abstract

This document provides PHY resolutions for the following CIDs on subclause 26.3.9 and 26.3.5. The baseline for this comment resolution document is 802.11ax Draft 0.2.

* CIDs: 1052, 2519

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1052 | 26.3.9.9 | 121 | 34 | T CS,HE(n) value should refer to HE CSD, but not pre-HE CSD subclause. There should be a subclause "Cyclic shift for HE modlulated fileds" corredponding to 11ac subclause "Cyclic shift for VHT modulated fileds | add the subclause of HE CSD and update all HE CSD references | Revised: Subclause text on CSD in pre-HE amd HE modulated fields are added. Some variable errors related to CSD have also been corrected. Instruction to editor:Please modify the text according to the change indicated under CID 1052 in 11-16/0900r0 |

**Red Lined Text Change for the Proposed Resolutions:**

**Changes to D0.2 Related to CID 1052**

***Instructions for Editor: please make the following changes to D0.2 in P102 under subclause 26.3.9.2:***

26.3.9.2 Cyclic shift ~~for pre-HE modulated fields~~

**26.3.9.2.1 Cyclic shift for pre-HE modulated fileds**

When beam\_change=1 in HE-SIG-A, the cyclic shift value $T\_{CS}^{i\_{TX}}$ for the L-STF, L-LTF, L-SIG, RL-SIG, HE-SIG-A, and HE-SIG-B fields of the PPDU for transmit chain *iTX* out of a total of *NTX* are defined in Table 22-10 (Cyclic shift values for L-STF, L-LTF, L-SIG, and VHT-SIG-A fields of the PPDU). In UL MU transmission the cyclic shift value $T\_{CS}^{i\_{TX}}$ is based on the transmit chain index of each STA.

When beam\_change=0 in HE-SIG-A, the cyclic shift value $T\_{CS}^{i\_{TX}}$ for the L-STF, L-LTF, L-SIG, RL-SIG, and HE-SIG-A fields is not specified.

* + - * 1. Cyclic shift for HE modulated fields

The cyclic shift values defined in this subclause apply to the HE-STF, HE-LTF, and Data fields of the HE PPDU when beam change =1, and apply to the entire PPDU when beam change = 0.

Throughout the HE modulated fields of the preamble, cyclic shifts are applied to prevent unintended beamforming when correlated signals are transmitted in multiple space-time streams. The same cyclic shift is also applied to these streams during the transmission of the Data field of the HE PPDU. The cyclic shift value $T\_{CS,HE}(n)$ for the HE modulated fields for space-time stream *n* out of *NSTS,total* total space-time streams is shown in Table 22-11 (Cyclic shift values for the VHT modulated fields of a PPDU).

***Instructions for Editor: please make the following changes to the D0.2 P102 Ln48 under subclause 26.3.9.3***

$T\_{CS}^{i\_{TX}}$ represents the cyclic shift for transmitter chain *i*TX with a value given in 26.3.9.2.1 (Cyclic shift for pre-HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P103 Ln13 under subclause 26.3.9.3***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}(m)$ represents the cyclic shift for the mth stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P103 Ln42 under subclause 26.3.9.4***

$T\_{CS}^{i\_{TX}}$ represents the cyclic shift for transmitter chain *i*TX with a value given in 26.3.9.2.1 (Cyclic shift for pre-HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P104 Ln14 under subclause 26.3.9.4***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}(m)$ represents the cyclic shift for the mth stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P105 Ln44 under subclause 26.3.9.5***

$T\_{CS}^{i\_{TX}}$ represents the cyclic shift for transmitter chain *i*TX with a value given in 26.3.9.2.1 (Cyclic shift for pre-HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P106 Ln1 under subclause 26.3.9.5***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}(m)$ represents the cyclic shift for the mth stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P112 Ln26 under subclause 26.3.9.7.4***

$T\_{CS}^{i\_{TX}}$ represents the cyclic shift for transmitter chain *i*TX with a value given in 26.3.9.2.1 (Cyclic shift for pre-HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P112 Ln45 under subclause 26.3.9.7.4***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}(m)$ represents the cyclic shift for the mth stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P124 Ln56 under subclause 26.3.9.9***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}\left(M\_{r,u}+m\right)$ represents the cyclic shift for the $\left(M\_{r,u}+m\right)$th stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P135 Ln25 under subclause 26.3.9.10***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}\left(M\_{r,u}+m\right)$ represents the cyclic shift for the $\left(M\_{r,u}+m\right)$th stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

***Instructions for Editor: please make the following changes to the D0.2 P154 Ln40 under subclause 26.3.10.13***

Replace

$T\_{CS,HE}(n)$ is given in 26.3.9.2 (Cyclic shift for pre-HE modulated fields.)

by

$T\_{CS,HE}\left(M\_{r,u}+m\right)$ represents the cyclic shift for the $\left(M\_{r,u}+m\right)$th stream with its value given in 26.3.9.2.2 (Cyclic shift for HE modulated fields).

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 2519 | 26.3.5 | 121 | 82 | Pre-HE portion and HE portion are not defined in Table 26-3. | Define "pre-HE portion" and "HE portion". If defined later in the draft, move up the definition to where Table 26-3 can referecen them. | Revised: In Table 26-3 of D0.2, the “pre-HE portion’ and “HE portion” have been changed to “pre-HE modulated fields” and “HE modulated fields” as part of CID 729. The Pre-HE and HE modulated fields are defined in subclause 26.3.2.Instructor:This CID has been resolved in D0.2 as part of resolution to CID 729. |

**References:**

1. **IEEE P802.11ax™/D0.2, May 2016**