### IEEE P802.11Wireless LANs

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| 11ax D0.1 Comment Resolution for Clause 26.3.3, 26.3.10.8 |
| Date: 2016-05-16 |
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Abstract

This submission proposes resolutions for comments in clause

* 26.3.3 of TGax Draft 0.1 with the following CIDs: 277,519,521,838,886,1039,1187,1931,2360,2361,2362
* 26.3.10.8 with CID 2134

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 D0.1 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D0.1 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** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 277 | 80.22 | 26.3.3 | Figure 26-11 implies applying local per stream CSD to each user in DL MU MIMO, which is not decided yet in IEEE | suggest to be consistent with 11ac Figure 22-12, where global CSD is assumed for 11ac DL MU MIMO transmission | Revised – Modify Figure 26-11 as indicated in the proposed text changes part in this document (0653-03). |
| 519 | 77.37 | 26.3.3 | it would need to be clarifed the follwing text '(TBD: MCS0-DCM)' | if this indicates the tone mapping rule when DCM =1, modify the text as follows' refer to 26.3.10.14' | Revised – Remove “(TBD: MCS0-DCM)” from section 26.3.3. The constellation mapping is clarified in 26.3.10.7 |
| 521 | 79.01 | 26.3.3 | it would need to be clarifed the follwing text '(TBD: MCS0-DCM)' | if this indicates the tone mapping rule when DCM =1, modify the text as follows' refer to 26.3.10.14' | Revised – Remove “(TBD: MCS0-DCM)” from section 26.3.3. The constellation mapping is clarified in 26.3.10.7 |
| 838 | 78.02 | 26.3.3 | Most standards that have applied OFDMA have one terminology for the OFDMA unit like physical/logical resource block (RB) in 3GPP LTE or physical/logical resource unit (RU) in WiMax. In D0.1, different names in multiple subsections are still used. It is recommended to unify all used terms as one name. | "Modify as either ""... in a 26-, 52-, 106- or242-subcarrier RU..."". (based on 26.3.7.1 Resource unit subsection)or""... in a 26-, 52-, 106- or242-tone RU..."". (based on the SFD)This modification can be applied to all related subsections that call OFDMA unit." | Revised-Suggest the editor to make changes as indicated in the proposed text changes part in this document (0653-03) |
| 886  | 79.29 | 26.3.3 | Niche case not covered by Figure 26-6 and Figure 26-7 need to be addressed | For Figure 26-7, when the BF is not applied to pre-SIG-B portion, the TX block diagram still follows Figure 26-6, even though Beam Change field may be 0. | Reject-If the beyond SIG-B part use openloop, the same procedure as in figure 26-7 should be applied to enhance the channel estimation |
| 1039 | 78.33 | 26.3.3 | in figure 26-9 Nsts should have the max value of 4, not exact 4? And similar question in figure 26-10 | make it clear | Reject-Indicate the editor that when convert from word to PDF all of the “<=” were converted to “=”. Maybe software issue…. |
| 1187 | 80.01 | 26.3.3 | The downlink MU-MIMO transmission in an RU cannot be part of an uplink OFDMA PPDU. | Delete "or uplink" from "This also includes the downlink MU-MIMO transmission in an RU that is part of a downlink or uplink OFDMA PPDU" | Revised-Suggest the editor to make changes as indicated in the proposed text changes part in this document (0653-03)Delete the following words in 80.01:Figure 26‑11 shows the transmitter blocks used to generate the Data field of a HE downlink MU-MIMO transmission within a 106-, 242-, 484-, or 996-RU with LDPC encoding. This also includes the downlink MU-MIMO transmission in an RU that is part of a downlink OFDMA PPDU. |
| 1931 | 78.25 | 26.3.3 | HE-SIG-B does not have pre-FEC padding | Remove pre-FEC padding block from Figure 26-8 | Reject-Pre-FEC padding is needed.  |
| 2360 | 77.10 | 26.3.3 | In Figure 26-7, output of the block of "Multiply by 1st column of P" is 2; however, the figure suggests that there may be 3 or more spatial streams. | Fix the number of the output of the block "Multiply by 1st column of P" to two. | Revised-Modify Figure 26-7 as indicated in the proposed text changes part in this document (0653-r3). |
| 2361 | 80.15 | 26.3.3 | As well as Figure 26-11, the first user index should be zero. | As in comment. | Revised-Modify the user index start from 0 to Nu-1 in the figure 26-11 |
| 2362 | 80.19 | 26.3.3 | As well as Figure 21-7, CSD should be applied to the first spatial stream for user N\_{user}. | As in comment. | Same comment has been resolved in CID 277. |
| 2134 | 143.55 | 26.3.10.9 | STBC support unclear for HE Trigger-Based PPDU | Clarification. If supported it needs to be added to clause 9.3.1.23 as well | Revised-In corporate the latest triger frame format figure in document IEEE802.11-16/0379r0 to figure 9-51b. The exact figure is in the proposed text change part in this document (0653-03) |
| 1849 | 73.38 | 26.3.1 | The introduction section needs to clearly define what features are mandatory and which are optional | Discuss technical controbutions on this topic and have corresponding spec text. |  |

**Discussion:** *None.*

**Propose:**

Revised for 277, 519, 521, 838, 1187, 1931, 2360

***TGax editor: Modify the Paragraphs on section 26.3.3 as the following:***

**26.3.3** **Transmitter block diagram**

**Text changes for CID 277**

Modify Figure 26‑11 as following



Figure 26‑11 - Transmitter block diagram for the Data field of an HE downlink MU-MIMO transmission in 106-, 242-, 484- or 996-RU with LDPC encoding.

**Text changes for CID 519, 521**

Remove the three “(TBD: MCS0-DCM)” in section 26.3.3.

**Text changes for CID 838**

Figure 26‑9 shows the transmitter blocks used to generate the Data field of a single user HE transmission within a 26-, 52-, 106-, or 242-subcarrier RU with BCC encoding for a single frequency segment when the number of spatial stream is less than or equal to 4.

Figure 26‑10 shows the transmitter blocks used to generate the Data field of a single user HE transmission within a 26-, 52-, 106-, 242-, 484-, or 996-subcarrier RU with LDPC encoding for a single frequency segment.

*Change the caption of Figure 26-9/26-10 to be:* Transmitter block diagram for the Data field of an HE SU transmission in a 26-, 52-, 106- or 242- subcarrier RU with BCC encoding

Transmitter block diagram for the Data field of an HE SU transmission in 26-, 52-, 106-, 242-, 484- or 996-subcarrier RU with LDPC encoding

**Text changes for CID 1187**

Figure 26‑11 shows the transmitter blocks used to generate the Data field of a HE downlink MU-MIMO transmission within a 106-, 242-, 484-, or 996-RU with LDPC encoding. This also includes the downlink MU-MIMO transmission in an RU that is part of a downlink OFDMA PPDU.

**Text change for CID 2360**

**Remove the “CSD per STS” diagram in the middle. Support up to two streams.**



Figure 26‑7 – Transmitter block diagram for the L-SIG, RL-SIG and HE-SIG-A fields when the Beam Change field is 0

***TGax editor: Modify the Paragraphs on section 9.3.1.23 as the following:***

**Text changes for CID 2134**

**In corporate the latest triger frame format in document IEEE802.11-16/0379r0 to figure 9-51b.**

|  |  |  |  |  |  |  |  |  |
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|  | Length | Cascade Indication | CS Required |  Spatial Reuse | BW | CP and LTF Type | MU MIMO LTF Mode  | # of LTFs |
| Bits: | 12 | 1 | 1 | >=2 | TBD | TBD | 1 | 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| STBC | LDPC Extra Symbol | AP TX Power | Packet Extension  | Trigger Type | Type-dependent Common Info |
| 1 | 1 | TBD | >=3 | 4 | variable |

Figure 9‑51b - Common Info field