IEEE P802.11
Wireless LANs

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| LB225 11ax D1.0 Comment Resolution 27.10.2, 27.10.3 |
| Date: 2017-09-01 |
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Abstract

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

* 3185, 4755, 7783, 7784, 7785, 9559.

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 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.***

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| **CID** | **PP** | **LL** | **Comment** | **Proposed Change** | **Resolution** |
| 4790 | 192 | 41 | There is an exception here for A-MPDUs that are contained in HE PPDUs, that is multi-TID A-MPDU. Please add a reference to the subclause that defines Multi-TID A-MPDU here and in the next subclause. | As in comment. | **Revised****Generally agree wit hthe commenter.****TGax editor makes changes in 11-17/1267r3 under CID 4790** |
| 4791 | 192 | 63 | The MPDU start spacing requirements for the Trigger-based PPDU also depends on the MU Minimum Start Spacing field of the Trigger frame. | Specify that the minimum start spacing also depends on the value of the MU Start Spacing(?) field of the User Info field of that STA in the Trigger frame. | **Revised****Generally agree with the commenter. The resolution CID 5050 already added the MPDU MU Spacing Factor to 10.13.3. The 3rd paragraph refered to 10.13.3 addressed the issue.****See CID 5050** |
| 4792 | 193 | 19 | This is not true anymore when the A-MPDU si an Ack-enabled multi-TID A-MPDU AMT A-MPDU, where an EOF eq 0 can follow an EOF eq 1. | As in comment. | **Revised****Generally agree with the commenter.****TGax editor makes changes in 11-17/1267r3 under CID 4792** |
| 5210 | 192 | 40 | Regarding, "HE STA that transmits an DL HE MU PPDU", can a non-AP STA transmit a DL HE MU PPDU? | as in comment | **Revised.****See 8563** |
| 6771 | 193 | 22 | Use of undefined term: "Single MPDU". From the capitalization, it must be inferred that this is a defined term, but where is the definition? The draft also uses "single MPDU", and for good measure both "VHT Single MPDU" and "VHT single MPDU". The baseline | Clarify. | **Revised****It should be S-MPDU. Originally it is called VHT single MPDU. 802.11 ah changes it to S-MPDU. So Single MPDU should be S-MPDU.****TGax editor makes changes in 11-17/1267r3 under CID 6771** |
| 7542 | 193 | 19 | The sentence 'The STA shall not add an A-MPDU subframe with EOF equal to 0 after any A-MPDU subframe with EOF set to 1' is not correct because ack-enabled multi-TID A-MPDU could have EOF set to 1, followed by A-MPDU subframes from another TID | change to ''The STA shall not add an A-MPDU subframe with EOF equal to 0 after any A-MPDU subframe with EOF set to 1 and MPDU Length field >0' | **Revised****Generally agree with the commenter.****TGax editor makes changes in 11-17/1282r1 under CID 7542** |
| 7971 | 193 | 19 | Constraint on EOF not reverting to 0 after 1 inconsistent with 27.10.4 | Remove setting EOF for Ack policy in 27.10.4 | **Revised****Generally agree with the commenter.****TGax editor makes changes in 11-17/1282r1 under CID 7971** |
| 8563 | 192 | 43 | More detail is required for the use of HE MU PPDU in the UL. | Provide details of UL HE MU PPDU. | **Revised.****Discussion: A non STA can transmit HE MU PPDU to an AP/non-AP STA as defined in 27.15.2 as proposed by CID 4789 etc. However some issues exist with this operation: 1), the capability about the non-AP STA’s reception of HE MU PPDU from another non-AP STA is missing. 2), There is one conflict between 27.15.2 and 271.11.2 in bold: “**NOTE—A non-AP STA transmitting an HE MU PPDU sets the TXVECTOR parameter ***UPLINK\_FLAG to 1*** (see 27.11.2 (UPLINK\_FLAG))**”** and **“**A STA transmitting an HE PPDU to a DLS or TDLS peer STA(#4226), IBSS member STA, mesh STA, or another non-AP STA(#10290) shall set the TXVECTOR parameter ***UPLINK\_- FLAG to 0*”.** **TGax editor to make change in 11-17/1267r3 under CID 8563** |
| 9349 | 193 | 19 | "The STA shall not add an A-MPDU subframe with EOF equal to 0 after any A-MPDU subframe with EOF set to 1." This should not be correct. With the usage described in subclause 27.10.4, there can be A-MPDU subframes with EOF equal to 0 coming after an A-MPDU subframe with EOF set to 1. | Change the sentence to "The STA shall not add an A-MPDU subframe with EOF equal to 0 after any A-MPDU subframe with EOF set to 1 and with MPDU Length field equal to 0." | **Revised****Generally agree with the commenter.****TGax editor to make changes in 11-17/1267r3 under CID 9349** |

**27.10.2 A-MPDU padding for an HE SU PPDU, HE extended range SU PPDU and HE MU PPDU**

***TGax editor: Modify subclause 27.10.2 as following (#4790, 4792):***

An HE STA that transmits an DL HE MU PPDU that contains one or more PSDUs, each of which carries an A-MPDU, shall construct the A-MPDU(s) as described in 10.13.6 (A-MPDU padding for VHT PPDU) except that one or more nonzero length A-MPDU subframes with EOF equal to 1 may be added when the A-MPDU is an ack-enabled A-MPDU (see 27.10.4 (Ack-enabled A-MPDU operation)) (#4790, 4792).

An HE STA that transmits an HE SU PPDU, HE ER SU PPDU or UL HE MU PPDU that contains one AMPDU, shall construct the A-MPDU(s) as described in 10.13.6 (A-MPDU padding for VHT PPDU) except that one or more nonzero length A-MPDU subframes with EOF equal to 1 may be added when the A-MPDU is an ack-enabled A-MPDU (see 27.10.4 (Ack-enabled A-MPDU operation)) (#4790, 4792).

The STA shall not add an A-MPDU subframe with EOF equal to 1 and with MPDU Length field equal to 0 before a nonzero length A-MPDU subframe..

**27.10.3 A-MPDU padding for an HE trigger-based PPDU**

***TGax editor: Change 6th paragraphes as follows:***

The STA shall not add an A-MPDU subframe with EOF equal to 1 and with MPDU Length field equal to 0 before a nonzero length A-MPDU subframe (see 10.13.7 (Setting the EOF field of the MPDU delimiter) and 27.10.4.3 (Ack-enabled multi-TID A-MPDU operation) ). (#6771, 7542, 9349, 7971)

**27.15.2 PPDU format selection**

***TGax editor: Change 4th and 5th paragraphes as follows (# 5210, 8563):***

A non-AP HE STA(#6256) shall not transmit an HE MU PPDU to a peer STA unless it has received from the peer STA an HE Capabilities element with the Rx HE MU PPDU From Non-AP STA field(#Ed) equal to 1.(#4789, #5217, #5218, #5219, #9962, #9961, #7034, #7035, #7154, #7581, #8617, #9732, #9962, #8616)

NOTE—A non-AP STA transmitting an HE MU PPDU sets the TXVECTOR parameter UPLINK\_FLAG as defined in 27.11.2 (UPLINK\_FLAG)). The UL MU PPDU format enables the non-AP STA to include its AID (i.e., transmitter's AID) in the PHY header of the PPDU and its use is out of scope of the standard.(#4789, #5217, #5218, #5219, #7034, #9961)

**9.4.2.237.3 HE PHY Capabilities Information field**

***TGax editor: Change “UL HE MU PPDU Support” to “Rx HE MU PPDU From Non-AP STA (#5210, 8563)”* in *Figure 9-589cl***

***TGax editor: Change the row with UL HE MU PPDU Support in Table 9-262aa as follows:***

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| Rx HE MU PPDU From Non-AP STA (#5218)(#5210, 8563) | For an AP and non-AP STA, indicates support for the reception on an RU in an HE MU PPDU from another non-AP STA where one of the following apply:* the RU spans the entire PPDU bandwidth
* the RU does not span the entire PPDU bandwidth (106-tone RU within 20 MHz bandwidth)

.(#3490)(#5143)(#5210, 8563) | Set to 0 if not supported. Set to 1 if supported. |