IEEE P802.11  
Wireless LANs

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| LB233 CR MAC TXVECTOR | | | | |
| Date: 2018-10-17 | | | | |
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Abstract

This submission proposes resolutions of comments received from TGax LB233.

(The proposed change is based on TGax Draft 3.0.)

* CIDs: 16131, 16766, 15106, 16767, 16768 (5 CIDs)

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** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 16131 | 352.48 | 27.11.1 | Elements are things with an Element ID, a Length and some following octets | Change "element" to "member" throughout the referenced subclause | Rejected-  In the baseline specification (802.11REVmd 1.5), depending on the context, the element has different meanings.  For example, see Table 8-5 and 10-16. Channel-list element indicates the primary, secondary, secondary40, secondary80, etc. |
| 16766 | 353.20 | 27.11.2 | UPLINK\_FLAG has some rules for mesh and TDLS frames (see Table 28-19) | Add rules for mesh and TDLS frames | Rejected-  Table 28-19 does not have any different rule for the mesh and TDLS frames.  Especially, the second bullet of 27.11.2 covers the mesh and TDLS frames. |
| 15106 | 353.33 | 27.11.2 | The case of HE TB PPDU (not present) is covered by the first statement by not including it in the list | Delete the sentence (P353L33) | Accepted |
| 16767 | 353.35 | 27.11.3 | Description of "BEAM\_CHANGE" only explains when it should be set to 1. It does not explain the purpose of the field. | Provide explanation of the meaning of the field, as is done for the other fields | Revised-  Agree in principle.  TGax editor makes changes as shown in the as specified in 11-18/xxxxr0. |
| **27.11.3 BEAM\_CHANGE**  ***TGax Editor: Change the subclause 27.11.3 as follows:***  An HE STA uses the TXVECTOR parameter BEAM\_CHANGE to indicate a change in the spatial mapping of the pre-HE-STF portion of the PPDU and the first symbol of HE-LTF (see reference).  ~~The TXVECTOR parameter BEAM\_CHANGE of an HE SU PPDU, HE ER SU PPDU shall be set~~ An HE STA that transmits an HE SU PPDU or an HE ER SU PPDU shall set the TXVECTOR parameter BEAM\_CHANGE to 1 if one or more of the following conditions are met:  — The number of spatial streams is greater than 2  — The PPDU is the first PPDU in a TXOP  — The PPDU carries a Trigger frame | | | | | |
| 16768 | 353.35 | 27.11.3 | BEAM\_CHANGE = 0 could be problematic if beamforming is applied to the legacy preamble. Beamforming may cause sudden phase jumps in the channel estimate. For this reason, HT, VHT and HE beamformed transmissions come with a "smoothing" or "beamformed" indication in the preamble, so the receiver can adjust. This is not possible if BF is applied from the start of the packet. Since the receiver can not know whether BF is applied or not, it may have no choice but to disable channel smoothing. This would be quite ironic since it would result in a reduction of channel estimate quality, which BEAM\_CHANGE is supposed to help with. | Add a bit to the HE Capabilities to allow the receiver to indicate that it is (or is not) willing to accept packets with BEAM\_CHANGE=0 for which beamforming is applied. | Rejected-  Any STA must support BEAM\_CHNAGE = 0 case, because when the packet is beamformed, say, no channel feedback, naturally it is the the case of BEAM\_CHANGE = 0.  Smoothing or not is a receiver’s decision, it is not related to BEAM\_CHANGE. The receiver checks if the channel can be smoothed or not. Even for beamformed frames, sometimes it can be smoothed. For 11ax, even beamformed packet, the channel needs to be smoothable in 1x and 2x HE-LTF. |