IEEE P802.11
Wireless LANs

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| LB230 CR CID 13530 and 14183  |
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Abstract

This submission proposes resolutions of comments received from TGax LB230.

(The proposed change is based on TGax Draft 2.2.)

* CIDs: 13530, 14183 (2 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** |
| --- | --- | --- | --- | --- | --- |
| 13530 | 33.60 | 3.2 | HE single stream pilot mode is used for all HE PPDU types, and special classificaiton is required only for UL MU-MIMO related operation. Therefore, it is inapproprite the limit the description of HE single stream pilot mode only for UL MU-MIMO. This restricted definition would affect the condition in (28-50) | Remove 'UL MU-MIMO' from the description text so that HE single stream pilot HE LTF mode description is applicable for other HE PPDU formats. | Revised- In TGax draft, the HE single stream pilot HE LTF mode definition is used only for indicating the LTF type used in the UL MU-MIMO transmission.I disagree with the comment. But, for more clarifying the defition, the following is added: The HE single stream pilot HE LTF mode is not applicable when the 1x-LTF is used. TGax editor makes changes as shown in the as specified in 11-18/0603r0.  |
| 14183 | 33.60 | 3.2 | Looking at the definition on "high efficiency (HE) single stream pilot HE LTF mode: A UL MU-MIMO LTF mode that uses single stream pilots", it seem to decrible HE singel steam pilot has something to do with only UL MU-MIMO even though it can apply to all HE PPDU formats. | as in comment | Revised- In TGax draft, the HE single stream pilot HE LTF mode definition is used only for indicating the LTF type used in the UL MU-MIMO transmission.I disagree with the comment. But, for more clarifying the defition, the following is added: The HE single stream pilot HE LTF mode is not applicable when the 1x-LTF is used. TGax editor makes changes as shown in the as specified in 11-18/0603r0. |

 ***TGax editor: change 3.2 as the following:***

**3.2 Definitions specific to IEEE 802.11**

**high efficiency (HE) single stream pilot HE LTF mode:** A UL MU-MIMO LTF mode that uses single stream pilots when a 1x HE-LTF is not used.

**high efficiency (HE) masked HE LTF sequence mode:** A UL MU-MIMO LTF mode that uses masked HE LTF sequence of each spatial stream by a distinct orthogonal code when a 1x HE-LTF is not used.

***TGax editor: change 9.3.1.23 as the following:***

**9.3.1.23 Trigger frame format**

The MU-MIMO LTF Mode subfield of the Common Info field indicates the LTF mode of the UL MU-MIMO HE TB PPDU response when the GI And LTF Type subfield of the Common Info field is set to either 1 (2x LTF + 1.6 μs GI) or 2 (4x LTF + 3.2 μs GI), in which case the MU-MIMO LTF Mode subfield is set to one of the following:~~.~~

a) If a Trigger frame allocates an RU that spans the entire HE TB PPDU bandwidth and the RU is assigned to more than one STA, then the MU-MIMO LTF Mode subfield is set to indicate either HE single stream pilot HE LTF mode or HE masked HE LTF sequence mode.

b) Otherwise, the MU-MIMO LTF Mode subfield is set to indicate HE single stream pilot HE LTF mode.(#13694, #13861) The MU-MIMO LTF Mode subfield encoding is defined in Table 9-25e (MU-MIMO LTF Mode subfield encoding).

When the GI And LTF Type subfield of the Common Info field is set to 0 (1x LTF + 1.6 μs GI), the MU-MIMO LTF Mode subfield of the Common Info field is reserved, in which case no pilots are used in the LTF mode of the UL MU-MIMO HE TB PPDU response.

***TGax editor: change 27.5.3.2.3 as the following (separating into 2 paragrphs):***

**27.5.3.2.3 Allowed settings of the Trigger frame fields and UMRS Control subfield**

An AP shall not set any subfields of the Common Info field of a Trigger frame to a value that is not supported by all the recipient STAs of the Trigger frame.

When an AP transmits a Trigger frame with the GI And LTF Type subfield of the Common Info field set to either 1 (2x LTF + 1.6 μs GI) or 2 (4x LTF + 3.2 μs GI), the~~An~~ AP ~~that transmits a Trigger frame that allocates an RU that spans the entire HE TB PPDU bandwidth and assigns the RU to more than one STA (i.e., for UL MU-MIMO)~~ may set the MU-MIMO LTF Mode subfield in the Common Info field of the Trigger frame to ~~indicate~~ either HE single stream pilot HE LTF mode or HE masked HE LTF sequence mode if the Trigger frame allocates an RU that spans the entire HE TB PPDU bandwidth and assigns the RU to more than one STA (i.e., for UL MU-MIMO). Otherwise, the AP shall set the MU-MIMO LTF Mode subfield in the Common Info field to HE single stream pilot HE LTF mode.