
IEEE P802.11
Wireless LANs

Resolutions to CIDs in 27.5.3.3

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Abstract

This submission proposes resolutions for following CID received for TGax LB230 (6):

11317, 11318, 11319, 11730, 13144, 12507

Revisions:

- Rev 0: Initial version of the document.
- Rev 1:
 - Revised based on feedback from MAC ad-hoc
 - Changed resolution to CID 13144 (changed to reject)
 - Minor editorial – added missing tag for CID 12507

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	Commenter	Pg / Ln	Section	Comment	Proposed Change	Resolution
11317	Alfred Asterjadhi	248.31	27.5.3.3	UMRS Control is obviously soliciting an immediate response. So this is redundant. Remove "that solicits an immediate responnse."	As in comment.	Revised Agree with the comment. Removed the cited text. TGax editor, please make changes as shown in doc 11-18/0367r1
11318	Alfred Asterjadhi	248.33	27.5.3.3	Some commas are missing in this sentence. "Check the spell".	As in comment.	Revised Agree with the comment. Rewrote the paragraph to clearly state the conditions and dependencies under which a STA shall not respond to a TF. TGax editor, please make changes as shown in doc 11-18/0367r1
11319	Alfred Asterjadhi	249.13	27.5.3.3	Condition on the UL MU Disable bit is missing. Add it. With a reference to 27.8.3.	As in comment.	Revised Agree with the comment. Added a condition to cover the case where STA has not disabled UL MU via OM Control. Also update section 27.5.3.2.1. TGax editor, please make changes as shown in doc 11-18/0367r1
11730	Geonjung Ko	249.33	27.5.3.3	When the AP announced the BSS Color Change, for STAs that failed to receive a Beacon frame at the BSS color change TBTT, the value of the BSS Color subfield of the most recently received HE Operation element is the previous BSS color, not the new BSS color. This may cause different HE-SIG-A signals between STAs solicited by the Trigger frame.	If the Trigger frame was received in a non-HE PPDU, then the BSS_COLOR shall be set to the active BSS color.	Revised Agree with the comment. Revised text to indicate that the responding STA shall use the active color as defined in 27.11.4 TGax editor, please make changes as shown in doc 11-18/0367r1
13144	Po-Kai Huang	249.58	27.5.3.3	What happened if the RU Allocation field is set to the reserved value for the STA? Ideally, the STA shall not respond.	Add rule saying that the STA shall not respond if the RU allocation field is set to a value that is reserved the STA.	Reject The AP is not expected to assign a reserved RU. Also, the general rule is to ignore reserved fields. No further changes are required.
12507	Liwen Chu	250.14	27.5.3.3	"Transmit Power Control" is undefined.	Fix the issue mentioned in comment.	Revised Agree with the comment. The text in the bullet is not related to TPC procedure. Removed reference to Transmit Power Control. TGax editor, please make changes as shown in doc 11-18/0367r1

27.5.3.3 STA behavior for UL MU operation

TGax Editor: Please modify the 2nd paragraph of this section as follows:

The inter-frame space between a PPDU that contains a Trigger frame or frame that includes a UMRS Control subfield [11317] ~~that solicits an immediate response~~ and the HE TB PPDU is a SIFS.

TGax Editor: Please modify the 3rd paragraph of this section as follows:

[11318]

~~A STA operating in an operating class for which the behavior limits set listed in Annex E includes the DFS_50_100_Behavior shall not transmit an HE TB PPDU in response a Trigger frame or a frame with a UMRS Control subfield that is intended to the STA or is designated for UL OFDMA-based random access if the RU Allocation subfield allocated to the STA or designated for UL OFDMA-based random access indicates 26-tone RU and the STA has received at least one Beacon frame or Probe Response frame in which any of the following are true:~~

- ~~— The Extended Capabilities element is not present.~~
- ~~— The OBSS Narrow Bandwidth RU in UL OFDMA Tolerance Support bit in the Extended Capabilities element is not present.~~
- ~~— The value of the OBSS Narrow Bandwidth RU in UL OFDMA Tolerance Support bit in the Extended Capabilities element is 0.~~

~~A STA shall not transmit an HE TB PPDU when all the following conditions are satisfied:~~

- ~~– The STA is operating in an operating class for which the behavior limits set listed in Annex E includes the DFS_50_100_Behavior (see Table E-1)~~
- ~~– The HE TB PPDU would be in response to one of the following:~~
 - ~~○ a Trigger frame containing a User Info field with AID12 subfield carrying the 12 LSBs of the AID of the STA~~
 - ~~○ a frame with a UMRS Control subfield that is addressed to the STA~~
 - ~~○ a Trigger frame allocating at least one RA-RU~~
- ~~– the RU is a 26-tone RU~~
- ~~– when the STA has received at least one Beacon frame, from an AP with whom the STA is not associated with, in which any of the following are true:~~
 - ~~○ The Extended Capabilities element is not present.~~
 - ~~○ The OBSS Narrow Bandwidth RU in UL OFDMA Tolerance Support bit in the Extended Capabilities element is not present.~~
 - ~~○ The value of the OBSS Narrow Bandwidth RU in UL OFDMA Tolerance Support bit in the Extended Capabilities element is 0.~~

TGax Editor: Please modify the 4th paragraph of this section as follows:

A STA shall transmit an HE TB PPDU a SIFS after a received PPDU, if ~~both~~all the following conditions are met:

- The received PPDU contains either a Trigger frame (that is not an MU-RTS variant) with a User Info field addressed to the STA, or an MPDU addressed to the STA that contains an UMRS Control subfield. The User Info field in the Trigger frame is addressed to a STA if one of the following conditions are met:

- The AID12 subfield is equal to the 12 LSBs of the AID of the STA and the Trigger frame is sent by the AP with which the STA is associated with or by the AP corresponding to the transmitted BSSID if STA is associated with a nontransmitted BSSID and has indicated support for receiving Control frames with TA set to the transmitted BSSID by setting the Rx Control Frame To MultiBSS subfield to 1 in the HE Capabilities element that the STA transmits.
- The AID12 subfield is 0, the STA supports the UL OFDMA-based random access procedure (see 27.5.5 (UL OFDMA-based random access (UORA))) and the Trigger frame is sent by the AP with which the STA is associated with or by the AP corresponding to the transmitted BSSID if STA is associated with a nontransmitted BSSID and has indicated support for receiving Control frames with TA set to the transmitted BSSID by setting the Rx Control Frame To MultiBSS subfield to 1 in the HE Capabilities element that the STA transmits.
- The AID12 subfield is 2045, the STA supports the UL OFDMA-based random access procedure (see 27.5.5 (UL OFDMA-based random access (UORA))), and the STA is not associated with the AP.

— The CS Required subfield in the Trigger frame is 1 and the UL MU CS condition described in 27.5.3.5 (UL MU CS mechanism) indicates the medium is idle, or the CS Required subfield in a Trigger frame is 0.

— **[11319]** UL MU Disable subfield was not set to 1 in the most recent OM Control subfield (if any) sent by the STA to the AP (see 27.8.3).

TGax Editor: Please delete the 5th paragraph of this section as follows:

~~If both conditions are not met, then the STA shall not transmit an HE TB PPDU.~~

TGax Editor: Please modify the 7th paragraph of this section as follows:

A STA transmitting an HE TB PPDU in response to a Trigger frame shall set the TXVECTOR parameters as follows:

- The FORMAT parameter is set to HE_TRIG
- The TRIGGER_METHOD parameter is set to TRIGGER_FRAME
- The TXOP_DURATION parameter is set as defined in 27.11.5 (TXOP_DURATION)
- The BSS_COLOR parameter is set as follows:
 - If the Trigger frame was received in an HE PPDU, then set to the value of the RXVECTOR parameter BSS_COLOR of the HE PPDU
 - If the Trigger frame was received in a non-HE PPDU, then set to the value of the active BSS Color color as defined in 27.11.4 subfield of the most recently received HE Operation element ~~for the BSS with which the STA is associated~~ **[11730]**
- The L_LENGTH parameter is set to the value indicated by the Length subfield in the Common Info field of the Trigger frame
- The GI_TYPE and HE_LTF_TYPE parameters are set to the value indicated by the GI and LTF Type subfield of the Common Info field of the Trigger frame
- The NUM_STS parameter is set to the number of space-time streams indicated by the Number Of Spatial Streams subfield of the SS Allocation field of the User Info field and STBC field in the Common Info field of the Trigger frame
- The CH_BANDWIDTH parameter is set to the value of the BW field in the Common Info field of the Trigger frame

- The HE_LTF_MODE parameter is set to the value indicated by the MU-MIMO LTF Mode subfield of the Common Info field of the Trigger frame
- The NUM_HE_LTF parameter is set to the value indicated by the Number Of HE-LTF Symbols subfield of the Common Info field of the Trigger frame
- The STBC parameter is set to the value indicated by the STBC subfield of the Common Info field of the Trigger frame
- The LDPC_EXTRA_SYMBOL parameter is set to the value indicated by the LDPC Extra Symbol Segment subfield of the Common Info field of the Trigger frame
- The SPATIAL_REUSE parameter is set to the value of the Spatial Reuse subfield in the Common Info field of the eliciting Trigger frame
- The HE_SIGA_RESERVED parameter is set to the value of the HE-SIG-A Reserved subfield in the Common Info field of the Trigger frame
- The MCS parameter is set to the value of the MCS subfield in the User Info field of the Trigger frame
- The DCM parameter is set to the value indicated by the DCM subfield of the User Info field of the Trigger frame
- The STARTING_STS_NUM parameter is set to the value of the Starting Spatial Stream subfield in the SS Allocation field in the User Info field of the Trigger frame
- The FEC_CODING parameter is set to the value indicated by the Coding Type subfield of the User Info field of the Trigger frame
- The RU_ALLOCATION parameter is set to the value indicated by the RU Allocation subfield of the User Info subfield of the Trigger frame
- The TXPWR_LEVEL_INDEX parameter is set to a value based on the [computed transmission power \(see 28.3.14.2 \(Power pre-correction\)\)](#) ~~Transmit Power Control~~ for HE TB PPDU and based on the value of the AP Tx Power subfield in the Common Info field and the Target RSSI subfield in the User Info field of the Trigger frame ~~(see 28.3.14.2 (Power pre-correction))~~. [12507]

27.5.3.2 Rules for soliciting UL MU frames

27.5.3.2.1 General

TGax Editor: Please make the following additions after the 1st paragraph of this section:

An AP shall not send a frame that contains a UMRS Control subfield to a STA that has not set the UMRS Support subfield to 1 in the HE MAC Capabilities Information field of the HE Capabilities element it transmits.

[11319]

Note: An AP does not send a Trigger frame containing a User Info field with AID12 subfield carrying the 12 LSBs of the AID of the STA or a frame containing UMRS Control subfield addressed to the STA from which it has received an OM Control subfield with UL MU Disabled subfield set to 1 (see 27.8.3).