### IEEE P802.11Wireless LANs

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| 11ax D1.3 MAC Comment Resolution for CID 5772, 9476, 9480 |
| Date: 2017-07-25 |
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Abstract

This submission proposes resolutions for comments of TGax Draft 1.3 with the following CIDs:

5772, 9476, 9480

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Editorial revision for the resolution.

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 D1.3 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D1.3 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** | **Commenter** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 5772 | Hanseul Hong | 117.11 | 10.3.2.8a.2 | Is it possible to transmit MU-RTS in HT PPDU or VHT PPDU format? | Clarify | Revised –Based on the agreement for CID 7975, MU-RTS Trigger frame shall not be carried in a VHT MU PPDU or an HE MU PPDU due to the following reasons. First, if the MU-RTS frame is aggregated with other variants of Trigger frame, since MU-RTS solicits non-HT PPDU response, there will be HE trigger-based PPDU response and non-HT PPDU response simultaneously from the responding STA. As a result, the response just can not be decoded by AP. Second, if multiple MU-RTS is aggregated in HE MU PPDU, it is not more efficient, and we require the rule of same scrambling initialization state for different PPDUs.Except these restrictions, MU-RTS Trigger frame can be carried in HT PPDU or VHT PPDU format.TGax editor to make the changes shown in 11-17/0264r3 under all headings that include CID 7975. |
| 9480 | xun yang | 113.45 | 10.3.1 | Is MU-RTS under control of dot11RTSThreshold? If yes, please add the related text; if not, please clarify which parameter to control MU-RTS. | As in the comment. | Rejected –MU-RTS/CTS is not under control of dot11RTSThreshold. We note that based on the existing texts of dot11RTSThreshold, it is used to control the exchange of individually addressed frame. *A STA using the DCF shall use an RTS/CTS exchange for individually addressed frames when the length of the PSDU is greater than the length threshold indicated by dot11RTSThreshold.* Since MU-RTS/CTS is used for protection of MU transmission, which will include many more complicated scenarios, it is then not appropriate to use the same threshold for the control. Further, we also do not see the need to invent additional mechanism for the control. Use of MU-RTS/CTS can be just implementation specific based on the specific consideration of MU sequence that is used by the vendor.  |
| 9476 | xun yang | 33.01 | 9.3.1.3 | For simultaneous CTS (MU RTS/CTS procedure), the CTS transmitted by non-AP STA shall be the same. However, the values of several subfields in Frame Control of CTS are unclear, e.g., power management subfield is reserved, no text on how to set More Data field, etc.This does not matter when CTS is transmitted one by one; but different values will causes interference when these CTSs are transmited simultaneously. | Please ensure that all the CTS frame are the same when they are triggered by MU-RTS. | Revised –Agree in principle with the commenter. The commenter is asking for a review of all the fields in frame control field to make sure that every STA will respond with the same CTS. The frame control field includes the following subfields.* Protocol Version
* Type
* Subtype
* To DS
* From DS
* Moe Fragments
* Retry
* Power Management
* More data
* Protected Frame
* +HTC/Order

Our study indicates that except Power Management and Protected Frame subfields, which are reserved in CTS frame. All the other fields are already defined in the current spec, and the corresponding texts are shown below.For protocol version subfield, we have the following spec texts.*For this standard, the value of the protocol version is 0.*Type and subtype are defined for CTS frame.For To/From DS subfields, we have the following spec texts.*In Control frames, To DS and From DS, when present, are both zero.*For More Fragments subfields, we have the following spec texts. *The More Fragments subfield is 1 bit in length and is set to 1 in all Data or Management frames that have another fragment of the current MSDU or current MMPDU to follow. It is set to 0 in all other frames in which the More Fragments subfield is present.*For Retry subfields, we have the following spec texts.*The Retry subfield is 1 bit in length and is set to 1 in any Data or Management frame that is a retransmission of an earlier frame, except as specified in 10.24.3. It is set to 0 in all other frames in which the Retry subfield is present.*For More data subfields, we have the following spec texts,*A non-DMG STA uses the More Data subfield to indicate to a STA in PS mode that more BUs are buffered for that STA at the AP. The More Data subfield is valid in individually addressed Data or Management frames transmitted by an AP to a STA in PS mode. A value of 1 indicates that at least one additionalbuffered BU is present for the same STA.**… (existing texts) …**A non-DMG STA sets the More Data subfield to 0 in all other individually addressed frames.*For +HTC/Order subfields, we have the following spec texts.*The +HTC/Order subfield is 1 bit in length. It is used for two purposes:— It is set to 1 in a non-QoS Data frame transmitted by a non-QoS STA to indicate that the frame contains an MSDU, or fragment thereof, that is being transferred using the StrictlyOrdered service class.— It is set to 1 in a QoS Data or Management frame transmitted with a value of HT\_GF, HT\_MF, or VHT for the FORMAT parameter of the TXVECTOR to indicate that the frame contains an HT Control field.* *Otherwise, the +HTC/Order subfield is set to 0.*As for the reserved field, we also have texts in 9.2.2 Conventions saying the following.*Reserved fields and subfields are set to 0 upon transmission and are ignored upon reception*. Hence, we think all the fields are already defined based on the current spec texts, and we only add a note to clarify this.TGax editor to make the changes shown in 11-17/1183r1 under all headings that include CID 9476. |

**Discussion:** *None.*

**Propose:** Revised for CID 9476 per discussion and editing instructions in 11-17/1183r1.

***TGax editor: Add a note in page 203 line 30 of 27.2.4.3 CTS response to MU-RTS as the following:***

NOTE-The reserved subfields in CTS frame are set to 0 (see 9.2.2 (Conventions)).(#9476)