### IEEE P802.11Wireless LANs

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| 11ax D0.1 Comment Resolution for NAV Setting of Single and Multiple Protection and Control Response |
| Date: 2016-07-24 |
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Abstract

This submission proposes resolutions for comments in clause 9.2.5.2 and 9.2.5.7 of TGax Draft 0.1 with the following CIDs:

* 2579, 1203, 795, 610, 2408, 2375, 2184, 1263, 1264, 2409, 2410, 2411

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revise the resolution for comments to align with the right format.
* Rev 2: Revise based on the editorial comment from Alfred. Difference are marked in green.

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 D0.1 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D0.1 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** |
| 2579 | Young Hoon Kwon | 15.44 | 9.2.5.1 | Definition of "pending transmission" is not clear. Need further clarification on "pending transmission" | As mentioned in the comment, clarify the meaning of "pending transmission". | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 1203 | Liwen Chu | 15.45 | 9.2.5.1 | pending transmission is not clear. | Make it clear. | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 795 | Jeongki Kim | 15.45 | 9.2.5.1 | What is the pending transmission in a single protection? Define or clarify it. | Add the definition or example of the pending transmission. | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 610 | Geonjung Ko | 15.44 | 9.2.5.1 | What "the pending transmission" includes is not clear. | Please provide details on the duration that MU-RTS frame protects. | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 2408 | Yongho Seok | 15.46 | 9.2.5.1 | The estimated time required for the pending transmission is too broad and item 1 is covering 1a.Compared with RTS frame, is there any difference? Otherwise, merge 1 and 1a as the following:1) For an RTS or MU-RTS frame, the Duration/ID field... | As per comment | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.Futher, MU-RTS can be used to protect the Trigger frame, HE-triggered-based PPDU, and DL acknowledgement sequence. Hence, we separate the description of MU-RTS from RTS.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 2375 | Yonggang Fang | 14.15 | 9.2.5.2 | Clarify the meaning of "pending transmission": does it means the CTS or CTS + following PPDU? |  | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 2184 | Tomoko Adachi | 15.44 | 9.2.5.1 | Why doesn't the duration such as to transmit a CTS frame and a response frame included? Is the pending "transmission" intentionally used instead of the pending "frame" to include them? | Clarify. | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 1263 | Mark RISON | 15.45 | 9.2.5.1 | What is "the pending transmission"? | Clarify (don't forget to include the IFSs, as in the existing text) | Revised –Agree in principle with the commenter. Revise the description to add time for pending frame, plus one CTS frame, plus the time for solicited UL response if required, plus the time to transmit acknowledgement for solicited UL response if required, plus applicable IFSs.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2579. |
| 1264 | Mark RISON | 16.09 | 9.2.5.1 | These additions are not necessary. They are covered by the existing "Pending MPDUs of the same AC" | Delete or change to a NOTE | Rejected – The commenter refers to the condition “Any DL MU PPDUs”. This is not covered by the existing "Pending MPDUs of the same AC" due to the following reason.Multi-TIDs in a single PSDU has been agreed for MU transmission in the spec framework.*The spec shall allow multiple TIDs in a single PSDU between AP and a STA for DL/UL OFDMA/MU-MIMO. Multiple TIDs aggregation rules are TBD if necessary.*Hence, Pending MPDUs of the same AC does not cover the additions for MU transmission. |
| 2409 | Yongho Seok | 15.47 | 9.2.5.1 | In Trigger control frame sent by STAs as the first frame in the exchange under EDCA, the Duration/IDfield should be specified in this subclause. | As per comment | Revised –Agree in principle with the commenter. Add description for Duration/ID field of the Basic Trigger frame.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2409. |
| 2410 | Yongho Seok | 15.47 | 9.2.5.1 | In a MU BlockAckReq frame sent by STAs as the first frame in the exchange under EDCA, the Duration/IDfield should be specified in this subclause.Suggestion is to modify item 3 in a base spec as the following:3) In a BlockAckReq or MU BlockAckReq frame, the Duration/ID field is set to the estimated time required to transmit one Ack or BlockAck frame, as applicable, plus one SIFS. | As per comment | Revised –For MU-BAR, multiple Ack or BlockAck frame are solicited for transmission, and the duration of HE trigger-based PPDU is determined by the MU-BAR. Hence, propose that Duration/ID field of MU-BAR is set to the time required for the solicited HE trigger-based PPDU, plus one SIFS.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2410. |
| 2411 | Yongho Seok | 16.33 | 9.2.5.7 | In a BlockAck frame transmitted in response to a MU BlockAckReq frame or transmitted in response to a frame containing a HE trigger-based block ack request, the Duration/ID field should be specified in this subclause. | As per comment | Revised –Agree in principle with the commenter. Add texts in the section for the Duration/ID field of the BlockAck frame transmitted in response to a MU BlockAckReq frame.For the BlockAck sent in response to a frame carried in HE trigger-based PPDU, since the BlockAck is sent by the TXOP holder, the rule shall be determined in 9.2.5.2. Add corresponding sentence for reference.TGax editor to make the changes shown in 11-16/0890r2 under all headings that include CID 2411. |

**Discussion:** *None.*

**Propose:**

Revised for CID 2579 per discussion and editing instructions in 11-16/0890r2.

***TGax editor: Modify the paragraph on page 15 line 44 as the following:***

1a) In an MU-RTS frame, the Duration/ID field is set to the estimated time, in microseconds,
required for the pending ~~transmission~~frame, plus one CTS frame, plus the time for solicited HE-trigger-based PPDU if required, plus the time to transmit acknowledgement frame for solicited HE-trigger-based PPDU if required, plus applicable IFSs.

**Propose:**

Revised for CID 2409 per discussion and editing instructions in 11-16/0890r2.

***TGax editor: Add the paragraph on page 15 line 47 as the following:***

6a) In a Basic variant Trigger frame, the Duration/ID field is set to the estimated time required to transmit
the solicited HE trigger-based PPDU, plus the estimated time required to transmit multiple BlockAck frames,~~(or~~
ACK frames~~)~~ ~~in an OFDMA HE MU PPDU~~, or a Multi-STA BlockAck (M-BA) frame, plus applicable SIFSs.

**Propose:**

Revised for CID 2410 per discussion and editing instructions in 11-16/0890r2.

***TGax editor: Add the paragraph on page 15 line 47 as the following:***

3a) In a MU-BAR variant Trigger frame, the Duration/ID field is set to the time required for the solicited HE trigger-based PPDU, plus one SIFS.

**Propose:**

Revised for CID 2411 per discussion and editing instructions in 11-16/0890r2.

***TGax editor: Insert a new paragraph after the end of 9.2.5.7:***

In a BlockAck frame transmitted in response to a BlockAckReq or a MU-BAR variant Trigger frame or transmitted in response to a frame containing an implicit block ack request, the Duration/ID field is set to the value obtained from the Duration/
ID field of the frame that elicited the response minus the time, in microseconds between the end of the
PPDU carrying the frame that elicited the response and the end of the PPDU carrying the BlockAck frame.

In a BlockAck frame transmitted in response to a frame carried in HE trigger-based PPDU, the rule of setting Duration/ID field is described in 9.2.5.2 (Setting for single and multiple protection under enhanced distributed
channel access (EDCA)).