IEEE P802.11  
Wireless LANs

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| Comment Resolution for multiple subclauses of 9.2.4.2 | | | | |
| Date: 2017-01-16 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Alfred Asterjadhi | Qualcomm Inc. | 5775 Morehouse Dr, San Diego, CA 92109 | +1-858-658-5302 | aasterja@qti.qualcomm.com |
| George Cherian | Qualcomm Inc. |  |  |  |
| Abhishek Patil | Qualcomm Inc. |  |  |  |

Abstract

This submission proposes resolutions for multiple comments related to TGax D1.0 with the following CIDs (29 CIDs):

* 5881
* 4723, 4724, 5433, 6253, 7709, 8174, 8590, 9985, 9986
* 5434, 5435, 5821, 6256, 7710, 7711, 7712, 7866, 7868, 7869
* 5446, 5447, 7721
* 7758, 7920, 7921, 8137, 9661, 9662

Revisions:

* Rev 0: Initial version of the document.

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.***

# PARS I (9.2.4.2)

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| **CID** | **Commenter** | **P** | **L** | **Comment** | **Proposed Change** | **Resolution** |
| 5881 | James Lepp | 20 | 1 | If you're using longer AIDs in 11ax, should table 9-5 be updated? | Make the necessary 11ax related changes to table 9-5 that 11ah previously modified regarding AIDs. (Its not currently in the 11ax draft.) | Rejected –  11ax is not using longer AIDs. As such no changes are needed to Table 9-5 or other parts of the draft. |

**Discussion: *None.***

# PARS II (9.2.4.5.4, 9.2.4.5.4.1)

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| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **P** | **L** | **Comment** | **Proposed Change** | **Resolution** |
| 4723 | Alfred Asterjadhi | 20 | 27 | MU Ack name is not completely correct due to the fact that the PPDU is actually called Trigger-based ppdu. So I would suggest to change it TBP Ack or something like that, reflecting the correct intention. | As in comment. | Revised –  Agree in principle with the comment. Proposed resolution accounts for the suggested change.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 4723. |
| 4724 | Alfred Asterjadhi | 20 | 45 | This paragraph can be written better. Rephrase this paragraph as suggested in the proposed change. | "When the frame is carried in a HE DL MU PPDU: The addressed recipient returns an Ack, BlockAck, or Multi-STA BlockAck frame carried in HE TB PPDU, after SIFS, (see 10.3.2.11.2 (Acknowledgement procedure for HE MU PPDU in MU format) and 27.4.4.3 (DL MU PPDU soliciting an HE trigger-based PPDU response)." | Revised –  Agree in principle with the comment. Proposed resolution accounts for the suggested change.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 4724. |
| 5433 | Graham Smith | 20 | 44 | "For a frame that is carried in a DL HE MU PPDU: The Ack Policy subfield for the frame that solicits an immediate response in an HE Trigger-based PPDU is set to this value (MU Ack). The addressed recipient returns an Ack, BlockAck, or Multi-STA BlockAck frame in the HE trigger-based PPDU format after a SIFS period, according to the procedures defined in 10.3.2.11.2 (Acknowledgement procedure for HE MU PPDU in MU format) and 27.5.2 (UL MU operation)." This seems to be against the idea of the "No explicit acknowledgement" which is the basic meaning of this setting. Te basic intention is that the response is something other than an ACK type. But here we see that theaddressed recipient returns an ACK, Block ACk or Multi-STA Block Ack which is totllay against the use of this setting. | Use either setting 1,1 or 0,0 | Rejected –  The interpretation of this setting is based on what the standard defines, which is what is done in this case for HE STAs. Since this setting is not used by HE STAs for any other purpose, the amendment uses this value of the Ack Policy for this type of solicitation. The other values of the Ack Policy are already used for other purposes, as such it is not possible to overload them for this type of solicitiation. |
| 6253 | John Coffey | 20 | 44 | Inconsistent terminology: in "DL HE MU PPDU", the STA type is in the middle, whereas in practically every oher instance the type is at the beginning. | Change "a DL HE MU PPDU" to "an HE DL MU PPDU". | Accepted |
| 7709 | Mark Hamilton | 20 | 44 | Ambiguous addition. Also, unnecessary behavioral text. | Presumably, the two paragraphs before the insertion are for the cases when the frame is not carried in a DL HE MU PPDU. So, add "For a frame not carried in a DL HE MU PPDU, and ..." to the beginning of both paragraphs. Reword the added text, following the colon, to "An immediate response in an HE Trigger-based PPDU is expected." Delete the following sentence completely, as this is behavior described in clause 10. | Revised –  Agree in principle with the comment that the classification is ambiguous. However the classification should be: 1) when the frame is not carried in an HE DL MU PPDU that solicits an HE TB PPDU, and 2) when the frame is carried in an HE DL MU PPDU that solicits an HE TB PPDU, because the AP can still set the Ack Policy to 0 to solicit an Ack in SU PPDU as a response to an HE DL MU PPDU from one STA.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 7709. |
| 8174 | Osama Aboulmagd | 20 | 43 | The new HE rule added to Table 9-9, how would a receipient return a multi-STA BA in response to a DL HE MU PPDU? Additionally it is not clear what type of the trigger frame is used to return the response. There is MU ACK trigger frame type. | clarify | Revised –  The selection of the M-BA compared to the C-BA is based on the presence of different values of TIDs in the A-MPDU and the setting of the EOF, and these rules are specified in 10.13 A-MPDU operation) and are not relevant for this subclause. As for the trigger frame type it does no matter as long as it is clear that the solicited format of the response is Trigger-based PPDU (which can be solicited by the Basic, BSRP, or UL MU Response Scheduling A-Control fields “Triggers). Proposed resolution clarifies these aspects.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 8174. |
| 8590 | Sheng Sun | 20 | 43 | The new HE rule added to Table 9-9, how would a receipient return a multi-STA BA in response to a DL HE MU PPDU? Additionally it is not clear what type of the trigger frame is used to return the response. There is MU ACK trigger frame type. | clarify | Revised –  Duplicate of 8174.  The selection of the M-BA compared to the C-BA is based on the presence of different values of TIDs in the A-MPDU and the setting of the EOF, and these rules are specified in 10.13 A-MPDU operation) and are not relevant for this subclause. As for the trigger frame type it does no matter as long as it is clear that the solicited format of the response is Trigger-based PPDU (which can be solicited by the Basic, BSRP, or UL MU Response Scheduling A-Control fields “Triggers). Proposed resolution clarifies these aspects.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 8590. |
| 9985 | Yuichi Morioka | 22 | 61 | "The Control Subfield with Control ID subfield equal to 0,...". Is this restriction necessary? | Remove the restriction if it is not necessary. | Accepted—  Agree with the comment. Since the UL MU Response Scheduling fills the whole 4 bytes of the HT Control then it is not necessary (it is not wrong but not needed) to have this statement. |
| 9986 | Yuichi Morioka | 23 | 44 | Why does the A-Control subfield need to be rounded up to 30 bits if it is less than 30 bits? | Remove sentence starting with "The Padding subfield, if present, follows ..." if there is no reason for the rounding up. | Rejected –  The A-Control field needs to be rounded to 30 bits because the HT Control field that contains it is 4 Bytes, 2 of which are the VHT and HE subfields, and the remaining 30 can contain one or more Control fields (and if the sum of the lengths of the Control fields is not 30 then you need to pad). |

**Discussion: *None.***

**TGax Editor: *Change “MU Ack” to “HTP Ack” in the following locations P110L37, P110L57, P119L22, P119L59, and P161L12 (#CID 4723)***

* QoS Control field
* Ack Policy subfield

**TGax Editor: *Change the table below of this subclause as follows (#CID 4723):***

Change Table 9-9 (Ack Policy subfield in QoS Control field of QoS Data frames) as follows (only relevant row shown):

|  |  |  |
| --- | --- | --- |
| * Ack Policy subfield in QoS Control field of QoS Data frames | | |
| Bits in QoS Control field | | Meaning |
| Bit 5 | Bit 6 |
| 0 | 1 | No explicit acknowledgment, ~~or~~ PSMP Ack or HE Trigger-based PPDU (HTP) Ack.*(#4723)*  When the frame is not carried in an HE DL MU PPDU that solicits an HE Trigger-based PPDU:*(#7709)*   * When bit 6 of the Frame Control field (see 9.2.4.1.3 (Type and Subtype subfields)) is set to 1:   There might be a response frame to the frame that is received, but it is neither the Ack frame nor any Data frame of subtype +CF-Ack.  The Ack Policy subfield for QoS CF-Poll and QoS CF-Ack +CF-Poll Data frames is set to this value.   * When bit 6 of the Frame Control field (see 9.2.4.1.3 (Type and Subtype subfields)) is set to 0:   The acknowledgment for a frame indicating PSMP Ack when it appears in a PSMP downlink transmission time (PSMP-DTT) is to be received in a later PSMP uplink transmission time (PSMP-UTT).  The acknowledgment for a frame indicating PSMP Ack when it appears in a PSMP-UTT is to be received in a later PSMP-DTT.  When the frame is carried in an HE DL MU PPDU*(#6253)* that solicits an HE Trigger-based PPDU:  The addressed recipient returns an Ack, BlockAck, or Multi-STA BlockAck frame carried in the HE trigger-based PPDU sent SIFS after the PPDU as described in 10.3.2.11.2 (Acknowledgement procedure for HE MU PPDU in MU format) and 27.5.2 (UL MU operation). *(#4724, 8174, 8590, 7709)*  NOTE—Bit 6 of the Frame Control field (see 9.2.4.1.3 (Type and Subtype subfields)) indicates the absence of a data Frame Body field. When equal to 1, the QoS Data frame contains no Frame Body field, and any response is generated in response to a QoS CF-Poll or QoS CF-Ack +CF-Poll frame, but does not signify an acknowledgment of data. When set to 0, the QoS Data frame contains a Frame Body field, which is acknowledged as described in 10.29.2.7 (PSMP acknowledgment rules). |

**9.2.4.6.4.1 General**

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 9985):***

The A-Control subfield contains a sequence of one or more Control subfields. The format of each Control subfield is defined in Figure 9-15b (Control subfield format).*(#9985)*

# PARS III (9.2.4.5.6)

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| **CID** | **Commenter** | **P** | **L** | **Comment** | **Proposed Change** | **Resolution** |
| 5434 | Graham Smith | 21 | 14 | "The queue size value is the total size, rounded up to the nearest multiple of 256 octets and expressed in units of 256 octets, of all MSDUs and A-MSDUs buffered at the STA (excluding the MSDU or A-MSDU of the present QoS Data frame sent by a non-HE STA and including the MSDUs or A-MSDUs contained in the present (A-)MPDU sent by an HE STA) in the delivery queue used for MSDUs and A-MSDUs.." The original instructionm seems pretty clear - Do not include the (A)-MSDUs in the present data frame. For the HE the instructions seems to be to include what's in the present data frame. So do we set out to be deliberately awkward? Why different? | Make the use as close as possible to non HE STAs | Rejected –  The baseline Queue Size definition was introduced during 802.11e days when there was no concept of A-MPDU. As such that definition allows the AP to receive correct information in a received MPDU, however it has deficiencies when the MPDUs are carried in an A-MPDU. Using that baseline definition, the AP that receives an A-MPDU that is corrupted loses the buffer status information related to those MPDUs that have not been received. This is not the case with the new definition because the Queue Size incldes the BSR for MSDUs contained in the A-MPDU (so even if those MSDUs are failed the BSR information is still retrievable). Essentially the AP can substract from the received BSR the sizes of those MPDUs that are received successfully in that A-MPDU, obtaining the actual BSR (i.e., including those MSDUs that have failed, in that A-MPDU, if any). |
| 5435 | Graham Smith | 21 | 19 | "If a QoS Data frame is fragmented and is not carried in an A-MPDU, the queue size value can remain constant in all fragments even if the amount of queued traffic changes as successive fragments are transmitted. If a QoS Data frame is fragmented and is carried in an A-MPDU, the queue size value is set as defined in 10.13.1 (A-MPDU contents)." 10.13.1 does not mention queue size, so the reference must be wrong | Find the right reference. | Revised –  Agree in principle with the comment. The reference is correct, however in 10.13.1 the field is references by its bit positions 8-15. Proposed resolution is to specify in this subclause that those bits, 8-15, represent the Queue Size.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 5435. |
| 5821 | Huizhao Wang | 21 | 11 | There is no good reason to change the meaning of "queue size value" between non-HE STA and HE STA. Its meaning should be kept as same as in 802.11-2016, subclause 9.2.4.5.6: "The queue size value is the total size, rounded up to the nearest multiple of 256 octets and expressed in units of 256 octets, of all MSDUs and A-MSDUs buffered at the STA (excluding the MSDU or A-MSDU of the present QoS Data frame) in the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field." | Restore to the original text in 802.11-2016: "The queue size value is the total size, rounded up to the nearest multiple of 256 octets and expressed in units of 256 octets, of all MSDUs and A-MSDUs buffered at the STA (excluding the MSDU or A-MSDU of the present QoS Data frame) in the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field." | Rejected –  The baseline Queue Size definition was introduced during 802.11e days when there was no concept of A-MPDU. As such that definition allows the AP to receive correct information in a received MPDU, however it has deficiencies when the MPDUs are carried in an A-MPDU. Using that baseline definition, the AP that receives an A-MPDU that is corrupted loses the buffer status information related to those MPDUs that have not been received. This is not the case with the new definition because the Queue Size incldes the BSR for MSDUs contained in the A-MPDU (so even if those MSDUs are failed the BSR information is still retrievable). Essentially the AP can substract from the received BSR the sizes of those MPDUs that are received successfully in that A-MPDU, obtaining the actual BSR (i.e., including those MSDUs that have failed, in that A-MPDU, if any). |
| 6256 | John Coffey | 21 | 2 | Inconsistent terminology: in "non-AP HE STA", the STA type is in the middle, whereas in practically every oher instance the type is at the beginning. | Change "a non-AP HE STA" to "an HE non-AP STA". | Accepted |
| 7710 | Mark Hamilton | 21 | 2 | Addition causes ambiguity. A sentence is added that starts "A non-AP HE STA uses ...". Is this intended to be in addition to how other STAs use it, or an exclusive (exhaustive) list of the STAs that use it? (There is no other text saying how other STAs use it, hence the confusion caused.) | Add text describing which other STAs (HE APs, non-HE STAs, etc.?) use this subfield, and what they are indicating, if it is different from what a non-AP HE STA is indicating. | Revised –  Agree in principle with the comment. Proposed resolution is to clarify that the preceding, baseline, sentence applies to non-HE STAs.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 7710. |
| 7711 | Mark Hamilton | 21 | 6 | Poor change of "might" to "can". "Can" is discouraged, because it causes potential confusion. Generally, agreed (per Style Guide) that 'can' is used when there is a normative statement giving the option, that is made elsewhere, and the text with 'can' is referencing that statement. That is not the case here. 'Might' is the better choice, as this is a possible future action that a device could take, without any normative text for the stuation. | Revert the change from 'might' to 'can', so the baseline text ('might') remains unchanged. | Accepted |
| 7712 | Mark Hamilton | 21 | 13 | Why overload the meaning of this subfield, for HE versus non-HE transmitters? This reaults in receivers that are compatible with both HE and pre-HE peers to process the field values differently depending on the source's capabilities (which are potentially non-obvious from the frame itself.) | Remove the HE versus non-HE distinction. | Rejected –  The baseline Queue Size definition was introduced during 802.11e days when there was no concept of A-MPDU. As such that definition allows the AP to receive correct information in a received MPDU, however it has deficiencies when the MPDUs are carried in an A-MPDU. Using that baseline definition, the AP that receives an A-MPDU that is corrupted loses the buffer status information related to those MPDUs that have not been received. This is not the case with the new definition because the Queue Size incldes the BSR for MSDUs contained in the A-MPDU (so even if those MSDUs are failed the BSR information is still retrievable). Essentially the AP can substract from the received BSR the sizes of those MPDUs that are received successfully in that A-MPDU, obtaining the actual BSR (i.e., including those MSDUs that have failed, in that A-MPDU, if any). |
| 7866 | Mark RISON | 21 | 19 | "If a QoS Data frame is fragmented" -- MPDUs cannot be fragmented. Also at 21.21, 27.7, 27.10 | Change the cited text to "If an MSDU/A-MSDU/MMPDU is fragmented" in each case | Revised –  Agree with the comment. However MMPDUs don’t dontain the QoS Control field and are not reported in the BSRs. Incoporated suggested changes for MSDU and A-MSDU case.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 7866. |
| 7868 | Mark RISON | 21 | 13 | It is not clear what "the present (A-)MPDU" is | Change the cited text to "the (A-)MPDU containing the Queue Size subfield" | Accepted |
| 7869 | Mark RISON | 21 | 3 | It is not clear that the Queue Size is a form of BSR (the wording in 27.5.2.5 indicates this is to be seen as an "implicit BSR") | At the end of the sentence inserted at the cited location, add "; this is an implicit BSR" | Revised –  The Queue Size can be used for both implicit and explicit BSR, which is described in subclause 27.5.2.5. To help the reader find more information regarding the subclause, the proposed resolution is to add a reference to that subclause, at the location cited by the commenter.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 7869. |

**Discussion: *None.***

* Queue Size subfield

**TGax Editor: *Change the paragraphs below of this subclause as follows (#CID 7710, 6256, 7711, 7868, 7866, 5435, 7869):***

Change subclause 9.2.4.5.6 as follows:

The Queue Size subfield is an 8-bit field that indicates the amount of buffered traffic for a given TC or TS at the non-HE STA*(#7710)* sending this frame. An HE non-AP STA*(#6256)* uses the Queue Size subfield to indicate the amount of buffered traffic intended for the STA identified by the receive address of the frame containing the QoS Control field (see 27.5.2.5 (HE buffer status feedback operation for UL MU)). The Queue Size subfield is present in QoS Data and QoS Null frames sent by non-AP STAs with bit 4 of the QoS Control field equal to 1. The AP might*(#7711)* use information contained in the Queue Size subfield to determine the TXOP duration assigned to the STA or to determine the UL resources assigned to the HE STA (see 27.5.2 (UL MU operation)).

The queue size value is the total size, rounded up to the nearest multiple of 256 octets and expressed in units of 256 octets, of all MSDUs and A-MSDUs buffered at the STA (excluding the MSDU or A-MSDU of the present QoS Data frame sent by a non-HE STA and including the MSDUs or A-MSDUs contained in the (A-)MPDU containing the Queue Size subfield*(#7868)* sent by an HE STA) in the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field. A queue size value of 0 is used solely to indicate the absence of any buffered traffic in the queue used for the specified TID. A queue size value of 254 is used for all sizes greater than 64 768 octets. A queue size value of 255 is used to indicate an unspecified or unknown size. If a MSDU or A-MSDU*(#7866)* is fragmented and is not carried in an A-MPDU then the queue size value can remain constant in all fragments even if the amount of queued traffic changes as successive fragments are transmitted. If a MSDU or A-MSDU*(#7866)* is fragmented and is carried in an A-MPDUthen the queue size, bits 8-15 of the QoS Control field,*(#5435)* is set as defined in 10.13.1 (A-MPDU contents). *(#7869)*

**9.2.4.6.4.5 Buffer Status Report (BSR)**

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 7866):***

The queue size values in the Queue Size High and Queue Size All subfields are the total sizes, rounded up to the nearest multiple of SF octets, of all MSDUs and A-MSDUs buffered at the STA (including the MSDUs or A-MSDUs contained in the present (A-)MPDU) in the delivery queues used for MSDUs and A-MSDUs with AC(s) that are specified in the ACI High and ACI Bitmap subfields, respectively. A queue size value of 254 is used for all sizes greater than 254 x *SF* octets. A queue size value of 255 is used to indicate an unspecified or unknown size. If a MSDU or A-MSDU*(#7866)* is fragmented and is not carried in an A-MPDU, the queue size value can remain constant in all fragments even if the amount of queued traffic changes as successive fragments are transmitted. If a MSDU or A-MSDU*(#7866)* is fragmented and is carried in an A-MPDU, the queue size values are set according to the rules in 10.9 (HT operation).

# PARS IV (9.2.4.7, 9.2.4.7.1)

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| **CID** | **Commenter** | **P** | **L** | **Comment** | **Proposed Change** | **Resolution** |
| 5446 | Graham Smith | 29 | 58 | Why is the VHT Capabilities Information field referenced and not the HE Capabilities field? Should it not reference Table 9-262z? | Change reference to Table 9.262z | Rejected –  An HE STA still signals the MPDU size in the VHT Capabilities element in the Maximum MPDU Length. The HE Capabilities element does not have such field. |
| 5447 | Graham Smith | 30 | 26 | Why is the VHT PHY characrteristics referenced and not the HE ? Should it not reference Table 28-46? | Change reference to Table 28-46 | Accepted –  Agree with the comment. The cited table contains a value for aPPDUMaxTime that coincides with the value in this table. |
| 7721 | Mark Hamilton | 29 | 57 | Also reference HE Capabilities Information field, which has further MPDU length info (Length Exponent) | Add Table 9-262z to the "see also" in the HE PPDU column | Rejected –  The HE Capabilities element does not contain information related to MPDU size length restrictions. The Length Exponent cited by the commenter relates to an A-MPDU size restriction. |

**Discussion: *None.***

* Frame Body field
* General

**TGax Editor: *Change the table below of this subclause as follows (#CID 5447):***

Change as Table 9-19 (Maximum data unit sizes (in octets) and durations (in microseconds)) follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * Maximum data unit sizes (in octets) and  durations (in microseconds) | | | | | |
|  | Non-HT non-VHT non-DMG PPDU and non-HT duplicate PPDU | HT PPDU | VHT PPDU | HE PPDU | DMG PPDU |
| MMPDU size | 2304 | 2304 | See NOTE 1 | See NOTE 1 | 2304 |
| MSDU size | 2304 | 2304 | 2304 | 2304 | 7920 |
| A‑MSDU size | 3839 or  4065 (see NOTE 2) (HT STA, see also Table 9-162 (Subfields of the HT Capability Information field)), or  N/A (non-HT STA, see also 10.12 (A‑MSDU operation)) | 3839 or 7935 (see also Table 9-162 (Subfields of the HT Capability Information field)) | See NOTE 3 | See NOTE 3 | 7935 |
| MPDU size | See NOTE 4 | See NOTE 5 | 3895 or 7991 or 11 454 (see also Table 9-249 (Subfields of the VHT Capabilities Information field)) | 3895 or 7991 or 11 454 (see also Table 9-249 (Subfields of the VHT Capabilities Information field)) | See NOTE 5 |
| PSDU size (see NOTE 7) | 212–1 (see Table 15-5 (DSSS PHY characteristics), Table 16-4 (HR/DSSS PHY characteristics), Table 17-21 (OFDM PHY characteristics), Table 18-5 (ERP characteristics)) | 216–1  (see Table 19-25 (HT PHY characteristics)) | 4 692 480 (~222.16) (see Table 21-29 (VHT PHY characteristics)) | 6,500,631 (~222.63)  (see Table 28-46 (HE PHY characteristics)) | 218–1  (see Table 20-32 (DMG PHY characteristics)) |
| PPDU duration (see NOTE 7) | See NOTE 6 | 5484 (HT\_MF; see 10.26.4 (L\_LENGTH and L\_DATARATE parameter values for HT-mixed format PPDUs)) or 10 000 (HT\_GF; see Table 19-25 (HT PHY characteristics)) | 5484  (see Table 21-29 (VHT PHY characteristics)) | 5484  (see Table 28-46 (HE PHY characteristics))*(#5447)* | 2000  (see Table 20-32 (DMG PHY characteristics)) |
| NOTE 1—No direct constraint on the maximum MMPDU size; indirectly constrained by the maximum MPDU size (see 9.3.3.1 (Beacon frame format)).  NOTE 2—Indirect constraint from the maximum PSDU size: 212–1 octets minus the minimum QoS Data frame overhead (26 octets for the MAC header and 4 octets for the FCS).  NOTE 3—No direct constraint on the maximum A‑MSDU size; indirectly constrained by the maximum MPDU size.  NOTE 4—No direct constraint on the maximum MPDU size; indirectly constrained by the maximum MSDU/MMPDU or (for HT STAs only) A‑MSDU size.  NOTE 5—No direct constraint on the maximum MPDU size; indirectly constrained by the maximum A‑MSDU size.  NOTE 6—No direct constraint on the maximum duration, but an L\_LENGTH value above 2332 might not be supported by some receivers (see last NOTE in 10.26.4 (L\_LENGTH and L\_DATARATE parameter values for HT-mixed format PPDUs)).  NOTE 7—The values for maximum PSDU size and maximum PPDU duration are informative only. References to the normative requirements are provided. | | | | | |

# PARS V (9.4.2.27)

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| **CID** | **Commenter** | **P** | **L** | **Comment** | **Proposed Change** | **Resolution** |
| 7758 | Mark Hamilton | 68 | 19 | "A STA" is non-specific, but this information is for \_this\_ STA | Change "A STA" to "The STA" in both occurrances. | Accepted |
| 7920 | Mark RISON | 68 | 19 | The change is not compatible with existing implementations that do not set the bit even though dot11TWT is true | Add "and dot11HEOptionImplemented is true" | Accepted |
| 7921 | Mark RISON | 68 | 23 | This bit serves no purpose as it is always the same as the one immediately above it | Delete this row, and delete "Requester" twice at line 19 | Revised –  These are two different functionalities. The proposed resolution is to differentiate between the two. Also fixing the references in both rows, which are wrong in D1.0.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 7921. |
| 8137 | Matthew Fischer | 68 | 23 | There are good reasons to allow unsolicited TXBF FB. | Add a capability bit that indicates that an AP supports the receipt of unsolicited FB. | Rejected –  The commenter fails to provide not even one good reason for allowing unsolicited TXBF FB. |
| 9661 | Yongho Seok | 68 | 19 | When dot11S1GOptionImplemented is true, the TWT Requester Support is signalled through the S1G Capabilities element. Change it as the following: "A STA sets the TWT Requester Support field to 1 when dot11TWTOptionActivated is true and dot11S1GOptionImplemented is false, and sets it to 0 otherwise. See 11.11.9.9 (TWT section)." | As per comment. | Revised –  Proposed resolution is inline with that suggested by CID 7920. That is, tying the support to dot11HEOptionImplemented setting.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 9661. |
| 9662 | Yongho Seok | 68 | 25 | When dot11S1GOptionImplemented is true, the TWT Responder Support is signalled through the S1G Capabilities element. Change it as the following: "A STA sets the TWT Responder Support field to 1 when dot11TWTOptionActivated is true and dot11S1GOptionImplemented is false, and sets it to 0 otherwise. See 11.11.9.9 (TWT section)." | As per commnet. | Revised –  Proposed resolution is inline with that suggested by CID 7920. That is, tying the support to dot11HEOptionImplemented setting.  TGax editor to make the changes shown in 11-16/0132r0 under all headings that include CID 9662. |

**Discussion: *None.***

**TGax Editor: *Change the table below of this subclause as follows (#CID 7758, 7920, 9661, 7921, 9662):***

* Extended Capabilities element

***Insert the following rows into Table 9-135 (Extended Capabilities element) (header row shown for convenience):***

|  |  |  |
| --- | --- | --- |
| * Extended Capabilities element | | |
| Bit | Information | Notes |
| <ANA> | TWT Requester Support | The STA sets the TWT Requester Support field to 1 when dot11TWTOptionActivated and dot11HEOptionImplemented are true and the STA supports TWT requester functionality, and sets it to 0 otherwise. See 10.44 (Target wake time (TWT)). *(#7758, 7920, 9661)* |
| <ANA> | TWT Responder Support | The STA sets the TWT Responder Support field to 1 when dot11TWTOptionActivated and dot11HEOptionImplemented are true and the STA supports TWT responder functionality, and sets it to 0 otherwise. See 10.44 ((Target wake time (TWT)).*(#7758, 7920, 7921, 9662)* |