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### IEEE P802.11­Wireless LANs

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| 11ax D1.0 MAC Comment Resolution for  |
| Date: 2018-02-28 |
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Abstract

This submission proposes resolutions for comments of TGax Draft 2.0 and the proposed change is for TGax Draft 2.2

CIDs: 12568, 13848, 11922, 12208, 12566, 12567, 11253, 11254, 11025, 11026, 13183, 13184, 11515 (13 CIDs)

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 D2.2 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D2.0 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** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 12568 | 154.01 | 9.4.2.232.1(Should be 242.1) | "The first two-bits defines the value and are referred to as Quiet Time Period Subtype field. The remaining 6 bits are reserved." There is no clear description/figure of format of the Control field into subfields, nor does Table 9-262ae seem to have values that make sense for such a subfield structure. | Delete the cited sentences. This leaves the Control field as a simple 1 octet field, with the values shown in 9-262ae. | Revised: Agree with the commenter that the text and the table can be clearer. The table is revised to show more information.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 12568** |
| 13848 | 193.33 | 9.4.2.242.1 | Is the quiet period only for the peer stations (i.e. requesting STA and AP) not to transmit, or for all the STAs in the BSS not to transmit? |  | Rejected:It is to give peer stations a cleaner channel to transmit. |
| 11922 | 154.01 | 9.4.2.242.1 | Missing a Figure to depict the bitmap of A Control field of the Quiet Time Period element | This subclause is poorly written, please rewrite this subclause, and add a figure to depict the bitmap of the "A Control" field. | Duplicated:The comment is similar to CID 12568. The resolution is the same.  |
| 12208 | 154.56 | 9.4.2.242.2 | Value for the Service Specific Identifier is defined no where. | Value for the Service Specific Identifier should be defined ,or should be clarified where this definition is defined. | Rejected:The definition of the Service Specific Identifier is not in the scope of IEEE specification. The specification for service will define its value.  |
| 12566 | 154.56 | 9.4.2.242.2 | What does it mean that the "HE STA supporting it can transmit frames"? This is completely unclear. From 9.4.2.242.3, it seems this identifier indicates that frames which are part of such a peer-to-peer operation are allowed to transmit during the quiet time period. | Change the explanatory text (second sentence of the similar paragraph) in 9.4.2.242.3 to, "The Service Specific Identifier field indicates a peer-to-peer operation for which participating HE STAs may transmit frames during the quiet time period. Other transmissions are disallowed during the period." Copy the resulting paragraph to replace the ones in 9.4.2.242.2 and 9.4.2.242.4. | Revised: Accept the suggestion with minor updates.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 12566** |
| 12567 | 154.57 | 9.4.2.242.2 | These identifiers are assigned where (in what body/process)? They need to be globally unique, to avoid collision between peer-to-peer operations defined by different organizations. | If this is intended to be assigned by ANA, then change the language to "assigned \_to\_ the operation" instead of assigned \_by\_ the operation. If it is assigned elsewhere, then that needs to be clarified and a pointer provided. | Rejected:The definition of the Service Specific Identifier is not in the scope of IEEE specification. The specification for service will define its value. |
| 11253 | 155.27 | 9.4.2.243.3 | The sentence describing the Quiet Period Duration field and timing resolution (32 usec) is ambiguous. Needs more clarity to be consistent with the Quiet Period Duration field description in clause 9.4.2.243.2. | Rewrite sentence and reference the description of the Quiet Period Duration field in subclause 9.4.2.243.2 (Quiet Time Period Setup) see pg 154 line 51. | Revised.Accepted the comment and the text is revised accordingly.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 11253** |
| 11254 | 155.45 | 9.4.2.243.4 | Text states "If an AP decides to counter the request...." its unclear what is meant by counter the request, and what criteria is used by the AP to do so. Needs more clarification. | Clarify..... | Revised:The text is revised.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 11254** |
| 11025 | 167.36 | 9.6.30 | Incorrect section - Quiet Time Period Action frame is an HE Action frame (see Table 9-421z) and the section should be moved as a subsection under 9.6.28 | As in comment | Revised: Agree with the comment.9.6.30 is moved to under 9.6.28.3**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 11025** |
| 11026 | 167.36 | 9.6.30 | Provide section reference to the element and remove details about Quiet Time Period element. Also add a statement indicating that the frame does not carry any Vendor Specific elements | As in comment | Revised:Agree with the comments.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 11206** |
| 13183 | 167.63 | 9.6.30 | There is no need to mention which fields are present the Quiet Time Period element - the details are covered in the section describing the element. Provide reference to the element | Replace the sentence as: "The Quiet Time Period element (as defined in 9.4.2.242 (Quiet Time Period element)) is always present in the frame." | Rejected:The similar statement is also in the 9.6.28.2. Since the change is editorial, it is up to editor to decide. |
| 13184 | 167.65 | 9.6.30 | Add sentence that No Vendor Specific elements are present in this frame | Add sentence at the end of the section as: "No Vendor-Specific elements are present in the Quiet Time Period frame." | Revised:Text is revised.**TGax editor, please make changes as shown in document 11-18/0433r0 under CID 13184** |
| 11515 | 167.39 | 9.6.30 | To enhance with 11ax feature, propose to add a field/option to indicate during the Quiet Time Period, only trigger based UL OFDMA access is allowed.An option is to extend/enhance the Quiet Time Period to do so. | as in the comment | Rejected: The comment should submit a proposal for the change. |

**Discussion:**

See table above

**Propose:**

Revised the following text per discussion and editing instructions in 11-18/0443r0.

***Instruction to the TGax Editor to revise the following clauses in draft 2.2.***

**9.4.2.242.1 General**

….

A one octet Control field specifies the type of the Quiet Time Period element. The first two-bits defines the value and are referred to as Quiet Time Period Subtype field. The remaining 6 bits are reserved. Table 9- 262ae (Control field encoding) shows the encoding of the Control field.

**Table 9-262ae—Control field encoding**

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**(CID 12568)**

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| --- | --- | --- |
| Bit 0 | Bit 1 | Meaning |
| 0 | 0 | Quiet Time Period Setup |
| 1 | 0 | Quiet Time Period Request |
| 0 | 1 | Quiet Time Period Response |
| 1 | 1 | reserved |

**……..**

**9.4.2.242.2 Quiet Time Period Setup**

The Quiet Time Period Setup subtype defines a period for a peer-to-peer operation (see 27.16.4 (Quiet HE STAs in an HE BSS)). The quiet time period can be used by an AP to mitigate the interference by reducing the contention from HE STAs in a period that gives preference to HE STAs participating in peer-to-peer operation. The content of the Quiet Time Content subfield in the Quiet Time Period Setup subtype is shown Figure 9- 589cz (Quiet Time Content subfield format in Quiet Time Period Setup subtype).

**Figure 9-589cz—Quiet Time Content subfield format in Quiet Time Period Setup subtype**

The Quiet Period Duration field is set to the duration of the quiet time period, in units of 32 μs, that is no larger than the value indicated in the Quiet Period Interval subtype field of the Quiet Time Period Request subtype sent by the requester HE STA.

The Service Specific Identifier field indicates a specified peer-to-peer operation (CID 12566) for which participating HE STAs may transmit frames during the quiet time period. Other transmissions are not recommended during the period. Value for the Service Specific Identifier field contains an identifier assigned by the peer-to-peer operation.

**9.4.2.242.3 Quiet Time Period Request** The Quiet Time Period Request subtype defines a periodic sequence of quiet time periods that the requester HE STA requests the responder HE AP to schedule.

The content of the Quiet Time Content subfield in the Quiet Time Period Request subtype is shown Figure 9-589da (Quiet Time Content subfield format in Quiet Time Period Request subtype).

The Dialog Token field is used to identify the Quiet Time Period Response subtype to which the Quiet Time Period Request subtype corresponds. The Quiet Period Offset field is set to the offset of the first quiet time period from the TBTT expressed in TUs. The Quiet Period Interval field is set to the requested interval between the start of two consecutive quiet time periods, expressed in TUs.

The Quiet Period Duration field is (CID 11253) Set to the duration of the quiet time period, in units of 32 μs..

The Repetition Count field is set to the number of requested quiet time periods. Repetition count equal to 0 indicated the setup of the quiet time period is for one time operation. Repetition count equals to 0xFF indicated the setup of the quiet time period is cancelled.

The Service Specific Identifier field indicates a specified peer-to-peer operation(CID 12566) for which participating HE STAs may transmit frames during the quiet time period. Other transmissions are not recommended during the period. The Service Specific Identifier field indicates HE STAs participated in the peer-to-peer operation is given preference to transmit frames in the period. The Service Specific Identifier ID field contains an identifier assigned by the peer-to-peer applications.

**9.4.2.242.4 Quiet Time Period Response**

The Quiet Period Response subtype defines the feedback information from the AP that received the Quiet Time Period Request element. If an AP decides (CID 11254) not to accept the value requested by the requester HE STA-, the AP can set different values carried in the Quiet Period Response frame.

The content of Quiet Time Content subfield in the Quiet Time Period Response subtype is shown in Figure 9-589db (Quiet Time Content subfield format in Quiet Time Period Response subtype).

The Control field of values 2 indicate the Quiet Time Content is for Quiet Time Period Response operation.

The Dialog Token field is used to identify Quiet Time Period Request subtype to which this Quiet Time Period Response subtype corresponds. The Status Code field indicates the status of a requested operation. The value of the status code is shown in Table 9-262af (Status Code)

The Quiet Period Offset field is set to the offset of the start of the first quiet time period from the transmission time of the preamble of the PPDU that contains the Quiet Time Period Response subtype, expressed in TUs. The reference time is the start of the preamble of the PPDU that contains this element. The Quiet Period Interval field is set to the interval between the start of two consecutive quiet time periods, expressed in TUs. The Quiet Period Duration field is a one octet field with resolution of 32 μs. The Repetition Count field is set to the number of requested quiet time periods.

The Service Specific Identifier field indicates a peer-to-peer operation(CID 12566) for which participating HE STAs may transmit frames during the quiet time period. Other transmissions are not recommended during the period. The Service Specific Identifier field contains an identifier assigned by the peer-to-peer applications.

**9.6.28.3 (CID 11025) Quiet Time Period Action frame details**

The Quiet Time Period action frame is an Action No Ack frame of category HE. The Action field of a Quiet Time Period contains the information shown in Table 9-421ab (Quiet Time Period Frame Body).

The Category field is defined in Table 9-47 (Category values).

The HE Action field is defined in Table 9-421z (HE Action field values).

The Quiet Time Period is always present in the frame. The presence and contents of the Quiet Time Setup field, Quiet Time Request field, and Quiet Time Response field are dependent on the values of the Control field of Quiet Time Period element.

(CID 11026) No vendor-specific elements are present in the Quiet Time Period Action frame.