### IEEE P802.11Wireless LANs

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| 11ax D1.0 MAC Comment Resolution for  |
| Date: 2017-07-10 |
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Abstract

This submission proposes resolutions for comments of TGax Draft 1.0 and the proposed changes applies to Draft 1.3

CID 3038, and

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 D1.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D1.0 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** |
| 3038 | 95.48 | 9.4.2.223 | Instead of defining 3 separate elements for Quiet time setup/Req/Resp, combined to one element which carries a code to indicate the sub-type of the element and the operation involved | Rename 9.4.2.223 as HE Quiet Time and remove 9.4.2.224 & 9.4.2.225. Add 3 sub-sections to this section - each section representing the sub-type of the HE Quiet Time:1. 9.4.2.223.1 Quiet Time Period Announcement - This section will carry the description in 9.4.2.223 - change the figure & description to include a 1 octet code field (value 1 for this operation)2. 9.4.2.223.2 Quiet Time Period Request - This section will carry the description in 9.4.2.224 - change the figure & description to include a 1 octet code field (value 2 for this operation)3. 9.4.2.223.2 Quiet Time Period Response - This section will carry the description in 9.4.2.225 - change the figure & description to include a 1 octet code field (value 3 for this operation) | Revised: The changes are made to clause 9.4.2.223, 224, and 225 as proposed. “MAC: 2017-05-20 00:50:34Z - Copied from CID 3048Ad Hoc Notes:EDITOR: Partially implemented in D1.3. I cannot execute the instruction "TGax Editor: Modify 9.4.2. 223 as the following:" in 17/693r4. It appears to show inserted text (no modifications) and does not describe the relationship to existing text in 9.4.2.243 and 9.4.2.244 with similar names. Returning to ad-hoc.”Editor’s note:“EDITOR: 2017-05-25 21:18:42Z - Editor assumes that instructions are the edits in 17/693r4. Only partially implemeted.” |
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**Discussion:**

***[*CID 3048*] : Accepted***

Accepted: The changes are made to clause 9.4.1.11, 9.4.2.223, 224, and 225 as proposed.

There are around 80 CIDs commenting on various aspect of Quiet time operation.

Disclaimer: The part 1 of the resolution of the quiet time period is to re-structure the clauses to better match the format of 802.11 specifications. Some text in the revised clauses will be revised further when other CIDs are addressed.

The proposed changes below provides clearer instruction to the editor.

**Propose:**

Revised the following text per discussion and editing instructions in 11-17/0693r5.

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***TGax Editor: 693r5 is the baseline text for the 17-1010. The proposed changes in 1010 is applied to the text in this document.***

***Modify 9.4.2.242, 243, 244 in draft 1.3 ( the clauses were 9.4.2.223, 224, 225 in Draft 1.0) as the following:***

***Instruction to the editor: Replacing 9.4.2.242 with the following clause***

**9.4.2.242 Quiet Time Period Element**

Quiet Time Period Action frame formats are defined to support Quiet Time Period functionality for Peer-to-Peer (table 9-421ab) operation.

The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

A Control field (figure 9-xyz01) is a one byte field specifies the type of actions of the Quiet Time Period action frame.

The first two-bits defines the value and referred to as Quiet Time Period Subtype field. The remaining 6 bits are reseved.

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| --- | --- | --- | --- | --- |
| Element ID  | Length | Element ID Extension  | Control | Quiet Time Content |

Figure 9-xyz01: The Quiet Time period Element Format

The values of the Control field in each frame format within the Quiet Time Period Action frame are defined in Table 9-xyz02 (Control field encoding). The Quiet Time Content field is a variable length field which carries information of quiet time operation indicated by the value in the Control field.

**Table 9-xyz02—Control field encoding**

|  |  |
| --- | --- |
| **Control field value**  | **Meaning**  |
| 0 0 | Quiet Time Period Setup  |
| 10  | Quiet Time Period Request  |
| 01 | Quiet Time Period Response  |
| 11--FF | Reserved |

***Instruction to the editor: Add the following new clause, 9.4.2.242.1, under clause 9.4.2.242***

**~~9.4.2.242 Quiet Time Period Setup element~~**

~~The Quiet Time Period Setup element defines a period for an STA-to-STA operation (see 11.47 (Quieting HE STAs in a HE BSS)). This quiet time period may be used to improve the probability of channel access for HE STAs participating in the STA-2-STA operation. The Quiet Time Period Setup element is shown Figure 9-589cz (Quiet Time Period Setup element).~~

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ~~Element ID~~ | ~~Length~~  | ~~Element ID Extension~~  | ~~Quiet Period Duration~~  | ~~Vendor Specific Service Identifier~~ |
| ~~1~~ | ~~1~~ | ~~1~~ | ~~2~~ | ~~2~~ |

**~~Figure 9-589cz—Quiet Time Period Setup element~~**

 ~~The Element ID and Length fields are defined in 9.4.2.1 (General). The Quiet Duration field is set to duration, expressed in TUs, no larger than the value indicated in the Quiet Period Duration field of the Quiet Time Period Request element sent by the requester HE STA. The Vendor Specific Service ID field indicates a specified operation, and the HE STA supporting it can transmit frames. The Vendor Specific Service ID field contains a public unique identifier assigned by the IEEE.~~

**9.4.2.242.1 Quiet Time Period Setup**

The Quiet Time Period Setup defines a period for a peer-to-peer operation (see 11.47 (Quieting HE STAs in an HE BSS)). The quiet time period may be used to improve the probability of channel access for HE STAs participating in the peer-to-peer operation.

The Content of Quiet Time Period Setup is shown Figure 9-xyzcz (Quiet Time Period Setup).

|  |  |
| --- | --- |
| Quiet Period Duration  | Vendor Specific Service Identifier |

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**Figure 9-xyzcz—Quiet Time Period Setup**

The Control field of values 0 indicate the Quiet Time Content is for Quiet Time Period Setup operation.

The Quiet Duration field is set to duration, expressed in TUs, no larger than the value indicated in the Quiet Period Duration field of the Quiet Time Period Request element sent by the requester HE STA.

The Vendor Specific Service ID field indicates a specified operation, and the HE STA supporting it can transmit frames. The Vendor Specific Service ID field contains a public unique identifier assigned by the IEEE.

***Instruction to the editor: Replacing the 9.4.2.243 with the following new clauses 9.4.2.242.2***

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**9.4.2.242.2 Quiet Time Period Request**

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

The Content of Quiet Time Period Request is shown Figure 9-xyz03 (Quiet Time Period Request).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dialog Token  | Quiet Period Offset  | Quiet Period Duration  | Quiet Period Interval Repetition Count  | Vender Specific Service Identifier |

**Figure 9-xyz03—Quiet Time Period Request**

The Control field of values 1 indicate the Quiet Time Content is for Quiet Time Period Request operation.

The Dialog Token field is used to identify the Quiet Time Period request and response dialog.

 The Quiet Period Offset field is set to the offset of the start of the first quiet period from the Quiet Time Period Request frame that contains this element, expressed in TUs. The reference time is the start of the pre-amble of the PPDU that contains this element.

The Quiet Period Interval field is set to the spacing between the start of two consecutive quiet time periods, expressed in TUs.

The Quiet Duration field is set to duration of the Quiet Period, expressed in TUs.

The Repetition Count field is set to the number of requested quiet periods.

The Vendor Specific Service Identifier field indicates a specified operation, and the HE STA supporting it can transmit frames. The Vendor Specific Service Identifier field contains a public unique identifier assigned by the IEEE.

***Instruction to the editor: Replacing the 9.4.2.244 with the following new clauses 9.4.2.242.3***

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**9.4.2.242.3 Quiet Time Period Response**

The Quiet Period Response defines the feedback information from the AP that received the Quiet Period Request element.

The Content of Quiet Time Period response is shown Figure 9-xyz04 (Quiet Time Period Response).

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| --- | --- | --- | --- | --- | --- | --- |
| Dialog Token  | Quiet Period Offset  | Quiet Period Duration  | Quiet Period Interval  | Repetition Count  | Vender Specific Service Identifier  | Status Code |

**Figure 9-xyz04—Quiet Time Period Response**

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 the Quiet Time Period request and response dialog.

The Quiet Period Offset field is set to the offset of the start of the first quiet period from the Quiet Time Period Request frame that contains this element, 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 spacing between the start of two consecutive quiet time periods, expressed in TUs.

The Quiet Duration field is set to duration of the Quiet Period, expressed in TUs.

The Repetition Count field is set to the number of requested quiet periods.

The Vendor Specific Service ID field indicates a specified operation, and the HE STA supporting it can transmit frames. The Vendor Specific Service ID field contains a public unique identifier assigned by the IEEE.

The Status Code field is used in a response Management frame to indicate the success or failure of a requested operation.