IEEE P802.11  
Wireless LANs

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| LB 203 Comment Resolution for 9.3.7 | | | | |
| Date: 2014-7-11 | | | | |
| 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 |

Abstract

This submission proposes resolutions for comments in clause 9.3.7 of TGah Draft 2.0 with the following CIDs:

* 3030, 3771, 3772

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 TGah Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGah Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGah Editor: Editing instructions preceded by “TGah Editor” are instructions to the TGah editor to modify existing material in the TGah draft. As a result of adopting the changes, the TGah editor will execute the instructions rather than copy them to the TGah Draft.***

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 3030 | 237.61 | 9.3.7 | "For S1G STAs, the EIFS is set to DIFS if the S1G STA receives"  No, that's not how it should work. The EIFS is a value that is static, not varying based on the status of the previous frame. | Change description to refer to using EIFS or DIFS based on the received frame. | Rejected –  The EIFS for S1G STAs assumes two values depending on the value of the PHY-RXEND.indication primitive and this is no different from the case where the EIFS is calculated in 11ac when dot11DynamicEIFSActivated is true. |
| 3771 | 237.61 | 9.3.7 | Setting EIFS to DIFS in S1G STA makes no sense since it provides no protection when PHY header can't be decoded correctly. | Change RID definition to remove EFIS in S1G STA. | Rejected –  EIFS for S1G STAs is set to DIFS because the RID is used to provide the necessary protection of the response frame. And this is a simple way to say that EIFS is not used for S1G. However, there is one case when RID is not called but EIFS is called which is when the PHY-RXEND.indication primitive indicates FormatViolation. |
| 3772 | 238.1 | 9.3.7 | EIFS is used to decide the delay time of counting down/setting backoff counter when the PPDU can't be decoded correctly. RID is also used to decide the delay time of counting down/setting backoff counter when the PPDU can't be decoded correctly or the STA decides to stop decoding the PPDU before the PPDU payload. It is not necessary to use EIFS in S1G STA. | As in comment. | Rejected –  EIFS for S1G STAs is set to DIFS because the RID is used to provide the necessary protection of the response frame. And this is a simple way to say that EIFS is not used for S1G. However, there is one case when RID is not called but EIFS is called which is when the PHY-RXEND.indication primitive indicates FormatViolation. |

**Discussion:** *None.*

***Note to TGah Editor: The subclauses below are for illustration purposes only. No changes are needed to the draft as per this document.***

**9.3.2.3.7 EIFS**

A DCF shall use EIFS before transmission, when it determines that the medium is idle following reception of a frame for which the PHY-RXEND.indication primitive contained an error or a frame for which the MAC FCS value was not correct. Similarly, a STA’s EDCA mechanism under HCF shall use the EIFS-DIFS+AIFS[AC] interval. The duration of an EIFS is defined in 9.3.7 (DCF timing relations). The EIFS or EIFS-DIFS+AIFS[AC] interval shall begin following indication by the PHY that the medium is idle after detection of the erroneous frame, without regard to the virtual CS mechanism. The STA shall not begin a transmission until the expiration of the later of the NAV and EIFS or EIFS-DIFS+AIFS[AC]. The EIFS and EIFS-DIFS+AIFS[AC] are defined to provide enough time for another STA to acknowledge what was, to this STA, an incorrectly received frame before this STA commences transmission. Reception of an error-free frame during the EIFS or EIFS-DIFS+AIFS[AC] resynchronizes the STA to the actual busy/idle state of the medium, so the EIFS or EIFS-DIFS+AIFS[AC] is terminated and medium access (using DIFS or AIFS as appropriate and, if necessary, backoff) continues following reception of that frame. At the expiration or termination of the EIFS or EIFS-DIFS+AIFS[AC], the STA reverts to the NAV and physical CS to control access to the medium.

EIFS shall not be invoked if the NAV is updated by the frame that would have caused an EIFS, such as when the MAC FCS fails and the L-SIG TXOP function employs L-SIG information to update the NAV. EIFS shall not be invoked for an A-MPDU if one or more of its frames are received correctly.

* **DCF timing relations**

For non-S1G STAs, when dot11DynamicEIFSActivated is false or not defined, the EIFS is derived from the SIFS and the DIFS and the length of time it takes to transmit an Ack frame at the lowest PHY mandatory rate by Equation (9-10).

* EIFS = aSIFSTime + DIFS + ACKTxTime

where

ACKTxTime is the time expressed in microseconds required to transmit an Ack frame, including preamble, PHY header and any additional PHY dependent information, at the lowest PHY mandatory rate.

For S1G STAs, the EIFS is set to DIFS if the S1G STA receives a frame for which the PHY-RXEND.indication primitive does not contain FormatViolation. Otherwise, the EIFS for the S1G STA is derived by the Equation (9-10), where ACKTxTime is equal to NDPTxTime as defined in 9.3.2.4a (Setting and resetting the RID).