IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | TLC Signaling | | | | | | Date: 2018-08-22 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Matthew Fischer | Broadcom |  |  | [Matthew.fischer@broadcom.com](mailto:Matthew.fischer@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

Proposed language to create a mechanism in the Block Ack to signal a request by a receiver to Temporarily Limit the Connection.

The proposed changes address CIDs 21045 and 21046 of LB238 on TGax D4.0.

Changes are referenced to TGax D4.0.

**REVISION NOTES:**

**R0**:

initial

**R1**:

Add CID 16440

Update doc references

**R2**:

Update to D3.3

Update doc references

**R3**:

Update to D4.0

CIDs changed to LB238 CID 21045 and 21046

Update doc references

**R4**:

CIDs were misnumbered

Update doc references

**END OF REVISION NOTES**

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.***

**CIDs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 21046 | Matthew Fischer | 9.2.4.6a.5 | 84.30 | It would be useful to have a way to signal that the recipient of DATA MPDUs is experiencing either resource constraints or local interference that might cause a complete lack of an acknowledgement transmission and that the failure of an AMPDU originator to receive an acknowledgement when thus indicated should not be a reason to adjust the MCS for the link. | Add a signaling indication to the UPH Control to indicate that the recipient is currently resource constrained and that missing acknowledgement frames should not be construed as indicative of a poor MCS choice for the link. | Revise - TGax editor to make changes as shown in 11-18/1822r3 that are marked with CID 21046 which create a new bit in the BA control field to indicate that there is a temporary receive resource constraint at the transmitter of the BA. |
| 21045 | Matthew Fischer | 9.3.1.8.1 | 91.60 | It would be nice to have the ability to inform the transmitter of an AMPDU that missing acknowledgements for some MPDUs are not due to a poor MCS choice, but instead, to local interference that occurred during the AMPDU reception. An indication of such occurence should be signaled in the BA. | Add a mechanism in the BA frame, perhaps the MBA, to allow a recipient transmitting the MBA to indicate to the originator that missing acknolwedgements within the BA frame are due to local interference and not a poor MCS choice. | Revise - TGax editor to make changes as shown in 11-18/1822r3 that are marked with CID 21045 which create a new bit in the BA control field to indicate that there is a temporary receive resource constraint at the transmitter of the BA. |

**Discussion:**

**Proposed Changes to TGax D4.0:**

**9.3.1.8.1 Overview**

***TGax editor: within TGax D4.0, in Figure 9-42 – BA Control field, change bit B5 from reserved to TLC as shown, adjusting the reserved field size and bit locations as appropriate:***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 | ~~B1~~ | ~~B2~~ | ~~B3 B4~~ | B1 B4 | B5 | B6 B11 | B12 B15 |
|  | BA Ack Policy | ~~Multi TID~~ | ~~Compressed Bitmap~~ | ~~GCR Mode~~ | BA Type | TLC **(#21045)(#21046)** | Reserved | TID\_INFO |
| Bits: | 1 | ~~1~~ | ~~1~~ | ~~2~~ | 4 | 1 | 6 | 4 |

**Figure 9-42—BA Control field**

***TGax editor: within TGax D4.0, in an appropriate location within 9.3.1.8.1 Overview, insert the following paragraph:***

The TLC subfield is set to 1 to indicate that the STA transmitting the frame containing this subfield is requesting a temporarily limited connection. The field is set to 0, otherwise. **(#21045)(#21046)**

***TGax editor: within TGax D4.0, insert the following editing instruction and new subclause in an appropriate location:***

***Insert a new subclause at the end of 10.26.10:***

**10.26.10a Temporarily Limited Connection Signaling (#21045)(#21046)**

A HE STA may set the TLC subfield to 1 in a Block Ack frame transmitted to an HE STA to indicate a request to the receiving STA that it should temporarily limit the rate of transmission of octets of MMPDUs and MSDUs to the transmitting STA. If the Block Ack is transmitted in response to the receipt of an A-MPDU, the lack of indication of acknowledgement of some of the MPDUs from that A-MPDU should not be assumed to have been due to bit errors. The determination of which unacknowledged MPDUs should not be assumed to have been due to bit errors is beyond the scope of the standard.

An HE STA that receives a Block Ack with the TLC subfield equal to 1 may temporarily limit the rate of transmission of octets of MMPDUs and MSDUs to the STA that transmitted the Block Ack. The determination of the meaning of temporarily is beyond the scope of the standard. The amount of reduction in the rate of transmission is beyond the scope of the standard.

A HE STA may set the TLC subfield to 0 in a Block Ack frame transmitted to an HE STA to indicate a request to the receiving STA that it should not limit the rate of transmission of octets of MMPDUs and MSDUs to the transmitting STA.

An HE STA that receives a Block Ack with the TLC subfield equal to 0 should not limit the rate of transmission of octets of MMPDUs and MSDUs to the STA that transmitted the Block Ack.

**End of proposed changes.**