IEEE P802.11  
Wireless LANs

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| **CIDs for: Section 9.3.1.9 BlockAck frame format** |
| **Date:** 2016-07-06 |

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Abstract

This submission proposes resolutions for multiple comments related to TGax D0.1 with the following CIDs (**9 CIDs**):

* 961, 1137, 804, 212, 2212, 2412, 2413, 1136, 1493

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.***

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | | **Commenter** | | **PP.LL** | **Comment** | | | **Proposed Change** | **Resolution** |
| 961 | | kaiying Lv | | 17.00 | In table 9-24, the condition " Multi-TID subfield value=0,Compressed Bitmap subfield value=1,GCR subfield value=0,and Multi-STA subfield value =1" is missing. Can Multi-STA BlockAck be used under this condition? | | | Please clarify it | REVISED  The missing combination that the commenter pointed out was used for GLK-GCR BlockAck in 11ak and was added in Table 9-24.  The combination of the variant and the encoding is kept to be one-to-one correspondence. |
| 1137 | | Kwok Shum Au | | 17.14 | In Table 9-24, one combination is missing. | | | In Table 9-24, please define the BlockAck frame variant when Multi-TID subfield is 0, Compressed Bitmap subfield is 1, GCR subfield is 0, and Multi-STA subfield is 1. | REVISED  The missing combination that the commenter pointed out was used for GLK-GCR BlockAck in 11ak and was added in Table 9-24. |
| 804 | Jinjing Jiang | | 15.18 | | | the added bit of the multi-STA subfield to indicate the Multi-STA BA variant for 11ax seems not to be efficient use of the reserved bits. Even this bit is added, there are multiple reserved options that do not have valid meaning. In the future, if new variant is added, one more bit needs to be used. | Change "Multi-STA subfield" to be "BA variant subfield", or change the whole B1-B4 to be the "BA variant subfield". | | REVISED  Make changes in doc. 16/0819.  Agree in principal. There are many combinations that are reserved and they should be used efficiently in the future. The B1-B4 of the BA control field is changed to BA Type subield.  Similar problem existing in BAR control field may be solved in REVmc. |
| 212 | Alfred Asterjadhi | | 17.16 | | | Table 9-24: Blockack frame variant encoding: 0-1-0-1 should also be added to the table (as reserved | As in comment | | REVISED  The missing combination that the commenter pointed out was used for GLK-GCR BlockAck in 11ak and was added in Table 9-24. |
| 2212 | Tomoko Adachi | | 16.52 | | | How to set the RA field of the Multi-STA BlockAck should be explained in 9.3.1.9.1. Explain that the same legacy rule (setting to the address of the recipient STA that requested the Block Ack) shall be applied for the RA field for a Multi-STA BlockAck frame with BA Information for a single AID. Also add here that the RA field for a Multi-STA BlockAck frame with BA Information for multiple AIDs is set to the broadcast address. (The last sentence in the first para o 25.4.1 may be removed.) | As in comment. | | REVISED  Make changes in doc. 16/0819. |
| 2412 | Yongho Seok | | 16.64 | | | B4 of BA Control field is already used by 802.11ak (GCR mode).  Use B5 for Multi STA subfield. | As per comment | | REVISED  Make changes in 16/0819. |
| 2413 | Yongho Seok | | 17.14 | | | Table 9-24 should be updated based on the changes from 802.11ak Draft 2.0. | As per comment | | REVISED – Make changes in 16/0819. |
| 1136 | Kwok Shum Au | | 16.60 | | | Replace "Multi STA" with "Multi-STA" in Figure 9-32. | Replace "Multi STA" with "Multi-STA" in Figure 9-32. | | REVISED  This subfield was renamed based on CID 804. |
| 1493 | Mark RISON | | 55.52 | | | It says "with BA Information for multiple AIDs" | Change to "with one or more BA Information fields with more than one AID" | | REVISED -  Make changes in 16/0819. |

#### 9.3.1.9 BlockAck frame format

TGax Editor: Change Figure 9-32 in TGax D0.2 as follows:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 |  | B4 | B5(#2412) | B11 | B12 B15 |
|  | BA Ack Policy | BA Type(#804,#2412) | | | Reserved | | TID\_INFO |
| Bits | 1 | 4 | | | 7 | | 4 |

Figure 9‑32 - BA Control field

TGax Editor: Change the 6th paragraph of this subclause as follows (change shown based on TGax D0.2):

For BlockAck frames sent under Delayed and HT-delayed agreements, the BA Ack Policy subfield of the BA Control field has the meaning shown in Table 9-23 (BA Ack Policy subfield). For BlockAck frames sent under other types of agreement, the BA Ack Policy subfield is reserved. A Multi-STA BlockAck frame is not sent under Delayed and HT-delayed agreements.

TGax Editor: Change Table 9-24 in TGax D0.2 as follows:

Table 9‑24 - Block Ack frame variant encoding(11ak)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BA Type (#804)** | | |  | **BlockAck frame variant** |
| 0 | 0 | 00 |  | Basic BlockAck |
| 01 |  | Reserved |
| 10 |  | Reserved |
| 11 |  | Reserved |
| 0 | 1 | 00 |  | Compressed BlockAck |
| 01 |  | GLK-GCR BlockAck(#961,#1137,#212) |
| 10 |  | GCR BlockAck |
| 11 |  | Reserved |
| 1 | 0 | 00 |  | Extended Compressed BlockAck |
| 01 |  | Reserved |
| 10 |  | Reserved |
| 11 |  | Reserved |
| 1 | 1 | 00 |  | Multi-TID BlockAck |
| 01 |  | Multi-STA BlockAck(#2413) |
| 10 |  | Reserved |
| 11 |  | Reserved |
|  |  |  |  |  |

TGax Editor: Change the 7th paragraph of this subclause as follows (change shown based on TGax D0.2):

The BA Type(#804) subfield of the BA Control field determine which of the BlockAck frame variants is represented, as indicated in the Table 9-24.

TGax Editor: Insert subclause 9.3.1.9.1 title into the draft and change the 3rd paragraph of this subclause as follows:

##### 9.3.1.9.1 Overview

Change the 3rd paragraph of this subclause as follows:

The RA field of the BlockAck frame except for the Multi-STA BlockAck variant is the address of the recipient STA that requested the Block Ack. An HE AP that transmits a Multi-STA BlockAck frame with different values of the AID subfield in Per STA Info subfields sets the RA field to the broadcast address. An HE AP that transmits a Multi-STA BlockAck frame with a single AID subfield or with the same values of the AID subfield in Per STA Info subfields sets the RA field to the address of the recipient STA that requested the Block Ack or to the broadcast address. An HE non-AP STA transmits a Multi-STA BlockAck frame with a single AID subfield or with the same values of the AID subfield in Per STA Info subfields and sets the RA field to the address of the recipient STA that requested the Block Ack. (#2212)

### 25.4.1 Selection of BlockAck and BlockAckReq variants

TGax editor: Change the 1st paragraph of this subclause as follows (change shown based on TGax D0.2):

An HE STA may send a Multi-STA BlockAck frame in response to an HE trigger-based PPDU. A Multi-STA BlockAck frame contains one or more BA Information fields with one or more AIDs and one or more different TIDs. An HE AP that transmits a Multi-STA BlockAck frame with different values of the AID subfield in Per STA Info subfields shall set the RA field to the broadcast address. An HE AP that transmits a Multi-STA BlockAck frame with a single AID subfield or with the same values of the AID subfield in Per STA Info subfields shall set the RA field to the address of the recipient STA that requested the Block Ack or to the broadcast address. An HE non-AP STA shall transmit a Multi-STA BlockAck frame with a single AID subfield or with the same values of the AID subfield in Per STA Info subfields and shall set the RA field to the address of the recipient STA that requested the Block Ack. (#1493,#2212)