IEEE P802.11
Wireless LANs

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| 11ah SB0 Comment Resolution for 8.2.4 |
| Date: 2016-01-19 |
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Abstract

This submission proposes comment resolutions for the following comments:

8255, 8262, 8278, 8279, 8280, 8503***,*** 8059, 8256, 8190.

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** | **Clause Num** | **P** | **L** | **Comment** | **Propose Change** | **Resolution** |
| 8255 | 8.2.4.1.1 | 75.00 | 62 | The editing instructions to remove "the value of" change technically valid text to be technically invalid. The "field" is a container, not a value...it can contain a value, thus the (correcct) text in the base standard. | Remove incorrect changes as indicated in the comment. | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8262 | 8.2.4.1 | 76.00 | 51 | The combination "Type subfield is 1 and Subtype subfield is equal to 3" is undefined. (Table 8-1 does shows subtype 3 "reserved" for type 1). | Find missing addition to Table 8-1? | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8278 | 8.2.4.1.1 | 76.00 | 16 | there seem to be quite a few type and subtype combinations for which the format of the frame control field is missing | Add a diagram that shows the format of S1G PPDUs that have type equal to 0 or 2 and either the same diagram or yet another one for S1G PPDUs that have type equal to 3 and subtype not equal to 1 | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8279 | 8.2.4.1.1 | 77.00 | 29 | figure 8-3d condition overlaps with figure 8-2 condition - is figure 8-3d supposed to be limited to S1G PPDUs? If it is, then there will need to be yet another figure because 8-2 cannot be used to cover the cases for S1G that are not covered by the corrected figure 8-3d | Add more conditions to remove the overlap between the conditions for figure 8-3d and 8-2 and check the applicability of figure 8-3d vs S1G and add another figure if needed, to cover S1G case of type=3, subtype<>1 | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8280 | 8.2.4.1.1 | 76.00 | 10 | Really, the frame control field cannot be defined here like this and then redefined in 8.8. The FC description should actually contain just two subfields - PV and FCBODY - FCBODY would then be defined depending on the value of PV plus the type and subtype and S1G PPDU information. | Create a new FC field diagram which contains only FC and FCBODY and move all existing FC field diagrams and descriptions to a new subclause within 8.2.4.1.1 called FCBODY field and place all of the existing diagrams and descriptions of subfields of the FC underneath this new FCBODY field subclause, including those that are found within 8.8 PV1 frames | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8503 | 8.2.4.1.1 | 76.00 | 16 | Changes to Figure 8-2 title for the most part are no necessary and should not be made. It is out of scope of this amendment to at the "clarifying" statements "in frames" and "subfield". Hence they should be removed and the style of the title preserved as it currently is in TGmc V4.0, unless changes are made by TGmc | Change Figure 8-2 title to be:"Figure 8-2--Frame Control field when Type is not equal to 1 or Subtype is not equal to 6 or the frame is not an S1G Control frame | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8059 |  | 76. 00 | 16 | "The caption on this figure now reads like an excerpt of most of ""War and Peace"". Likewise the caption at line 36 gives ""the rise and fall of the Roman empire"" a good run for its money.This makes them hard to read, and increases the likelihood that the reader picks the wrong figure." | Define a term for this condition, introduce that term in this subclase, and consider adding to the 802.11-specific definitions and caption Figure 8-2 "... in <new term> frames".Alternatively you might want to use something like "Basic variant Frame Control field", and build a table of conditions that establishes the type of variant (see Block Ack for an example).Likewise for the other variants of the control field. | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8256 |  | 76. 00 | 16 | Caption is excessively wordy and repeats what is stated in the text. | Leave the caption as it appears in the base standard (delete changes to caption) | RevisedTGah Editor makes changes as shown in 11-16/0153r1 |
| 8190 |  | 364 | 40 | "A STA may send security protocol protected or unprotected keep-alive frames, as indicated in the Idle Options field." -- the strikeout changes the functionality of non-S1G STAs, and is therefore outside the scope of 802.11ah. | Restore struck text, and possible insert "non-S1G" before STA. | Revised Generally agree with the commenter.TGah editor changes the first paragraph in 10.24.13 as following “If dot11BssMaxIdlePeriod is a nonzero, the STA shall include the BSS Max Idle Period element in theAssociation Response frame or the Reassociation Response frame. Otherwise, the STA shall not include theBSS Max Idle Period element in the Association Response frame or the Reassociation Response frame. ANon-S1G STA may send security protocol protected or unprotected keepalive frames, as indicated in the Idle Optionsfield.” |

Discussion: the comments are valid. The subclause should be organized to separate frames in non-S1G PPDU and in S1G PPDU.

In non-S1G frame, the following frame control fields are defined:

* Frame Control field when Type is not equal to 1 or Subtype is not equal to 6
* Frame Contrl field when Type is equal to 1 andor Subtype is equal to 6 is defined.

In frame control field of S1G frame, the following frame control fields are defined:

* Frame Control field when Type is not 3 or Type is not equal to 1
* Frame Control field in S1G Control frame when Subtype is not equal to 3 or Subtye is not equal to 10
* Frame Control field when Type is equal to 1 and Subtype is equal to 3
* Frame Control field when Type is equal to 1 and Subtype is equal to 10
* Frame Control field when Type is equal to 3 and Subtype is equal to 1

The FC definitions for S1G Control frames will be moved to 8.3.1.1.

* Frame fields
* Frame Control field
* General

***Change subclause 8.2.4.1.1 as follows (CID 8255, 8262, 8278, 8279, 8280, 8503, 8059, 8256):***

The first three subfields of the Frame Control field are Protocol Version, Type, and Subtype. The remaining subfields of the Frame Control field depend on the setting of the Type and Subtype subfields. The Control frames carried by S1G PPDUs are called S1G Control frames.

For a frame carried in an non-S1G PPDU, when the value of the Type subfield is not equal to 1 or the value of the Subtype subfield is not equal to 6, the remaining subfields within the Frame Control field are: To DS, From DS, More Fragments, Retry, Power Management, More Data, Protected Frame, and Order. In this case, the format of the Frame Control field is illustrated in Figure 8-2 (Frame Control field in non-SIG PPDUs when Type is not equal to 1 or Subtype is not equal to 6)

B0 B1 B2 B3 B4 B7 B8 B9 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ProtocolVersion | Type | Subtype | To DS | From DS | More Fragments | Retry | Power Management | More Data | Protected Frame | Order |

Bits 2 2 4 1 1 1 1 1 1 1 1

Figure 8-2 Frame Control field in non-S1G PPDUs when Type subfield is not equal to 1 or Subtype subfield is not equal to 6

For a frame carried in an non-S1G PPDU, when the value of the Type subfield is equal to 1 and the value of the Subtype subfield is equal to 6, the remaining subfields within the Frame Control field are the following: Control Frame Extension, Power Management, More Data, Protected Frame, and Order. In this case, the format of the Frame Control field is illustrated in Figure 8-3 (Frame Control field in non-S1G PPDUs when Type is equal to 1 and Subtype is equal to 6)

B0 B1 B2 B3 B4 B7 B8 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Protocol Version | Type | Subtype | Control Frame Extension | Power Management | More Data | Protected Frame | Order |

Bits 2 2 4 4 1 1 1 1

Figure 8-3 Frame Control field in non-S1G PPDUs when Type subfield is equal to 1 and Subtype subfield is equal to 6

For a frame carried in an S1G PPDU, when the value of the Type subfield is not 3 or Type subfield is not equal to 1, the remaining subfields within the Frame Control field are: To DS, From DS, More Fragments, Retry, Power Management, More Data, Protected Frame, and Order. In this case, the format of the Frame Control field is illustrated in Figure 8-3a (Frame Control field in SIG PPDUs when Type is not 3 or Type is not equal to 1)

B0 B1 B2 B3 B4 B7 B8 B9 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ProtocolVersion | Type | Subtype | To DS | From DS | More Fragments | Retry | Power Management | More Data | Protected Frame | Order |

Bits 2 2 4 1 1 1 1 1 1 1 1

Figure 8-3a Frame Control field in SIG PPDUs when Type is not 3 or Type is not equal to 1

The Frame Control field definitions for S1G Control frames are defined in 8.3.1.1 Format of Control frames.

For a frame carried in an S1G PPDU, when(#MDR) the Type subfield is equal to 3 and(#MDR) the Subtype subfield is equal to 1,(#6081, 6082) the format of the Frame Control field is shown in Figure 8-3b (Frame Control field format when Type subfield is equal to 3 and Subtype subfield is equal to 1)

B0 B1 B2 B3 B4 B7 B8 B9 B10 B11 B13 B14 B15

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Protocol Version | Type | Subtype | Next TBTT Present | Compressed SSID Preent | ANO Present | BSS BW | Security | AP PM |

Bits 2 2 4 3 1 1 1 1 1

Figure 8-3b Frame Control field when Type is equal to 3 and Subtype is equal 1

8.3.1.1 Format of Control frames

*TGah editor: changes subclause 8.3.1.1 as following (****CID 8255, 8262, 8278, 8279, 8280, 8503, 8059, 8256****):*

In the following descriptions, “immediately previous” frame means a frame whose reception concluded within the SIFS preceding the start of the current frame.

The subfields within the Frame Control field of Control frames that are not S1G Control frames are set as illustrated in Figure 8-18 (Frame Control field subfield values within Control frames).

B0 B1 B2 B3 B4 B7 B8 B9 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ProtocolVersion | Type (Control) | Subtype | To DS (0) | From DS (0) | More Fragments (0) | Retry (0) | Power Management | More Data (0) | Protected Frame (0) | Order (0) |

Bits 2 2 4 1 1 1 1 1 1 1 1

Figure 8-18 Frame Control field subfield values with in Control frames that are not S1G Control frames

For an S1G Control frame, when the(#MDR) Subtype subfield is not equal to 3 or not equal to 10, the(#6081, 6082) format of the Frame Control field is illustrated in Figure 8-18a (Frame Control field in S1G Control frame when the(#MDR) Subtype is not equal to 3 or not equal to 10)

B0 B1 B2 B3 B4 B7 B8 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Protocol Version | Type | Subtype | Bandwidth Indication | Dynamic Indication | Power Management | More Data | Protected Frame | Order |

Bits 2 2 4 3 1 1 1 1 1

Figure 8-18a Frame Control field in in SIG Control frames when subtype is not equal to 3 or Subtype is not equal to 10

For an S1G Control frame, when the(#MDR) Subtype subfield is equal to 3, the(#6081, 6082) format of the Frame Control field is illustrated in Figure 8-18b (Frame Control field for TACK)

B0 B1 B2 B3 B4 B7 B8 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Protocol Version | Type | Subtype | Bandwidth Indication | Dynamic Indication | Next TWT Info Present | More Data | Protected Frame | Reserved |

Bits 2 2 4 3 1 1 1 1 1

Figure 8-18b Frame Control field for TACK

For an S1G Control frame, when the(#MDR) Subtype subfield is equal to 10, the(#6081, 6082) format of the Frame Control field is illustrated in Figure 8-18c (Frame Control field in S1G Control frames when the(#MDR) Subtype is equal to 10)

B0 B1 B2 B3 B4 B7 B8 B10 B11 B12 B13 B14 B15

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Protocol Version | Type | Subtype | Bandwidth Indication | Dynamic Indication | Power Management | More Data | Poll Type |

Bits 2 2 4 3 1 1 1 2

Figure 8-18c Frame Control field in S1G Control frames when Subtype subfield is equal to 10