IEEE P802.11
Wireless LANs

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| Comment Resolution for Subclause 8.2.4.1.1 |
| Date: 2014-01-20 |
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Abstract

This submission proposes resolutions for comments in clause 8.2.4.1.1 of TGah Draft 1.0 with the following CIDs: 1035, 1036, 1037, 1038, 1331, 1413, 1631, 1670, 1671, 1825, 2100, 2157, 2490, 2501, 2617, 2667, 2668, and 2669.

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** |
|  |  |  |  |  |  |  |
| 1035 | 8.2.4.1.1 | 29 | 46 | "Frame Control field in frames except S1G control frames when Type is not equal to 1 or Subtype is not equal to 6"The binding of except is not clear. Does it include "Type is not equal to 1 or Subtype is not equal to 6". | The easiest thing to do is to reword the figure title so that it is unambiguous.A better solution is to define a term "e.g. 'vanilla' Frame Control field" (which can use visual hierarchy, if necessary, to make its meaning clear) and then refer to it here.Likewise with the other two-line conditions present in these figure titles. Perhaps a "skinny-latte" Frame Control field for Figure 8-3a.Once the term is defined, it can be used generally to avoid repetition of these conditions.Perhaps include a table showin the conditions that distinguish named variants of the frame control field near the top of this subclause. | Agree in principle.TGah editor to make changes shown in 11-14-0123r1 |
| 1036 | 8.2.4.1.1 | 30 | 61 | It is quite unusual to re-define the frame control field for a single subtype.Generally, the frame control field is a common structure with fields common to a bunch of frames. | Put the definition of the frame control field, and any fields present in only this variant in the subclause describing the format of the frame that uses it, and reference from here. | Reject.802.11 baseline first put specific frame control field for a single subtype to 8.2.4.1.1 (Type == 1 && Subtype == 6). The commenter should raise the comment to 802.11mc.  |
| 1037 | 8.2.4.1.1 | 31 | 5 | "The Reserved field is 1 bit in length and is set to 0." -- don't say this. The definition of a Reserved field is specied in one place (8.1). | Remove cited text. | Agree.TGah editor to make changes shown in 11-14-0123r1 |
| 1038 | 8.2.4.1.1 | 31 | 7 | "When the value of the Type subfield is equal to 1 and the value of the Subtype subfield is equal to 10, theremaining subfields within the Frame Control field of S1G control frames are the following: BandwidthIndication, Dynamic Indication, Power Management, MoreData, Poll Type."There is no need to say this. Figures are normative. | Refer to the figure and remove the list of fields. | Reject.The style “when the value of the Type..., the remaining subfields ..” is used by 802.11 baseline specification. The commenter should raise the comment to 802.11mc. |
| 1331 | 8.2.4.1.1 | 30 | 63 | Regarding P30L63-P31L12, it seems unlike the structure of the baseline, 11ah D1.0 has defined some of the subfields in 8.2.4.1.1. | Relocate the subfiled defined sentences to approperiate subclauses (similar to other subfileds of the frame control field). | Reject.802.11 baseline first put specific frame control field for a single subtype to 8.2.4.1.1. The commenter should raise the comment to 802.11mc. |
| 1413 | 8.2.4.1.1 | 31 | 7 | multiple ocurrences of the inconsistancy of number representation of fields is detected througout the draft. Please use either binary representation or decimal throught the draft (for example, here there is a 10d for subtype while other places in the subclause there is 0100b) | as in the comment | Reject.The Subtypes in the text of this subclause are all decimal format.  |
| 1631 | 8.2.4.1.1 | 30 | 20 | Throughout this section it appears that a value is given to bit fields without stating the order of the bits, e.g. "When the value of the Type subfield is equal to 1". There needs to be a statement that specifies how a value is assigned to a bitfield, e.g. the bits are assumed to be in big endian order. | Add a normative statement that specifies how a value is assigned to a bitfield. | Reject.In clause 8.2.2 defines the conventions of frame format in the figures. And the Subtypes in the text of this subclause are all decimal format.  |
| 1670 | 8.2.4.1.1 | 30 | 63 | "in length" is a dated and unnecessary descriptor. And the use of "set to" does not follow the Style Guide. | Delete "in length" here and throughout the draft. If the text is confusing without such a description, then "in length" might be replaced with "long". On page.line 31.5 delete "in length". Replace "is set to" with "has value" on 30.63 and 30.64, and on 31.5 replace "it is set to" with "has value". | Reject. “..bit in length” is the style in 802.11 baseline specification. |
| 1671 | 8.2.4.1.1 | 31 | 1 | "flow suspend signaling" is unclear English | Replace "flow suspend" with "flow suspension" here and throughout the draft. | Agree.TGah editor to make changes shown in 11-14-0123r1 |
| 1825 | 8.2.4.1.1 | 51 | 21 | Seems to read somewhat backwards. A Frame control field is different for a data packet or a Control packet. So it can be different for a S1G Control Packet. The inserted text is totally out of place. The last sentence of this opening para is correct and inserting these two sentences is nothing short of confusing. In fact this whole section is confusing. Let me see if I have it right. I receive a Frame Control field with Type 1 and Subtype 6 (a Control Frame Extension) as per Fig 8-3. But if it is a SIG Control Frame it is not Control Frame Extension and it reads as per Fig 8-3a. So the same Type and Subtype, which is supposed to define the frame, now has two meanings - I suggest this is totally wrong. The Type and subtype MUST DEFINE THE PACKET. You need to redo this section and simply sort out what the S1G Control frames are by unique Type and Subtype. | Delete the "are called S1G Control frames" sentences. Sort out the Type and Subtypes so that there is no ambiguity resulting in clear definitions for a S1G Control Frame. If this is to do with PS-Polls used in Speed Frames, then this is a good example how to make it completely unreadable as section 9.44. does not make this clear at all. Let's have a clear control packet that we know what is does do not re-use existing packets and then confuse their use. | Agree in principle with commenter’s analysis.Revised.TGah editor to make changes shown in 11-14-0123r1 |
| 2100 | 8.2.4.1.1 | 30 | 20 | The new S1G control frame definition is not backwardcompatible. The line defines that when type 1 and subtype is not equal to <ANA> and not equal to 10 the frame is always S1G control field. | Define S1G frametype by defining what values should be used in Type and Subtype as positive defination and exclude those from older frame type possibilities as done in .11ad. Not use negative definitions. | Agree in principle with the commenter. The control frame with Subtype 6 will never be transmitted by a S1G STA.Revised.TGah editor to make changes shown in 11-14-0123r1  |
| 2157 | 8.2.4.1.1 | 30 | 60 | Title of figure8-3b is not adequate. Explanation of this figure is about S1G control frame. Hence, a term of "S1G" should be added in the same manner of figure 8-3a. | Change figure 8-3b title to "Frame Control field in S1G when Type is equal to 1 and Subtype is equal to <ANA> | Agree in principle with commenter’s analysis.Revised.TGah editor to make changes shown in 11-14-0123r1 |
| 2490 | 8.2.4.1.1 | 29 | 23 | Aren't S1G control frames identified by the <ANA> subtype, and not by the fact that they were transmitted by an S1G STA? I mean, are we really actually reusing exactly the same type and subtype values and relying on the current PHY attached to define the meanings of the remaining bits of the FC? Or are all of the S1G control frames actually defined through the S1G control extension? | Make the language more definitive, indicating that the frame type is defined according to the bits and not the source of the transmitter, unless this is incorrect, in which case, consider modifying the defintion of the frame subtypes so that the meaning of the bits is not dependent on the attached PHY. | Reject.It is true that 11ah reuse the same Type and Subtype for most control frames. However the following subfields in Frame Control field of 11ah control frames are different from the same control frames in other bands. |
| 2501 | 8.2.4.1.1 | 30 | 39 | Missing some cases. Figure 8-3a--Frame Control field in S1G control frames when Type is equal to 1 and Subtype is not equal to <ANA> and not equal to 10 - and other figures - do not cover all cases and I think that the wording of the first one is wrong. | Change "Figure 8-3a--Frame Control field in S1G control frames when Type is equal to 1 and Subtype is not equal to <ANA> and not equal to 10" to "Figure 8-3a--Frame Control field in S1G control frames when Type is not equal to 1 or Subtype is not equal to <ANA> or not equal to 10" - i think that this change alone fixes all problems. | Revised.“Subtype is not equal to <ANA> or not qeual to 10” is not right since this sondition will give both frames with Sutype 10 and frame with Subtype <ANA> will be true. However S1G Control frame with Subtype 10 or <ANA> is covered by 8-3b and 8-3c. On the other hand, S1G Control frames already implies when Type is equal to 1.See also comment 2667TGah editor to make changes shown in 11-14-0123r1  |
| 2617 | 8.2.4.1.1 | 29 | 12 | The clause on Frame Control Field is becoming very hard to follow with the many options and varieties listed. | The cluase need to be restructures. A sub-cluase dedicated to S1G Contol frames needs to be added and list all the available options. | Reject.8.2.4.1 talks about Frame Control field. It includes the definitions of all subfields in Frame Control field each kind of frame.  |
| 2667 | 8.2.4.1.1 | 30 | 39 | Title of Figure 8-3a is confusing as "Type is equal to 1" refers to control frames which is already mentioned. | Change the title to:"Frame Control field in S1G control frames when Subtype is not equal to <ANA> and not equal to 10" | Agree.TGah editor to make changes shown in 11-14-0123r1 |
| 2668 | 8.2.4.1.1 | 30 | 60 | Title of Figure 8-3b should mention S1G frames. | Change the title to:"Frame Control field in S1G control frames when Subtype is equal to <ANA>" | Agree.TGah editor to make changes shown in 11-14-0123r1 |
| 2669 | 8.2.4.1.1 | 31 | 24 | Title of Figure 8-3c is confusing as "Type is equal to 1" refers to control frames which is already mentioned. | Change the title to:"Frame Control field in S1G control frames when Subtype is equal to 10" | Agree.TGah editor to make changes shown in 11-14-0123r1 |

* General
* The changes are based on 802.11REVmc D1.1.

***Change subclause 8.2.4.1.1 as follows:***

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. A S1G STA never transmit a control frame with Subtype being equal to 6. control

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 of frames except S1G control frames consists of the following subfields: Protocol Version, Type, Subtype, 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 of frames except S1G control frames is illustrated in Figure 8-2 (Frame Control field in frames except S1G control frames 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 |
|  | Protocol Version | 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 |
| * Frame Control field in frames when Type is not equal to 1 or Subtype is not equal to 6or frame is is not S1G Control frame
 |

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 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 |
| * Frame Control field when Type is equal to 1 and Subtype is equal to 6
 |

When the value of the Type subfield is equal to 1 and the value of the Subtype subfield is not equal to <ANA> and not equal to 10, the Frame Control field of S1G control frames consists of the following subfields: Protocol Version, Type, Subtype, Bandwidth Indication, Dynamic Indication, Power Management, More Data, Protected Frame, and Order. The format of the Frame Control field of S1G control frames is illustrated in Figure 8-3a (Frame Control field in S1G control frames when Subtype is not equal to <ANA> and 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 |
| * Frame Control field in S1G control frames when Subtype is not equal to <ANA> and not equal to 10
 |

When the value of the Type subfield is equal to 1 and the value of the Subtype subfield is equal to <ANA>, the remaining subfields within the Frame Control field of S1G control frames are the following: Bandwidth Indication, Dynamic Indication, Next TWT Present, More Data, Flow Control, Reserved(#12). In this case, the format of the Frame Control field is illustrated in Figure 8-3b (Frame Control field when Subtype is equal to <ANA>).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0     B1 | B2   B3 | B4      B7 | B8 B10 | B11 | B12 | B13 | B14 | B15 |
|  | Protocol Version | Type | Subtype | Bandwidth Indication | DynamicIndication | Next TWT Present | More Data | Flow Control | Reserved |
| Bits: | 2 | 2 | 4 | 3 | 1 | 1 | 1 | 1 | 1 |
| * Frame Control field in S1G control frames when Subtype is equal to <ANA>
 |

(#12)

The Next TWT Present field is 1 bit in length and is set to 1 if the Next TWT field is present in the frame. Otherwise, it is set to 0.

The Flow Control field is 1 bit in length and is used for flow suspension signaling as described in 9.48.4 (Flow control).

When the value of the Type subfield is equal to 1 and the value of the Subtype subfield is equal to 10, the remaining subfields within the Frame Control field of S1G control frames are the following: Bandwidth Indication, Dynamic Indication, Power Management, More Data, Poll Type. In this case, the format of the Frame Control field is illustrated in Figure 8-3c (Frame Control field in S1G control frames when Subtype is equal to 10).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0     B1 | B2   B3 | B4      B7 | B8 B10 | B11 | B12 | B13 | B14 B15 |
|  | Protocol Version | Type | Subtype | Bandwidth Indication | DynamicIndication | PowerManagement | More Data | Poll Type |
| Bits: | 2 | 2 | 4 | 3 | 1 | 1 | 1 | 2 |
| * Frame Control field in S1G control frames when Subtype is equal to 10
 |