IEEE P802.11
Wireless LANs

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| LB 200 Comment Resolution for Clause 8.7.4 |
| Date: 2014-01-01 |
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Abstract

This submission proposes resolutions for comments in clause 8.7.4 of TGah Draft 1.0 with the following CIDs:

2430, 1166, 1167, 1168, 1452, 1453, 1555, 1556, 1557, 2213, 2214, 2306, 2307, 2432, 2433, 2434, 2551, 2569, 2741

1169, 1170, 1454, 1454, 1558, 2215, 2552

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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 2430 | 143.14 | 8.7.4 | "The Reserved field is 1 bit in length and is set to 0." | "The Reserved field is 1 bit in length." | Agree with the commenter.Revised – TGah Editor to make the changes proposed by the commenter.  |
| 1166 | 143.26 | 8.7.4.1 | Figure 8-532e and f don't follow WG11 style for figures. The "Octets:" row should occur below the boxes. | Review all Clause 8 "octet oriented" figures and ensure compliance to the WG11 style. | Agree with the commenter.Revised –TGah Editor to move the row starting with “Octets” below the boxes in each of the following figures: Fig. 8-18 (PS-Poll frame), Fig. 8-29m (TACK frame format), Fig. 8-56 (Resource Allocation frame format), Fig. 8-532e (STACK frame format), Fig. 8-532f (BAT frame format), and Fig. 8-532h (Short Management frame format). |
| 1167 | 143.59 | 8.7.4.1 | " the least significant four bytes " -- we don't use bytes as a unit. | bytes -> octets (globally, 28 instances) | Agree with the commenter.Accepted –TGah Editor to replace all occurrences of “bytes” with “octets” and “Bytes” with “Octets” throughout the 802.11ah Draft to become D2.0. |
| 1168 | 143.60 | 8.7.4.1 | "time that the data symbol containing the first bit of the Tetrapartial Timestamp valueis transmitted to the PHY" -- but symbols are not transmitted to the PHYAlso symbols are long compared to the TSF timer. So we need to specify the start or end of the symbol as the timing reference. | "the data symbol" -> "start of the data symbol""to the PHY" -> "by the PHY"Make matching change at 144.25. | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 1452 | 143.25 | 8.7.4.1 | The STACK frame is a Short frame and as such should follow Short Frame general frame conventions, i.e., consists of Frame Control, A1, A2, etc/. Also there is a conflict for TA field as there are two accepted solutions. | In Figure 8-532e replace: "FC" with "Frame Control", "AID (RA)" with "A1", "TA" with "A2". Replace "The RA field contains the AID of the intended recipient of the frame: with " "The A1 field is an SID field that contains the AID of the intended recipient of the frame." Replace "The TA field contains the concatenation of one octet of the Service field and the least significant octet of the FCS field of the eliciting frame." with "The A2 field contains the concatenation of one octet of the Service field, prior to descrambling, and the least significant octet of the FCS field of the eliciting frame." Remove sentence starting in line 42 of page 143: "When the STACK frame is transmitted by a non-AP STA that is associated with an infrastructure BSS, the TA field contains the AID of the STA transmitting the STACK frame, otherwise, the TA field contains a partial BSSID." | Agree with the commenter. Proposed change is included in this resolution (part of it is the same resolution as 2569).Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 1453 | 143.59 | 8.7.4.1 | Paragraph starting from line 59 describes the contents of the Tetrapartial Timestamp field which is already described in the previous paragraph in line 47. Hence it is redundant. | Remove paragraph starting in line 59 of page 143. | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 1555 | 143.45 | 8.7.4.1 | Where is a "partial BSSID" defined? | None yet. Clarify | Agree with the commenter. The resolution of CID 1452 removes the paragraph that contains “partial BSSID”. Revised –TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 1556 | 143.55 | 8.7.4.1 | "Tetrapartial Timestamp" should be "Tetrapartial Timestamp/Next TWT" | As indicated | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 1557 | 143.59 | 8.7.4.1 | The paragrah seems to repeat the material in the paragraph starting on line 47 | Remove duplicated material | Agree with the commenter. Proposed change is included in this resolution (same proposed resoluition as CID 1452).Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2213 | 143.33 | 8.7.4.1 | The STACK frame format in Figure 8-532e does not comply with the short frame format defined in Figure 8-532a, as one of A1 and A2 needs to be 6-byte address, not 2-byte.Also, please note that it won't work in OBSS environment if both A1 and A2 are 2-byte addresses. | please clarify | The A2 of the STACK frame is obtained from the Service and from the FCS field of the eliciting PPDU. The probability of these values being the same as a STACK generated by another OBSS STA is extremely low.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2214 | 143.59 | 8.7.4.1 | The parapgrah in line 59 page 143 repeats some of the text in the paragraph in line 47 page 143. | Delete the paragraph in line 59 page 143. | Agree with the commenter. Proposed change is included in this resolution (same proposed resoluition as CID 1452).Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2306 | 143.34 | 8.7.4.1 | "The RA field contains the AID of the intended recipient of the frame."Where is 13-bit AID put in 2-byte AID field? | Clarify it. | Agree with the commenter. Proposed resolution is to specify that the RA (A1) field is an SID field that contains the AID field. Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2307 | 143.39 | 8.7.4.1 | "one octet of the Service field"Which one octet is it? | Clarify it. | There is only one octet in the Service field. Some clarifications are added below.Revised –TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2432 | 143.40 | 8.7.4.1 | This paragraph seems completely bogus (and frames = MPDUs don't have a Service field) | Delete | Agree in principle with the commenter. Proposed resolution is to refer to the PSDU that contains the frame. Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2433 | 143.52 | 8.7.4.1 | The IR PHY is dead (also at 144.28) | Delete the parenthesis (bracketesis?) | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2434 | 143.59 | 8.7.4.1 | This paragraph duplicates text two paragraphs above | Delete | Agree with the commenter. Proposed change is included in this resolution (same proposed resoluition as CID 1452).Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2551 | 143.34 | 8.7.4.1 | It is not clear the RA field of STACK frame contains whether the SID filed (Figure 8-532c) or the AID filed (8.4.1.8).To be consistent with general short frame format, it shall be specified to use SID field. | Replace "AID" in the Figure 8-532e and the 2nd paragraph of 8.7.4.1 by "SID". | Agree in principle with the commenter. Proposed change is accounted for in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2569 | 143.39 | 8.7.4.1 | While A1 filed of STACK frame is AID (SID), the STACK frame can not be sent from non-AP STA. So, the 1st sentence of the 4th paragraph (When the STACK frame is transmitted by a non-AP STA ..) is not valid. Also, the partial BSSID specified in 9.17b is only 9bit and wastes 7bits of TA field. | Remove the 4th paragraph. | Agree with the commenter. Proposed resolution is to remove that paragraph. Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |
| 2741 | 143.39 | 8.7.4.1 | The text contradicts with P143L43 | Please clarify (suggest to remove P143L43) | Agree with the commenter. Proposed change is included in this resolution (same resolution as 2569).Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 2430 to 2741. |

**Discussion:** *None.*

* **Short Control frames(#561)**

**Instructions to TGah Editor*: Change Figure 8-532d as shown below:***

The subfields within the Frame Control field of short Control frames are set as illustrated in Figure 8-532d (Frame Control field subfield values within Short Control frames).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B1 | B2 B4 | B5 B7 | B8 B10 | B11 | B12 | B13 | B14 | B15 |
|  | Protocol Version(1) | Type(Control) | PTID/Subtype | BandwidthIndication | DynamicIndication | NextTWTPresent | MoreData | FlowControl | Reserved |
| Bits: | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 |
| * **Frame Control field subfield values within Short Control frames**
 |

Table 8-301d (Short Control frame subtypes) defines the different short Control frame subtypes.

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| --- |
| * **Short Control frame subtypes**
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| **PTID/Subtype value****b8 b7 b6** | **Subtype description** |
| 000 | STACK |
| 001 | BAT(#560) |
| 010-111 | Reserved |

The Bandwidth Indication field which is 3 bits in length and the Dynamic Indication field which is 1 bit in length are described in 8.2.4.1.11 (Bandwidth Indication and Dynamic Indication fields).

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

The More Data field is 1 bit in length and is described in 8.2.4.1.8 (More Data field).

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

The Reserved field is 1 bit in length and is set to 0.

* **STACK frame format(#561)**

**Instructions to TGah Editor*: Change this subclause as follows:***

The frame format of the Short TWT Acknowledgement (STACK) frame is defined in Figure 8-532e (STACK frame format):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Octets: | 2 | 2  | 2  | 4  | 4  |
|  | Frame Control | A1 | A2 | Tetrapartial Timestamp/Next TWT | FCS  |
| * **STACK frame format**
 |

The A1 is an SID field that contains the AID of the intended recipient of the frame in the AID subfield. The A2 is an SID field that contains the bit sequence Scrambler Initialization[0:6] || FCS[23:31] (“||” is concatenation) obtained from the Scrambler Initialization value in the Service field (as defined in 24.3.9.2 (SERVICE field)), prior to descrambling, and the FCS field of the PSDU that carries the soliciting frame.

If the Next TWT Present field in the Frame Control field is equal to 0, the Tetrapartial Timestamp/Next TWT field contains the least significant four octets of the value of the transmitting STA's TSF timer at the time that the start of the data symbol, containing the first bit of the Tetrapartial Timestamp, is transmitted by the PHY plus the transmitting STA's delays through its local PHY from the MAC-PHY interface to its interface with the WM.

If the Next TWT Present field in the Frame Control field is equal to 1, the Tetrapartial Timestamp/Next TWT field contains the next TWT value for the intended recipient of the frame given as the lowest four bytes of the TSF time for the next TWT.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 1169 | 144.01 | 8.7.4.2 | Don't force your readers to visit the abbreviations. | Expand the acronym in the header. | Agree in principle with the commenter. Proposed change is to expand the acronym in the first paragraph of STACK and BAT subclauses. Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |
| 1170 | 144.23 | 8.7.4.2 | This amendment ocassionally a style where square brackets are used to introduced extra material. See 144.28. This is an incorrect usage (see http://www.grammar-monster.com/lessons/brackets\_round\_and\_square\_brackets.htm). | Replace square brackets with round ones at: 144.28 and 143.51. | Rejected –Agree with the commenter. But given that proposed resolution for CID 2433is to remove the content within the brackets (including the brackets) no more changes are required to the text. |
| 1454 | 144.10 | 8.7.4.2 | Similar observations as with STACK: BAT should follow the general short frame format (frame control, a1, a2 etc. | In Figure 8-532f replace: "FC" with "Frame Control", "AID (RA)" with "A1", "TA" with "A2". Replace "The RA field contains the AID of the intended recipient of the frame: with " "The A1 field is an SID field that contains the AID of the intended recipient of the frame." Replace "The TA field contains the address of the transmitter sending the frame." with "The A2 field contains the address of the transmitter sending the frame." | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |
| 1455 | 144.30 | 8.7.4.2 | The Next TWT field in the BAT frame is optionally present which means that the length of this control response frame can be either 26 or 32 bytes. Hence, it is not clear what value the STA soliciting a BAT frame should use to calculate the Duration field of the soliciting frame. In addition it creates problems for RID setting of third party STAs as they assume a 32 byte long control response to calculate their RID. To avoid these ambiguities simply have BAT frames of 32 bytes. Similar considerations hold for the TACK frame defined in 8.3.1.21. | unify the length of control response frames | Agree with the commenter. Proposed resolution is to clarify that the Next TWT field is present in BAT frames. As for TACK frames the length of the control response may change upon request of the eliciting STA as specified in 9.42.4.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |
| 1558 | 144.18 | 8.7.4.2 | The text states, "The TA field contains the address of the transmitter". Is this a 48 bit MAC address, or some other address. | Clarify | Agree with the commenter. Proposed resolution is to clarify that it is the MAC address of the transmitter.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |
| 2215 | 144.33 | 8.7.4.2 | What's "this field" in the sentence in line 33 page 144? The Next TWT Present field? Or The Next TWT field? | Change the sentence in line 33 page 144 to the following:A value of 0 in the Next TWT Present field means that the frame does not carry a Next TWT value. | Agree in principle with the commenter. Proposed resolution is to clarify the Next TWT field is reserved if next TWT Present field is set to 0.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |
| 2552 | 144.15 | 8.7.4.2 | It is not clear the RA field of BAT frame contains whether the SID filed (Figure 8-532c) or the AID filed (8.4.1.8).To be consistent with general short frame format, it shall be specified to use SID field. | Replace "AID" in the Figure 8-532f and the 2nd paragraph of 8.7.4.2 by "SID". | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0040r0 under the heading for CIDs from 1169 to 2552. |

**Discussion:** *None.*

* **BAT frame format(#560)**

**Instructions to TGah Editor*: Change this subclause as follows:***

The frame format of the Block Acknowledgement TWT (BAT) frame is defined in Figure 8-532f (BAT frame format):

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Octets: | 2 | 2 | 6 | 1 | 5 | 6 | 2 | 4 | 4 |
|  | Frame Control | A1  | A2  |  Beacon Sequence | Pentapartial Timestamp | Next TWT | Starting Sequence Control | BAT Bitmap | FCS  |
| * **BAT frame format**
 |

The A1field is an SID field that contains the AID of the intended recipient of the frame. The A2 field contains the MAC address of the transmitter sending the frame.

The Beacon Sequence field contains the value of the Change Sequence Field from the most recently transmitted Beacon.

The Pentapartial Timestamp field contains the least significant five octets of the value of the transmitting STA’s TSF timer at the time that the start of the data symbol, containing the first bit of the Pentapartial Timestamp, is transmitted by the PHY plus the transmitting STA’s delays through its local PHY from the MAC-PHY interface to its interface with the WM.

If the Next TWT Present field is set to 1 in the Frame Control fieldthen the Next TWT field contains the next TWT value for the intended recipient of the frame given as the lowest six bytes of the TSF time for the next TWT. Otherwise, the Next TWT field is reserved.

The Starting Sequence Control field contains the sequence number of the first MSDU and the TID for which this BAT frame is sent and is defined in Figure 8-532g (Starting Sequence Control field):

|  |  |  |
| --- | --- | --- |
|  | B0 B3 | B4 B15 |
|  | BAT TID | Starting Sequence Number |
| Bits: | 4 | 12 |
| * **Starting Sequence Control field**
 |

The BAT Bitmap subfield is 32 bits in length and is used to indicate the received status of up to 32 MSDUs and A-MSDUs. Each bit that is equal to 1 in the BAT Bitmap acknowledges the successful reception of a single MSDU or A-MSDU in sequentially increasing sequence number order, with the first bit of the BAT Bitmap corresponding to the MSDU or A-MSDU with the sequence number that matches the value of the Starting Sequence Number subfield of the BAT frame.