IEEE P802.11
Wireless LANs

|  |
| --- |
| LB 205 Comment Resolution for 8.8, 9.42l, 8.4.2.170x |
| Date: 2014-12-20 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Alfred Asterjadhi | Qualcomm Inc. | 5775 Morehouse Dr, San Diego, CA 92109 | +1-858-658-5302 | aasterja@qti.qualcomm.com |
| Qi Xue | Qualcomm Inc. |  |  |  |
| Menzo Wentink | Qualcomm Inc. |  |  |  |

Abstract

This submission proposes resolutions for comments in 8.8, 9.42l, 8.4.2.170x of TGah Draft 3.0 with the following CIDs:

* 5199, 5233, 5329, 5232, 5277, 5401

Revisions:

- Rev 0: Initial version of the document

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** | **Commenter** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 5199 | Liwen Chu | 179.45 | 8.4.2.170x | Change"Otherwise, it is set to 0 to indicate either no storage request or unsuccessful storage response of the A3 field."to "Otherwise, it is set to 0 in the Header Compression request (combined with 0 in Store A4, CCMP Update Present) to request release the stored A3 or set to 0 in the Header Compression request where one of Store A4, CCMP Update Present is not 0 to indicate no storage request for A3, and it is set to 0 in the Header Compression response to confirm the release of the stored A3 or unsuccessful storage response of the A3 field." | As in comment and in clause 9.42l makes the related changes. | Revised –It is not clear from the comment whether it identifies a technical issue or not. It seems that the proposed change in the comment itself is to clarify the description of Store A3 (and for similarity also of the Store A4 and CCMP Update fields) depending on whether the element is a request or a response. The proposed resolution is to better describe these cases.TGah editor to make the changes shown in 11-14/1616r0 under all headings that include CID 5199. |
| 5233 | Liwen Chu | 327.35 | 9.42l | A sensor type device must be able to receive both short data frames and normal data frames. The reception procedure and related decryption make the design complicate. | Allow a sensor device to announce only accept the short frames. | Revised –Generally agree with the commenter. Currently D3.0 specifies that a STA implementing PV1 frames should transmit PV1 frames to another STA that supports them (sensor STA is one of them). However it is reasonable for a STA that implements PV1 frames shall transmit PV1 frames to the peer STA that supports their reception.TGah editor to make the changes shown in 11-14/1616r0 under all headings that include CID 5233. |
| 5329 | Alfred Asterjadhi | 328.08 | 9.42l | A3 and/or A4 can't be ommited only if they are different from A1/A2 fields (see 8.8.3.2). | Insert the following " the Header Compression request indicated 1 and" immediately after the "for which " of the last sentence. | Revised –Agree in principle with the commenter. Proposed resolution is to clarify that the addresses can’t be omitted only when they are different from the A1 and/or A2 fields as suggested by the comment. However the same applies for the DA and/or SA fields of an A-MSDU that is carried in a PV1 frame (see 8.3.2.2.4 for the descriptive text). Hence we propose to add the missing normative text in subclause 9.12.TGah editor to make the changes shown in 11-14/1616r0 under all headings that include CID 5329. |
| 5232 | Liwen Chu | 202.25 | 8.8.3.1 | There are two short MAC data frame format: 1) AID + MAC address, 2) two MAC address. Two MAC adress format is less useful and make the encryption/decryption complicate. | Remove Short Frame Type 3 or make it optional | Revised –This comment is very similar to the CIDs 3744 and 3676 of past LB200 both of which were rejected as both of them asked removing this type 3 short but failed to provide a technical issue. In the case of CID 5232 the comment points out that the reception of these frame would make encryption/decryption complicated. As such the proposed resolution is to allow the receiver indicate receive support for this type of frame which should address the concerns expressed by the comment. TGah editor to make the changes shown in 11-14/1616r0 under all headings that include CID 5232. |
| 5277 | Alfred Asterjadhi | 200.54 | 8.8.1 | Need to keep consistency between the use of "Short" and "PV1" terminology. | Replace:- "Short frame" with "PV1 frame"- "Short frames" with "PV1 frames"- "Short MAC header" with "PV1 MAC header"- "short MAC header" with "PV1 MAC header"- "Short MAC frame" with "PV1 MAC frame"- "Short MAC frames" with "PV1 MAC frames"- "Short Control" with "PV1 Control"- "Short Management" with "PV1 Management"- "Short QoS Data" with "PV1 QoS Data"- "Short Data" with "PV1 QoS Data"- "dot11ShortMACHeaderOptionImplemented" with "dot11PV1MACHeaderOptionImplemented"throughout the draft. | AcceptedNote to TGah editor: This is an inline instruction. |
| 5401 | Mitsuru Iwaoka |  |  | "Short frame", "Short MAC frame", "Short Data frame", "Short Control frame", and "Short Management frame" are used throughout the draft. Their exact definitions are not provided. | Solution 1) Replace all occurrences of "Short frame", "Short MAC frame", "Short Data frame", "Short Control frame", and "Short Management frame" by "PV1 frame", "PV1 MAC frame", "PV1 Data frame", "PV1 Control frame", and "PV1 Management frame" correspondingly.or,Solution 2) Add definitions of "Short frame", "Short MAC frame", "Short Data frame", "Short Control frame", and "Short Management frame" to clause 3.2 and clause 8.8. | Revised –Agree with the comment. Proposed resolution is the same as for CID 5277 (which is inline with solution 1 of the proposed change). TGah Editor to execute the instructions for CID 5277. |

**Discussion:** *None.*

* **Header Compression element**

The Header Compression element is used by a STA to inform its intended receiver regarding information it needs to store. The format of the Header Compression element is illustrated in Figure 8-575a54 (Header Compression element format).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Element ID | Length | HeaderCompressionControl | A3 (optional) | A4 (optional) | CCMP Update (optional) |
| Octets: | 1 | 1 | 1 | 0 or 6 | 0 or 6 | 0 or 5 |

* **Header Compression element format**

The Element ID and Length fields are defined in 8.4.2.1 (General).

The Header Compression Control field is 1 octet and is illustrated in Figure 8-575a55 (Header Compression Control field).

**TGah Editor: *Change the figure below as follows (#5232):***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 | B3 | B4 | B5 B7 |
|  | Request/ Response | Store A3 | Store A4 | CCMP Update Present | PV1 Data Type 3 Supported | Reserved |
| Bits: | 1 | 1 | 1 | 1 | 1 | 3 |

* **Header Compression Control field**(#3937, 3281, 3649)

The Request/Response subfield is set to 0 to indicate a Header Compression request and set to 1 to indicate a Header Compression response.

**TGah Editor: *Change the three paragraphs below as follows (#5199):***

The Store A3 subfield is set to 1 to request the intended receiver of the Header Compression request to store the A3 field and is set to 1 in the Header Compression response to confirm storing of the A3 field. Otherwise, it is set to 0 in the Header Compression request to indicate no storage request for the A3 field and is set to 0 in the Header Compression response to indicate unsuccessful storage or release of the stored A3 field.

The Store A4 subfield is set to 1 to request the intended receiver of the Header Compression request to store the A4 field and is set to 1 in the Header Compression response to confirm storing of the A4 field. Otherwise, it is set to 0 in the Header Compression request to indicate no storage request for the A4 field and is set to 0 in the Header Compression response to indicate unsuccessful storage or release of the stored A4 field.

The CCMP Update Present subfield is 1 bit and is set to 1 to indicate the intended receiver of the Header Compression request to update the base packet number (BPN) and Key ID fields for the specified TID/ACI in the CCMP Update field and is set to 1 in the Header Compression response to confirm the update of the fields or to indicate decryption error for the specified TID/ACI(#4195, 3143). Otherwise, it is set to 0 in the Header Compression request to indicate no CCMP update request and is set to 0 in the Header Compression response to indicate no CCMP update confirmation.

**TGah Editor: *Insert a new paragraph below as follows (#5232):***

The PV1 Data Type 3 Supported subfield is set to 1 to indicate that reception of PV1 frames with Type field equal to 3 is enabled. Otherwise it is set to 0.

The A3 field in the Header Compression element is present if the Request/Response subfield is 0 and the Store A3 subfield is 1. Otherwise, it is not present.

The A4 field in the Header Compression element is present if the Request/Response subfield is 0 and the Store A4 subfield is 1. Otherwise, it is not present.

The CCMP Update field in the Header Compression element is present(#4195) if the CCMP Update Present subfield is 1. Otherwise, it is not present.

The CCMP Update field is 5 octets and contains the BPN and Key ID for a given TID/ACI(#3143), as illustrated in Figure 8-575a56 (CCMP Update field).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 B31 | B32 B33 | B34 B37 | B38 B39 |
|  | BPN | Key ID | TID/ACI | Reserved |
| Bits: | 32 | 2 | 4 | 2 |

* **CCMP Update field**

The BPN subfield contains the base packet number (BPN) for the TID/ACI(#3143) in the CCMP Update field. The BPN subfield consists of the PN2, PN3, PN4, and PN5 octets, as illustrated in Figure 8-575a57 (BPN subfield).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 B7 | B8 B15 | B16 B23 | B24 B31 |
|  | PN2 | PN3 | PN4 | PN5 |
| Bits: | 8 | 8 | 8 | 8 |

* **BPN subfield**

The Key ID subfield contains the Key ID for the TID/ACI(#3143) included in the CCMP Update field.

The TID/ACI(#3143) subfield contains the TID/ACI(#3143) for which the BPN and the Key ID subfields apply.

**9.55 Generation of PV1 MPDUs and header compression procedure**(#3637 et. al.)

***TGah Editor: Change the two paragraphs below as follows (#5233):***

An S1G STA that sets the STA Type Support subfield in a transmitted S1G Capabilities element to 0 or 1, as described in 10.44c.7 (S1G BSS type and STA type), shall set the PV1 Frame Support subfield in the S1G Capabilities element to 1. An S1G STA that sets the STA Type Support subfield in a transmitted S1G Capabilities element to 2 may set the PV1 Frame Support subfield in the S1G Capabilities element to 0.

An S1G STA shall not transmit PV1 MPDUs with the Type subfield equal to 0, 1 or 3 to a peer STA unless the PV1 Frame Support subfield of the S1G Capabilities element received from the peer STA contained a value of 1. An S1G STA with dot11ShortMACHeaderOptionImplemented equal to true shall use the PV1 format instead of the PV0 format to transmit QoS Data, Action, and Action No Ack frames that are individually addressed to a peer STA from which it has received an S1G Capabilities element with PV1 Frame Supported subfield equal to 1.

NOTE-- An S1G STA can use the PV1 format to transmit group addressed frames as described in 9.52 (Multicast AID).

The Header Compression procedure enables S1G STAs to store addresses and/or update security parameters at the receiver.

**TGah Editor: *Change the two paragraphs below as follows (#5232):***

An S1G STA with dot11ShortMACHeaderOptionImplemented(#4016) equal to true may include a Header Compression element in (Re) Association Request frames, (Re) Association Response frames and in Header Compression frames. The STA may set the PV1 Data Type 3 Supported subfield in the Header Compression element to 1 to indicate that it supports reception of PV1 frames that have the Type subfield in the Frame Control field equal to 3.

After association, an S1G STA with dot11ShortMACHeaderOptionImplemented(#4016) equal to true may transmit Header Compression frames and Short frames. An S1G STA shall not transmit PV1 frames with Type subfield equal to 3 to a peer STA unless the PV1 Data Type 3 Supported subfield is 1 in the most recently received Header Compression element sent by the peer STA. A non-S1G STA shall not transmit Header Compression frames or Short frames.

NOTE- A Short frame is an MDPU with Protocol Version field in the Frame Control field equal to 1 (see 8.8 (MAC frame format for PV1 frames)).

The header compression procedure uses a Header Compression element, which is referred to as a Header Compression request or a Header Compression response, depending on the Request/Response subfield setting of the Header Compression element.

**TGah Editor: *Change the paragraphs below as follows (#5329):***

A STA that transmits PV1 frames with Type subfield equal to 0 shall include the A3 field if the value of this field:

* Is not equal to the address identified by the A1 field and an A3 is not stored at the receiver
* Is not equal to the A3 stored at the receiver.

Otherwise, the A3 field shall not be included in the frame.

A STA that transmits PV1 frames with Type subfield equal to 0 shall include the A4 field if the value of this field:

* Is not equal to the address identified by the A2 field and an A4 is not stored at the receiver
* Is not equal to the A4 stored at the receiver.

Otherwise, the A4 field shall not be included in the frame.

An S1G STA indicates a request to store address fields by sending a Header Compression request with the Store A3 and/or Store A4 subfields equal to 1. Upon receipt of such a request, the receiving STA shall respond with a Header Compression response indicating which of the optional fields it stores, by setting the Store A3 and/or Store A4 subfields in the transmitted Header Compression response to 1(#3705). Stored address fields can subsequently be omitted from the MAC header of Short frames transmitted by the STA that sent the Header Compression request. Address A3 and/or A4 fields for which the Header Compression response indicated 0 are not stored at the receiver and can't be omitted by the transmitter when the A3 and/or A4 fields contain values that are different from the A1 and/or A2 fields of the same(#3705).

An S1G STA indicates a request to update security parameters by sending a Header Compression request with the CCMP Update subfield equal to 1. The receiver STA shall respond with a Header Compression response acknowledging receipt of the updated security parameters.

After sending a Header Compression request, an S1G STA shall postpone the transmission of Short frames that do not include the fields that were requested to be stored(#3143) to the recipient of the Header Compression request until it receives the corresponding Header Compression response.

After receiving a Header Compression request, an S1G STA shall store and activate the included addresses it intends to store and/or the security information included in the Header Compression request before transmitting the corresponding Header Compression response.

When no Header Compression response has been received in response to a Header Compression request within dot11HeaderCompressionResponseTimeout, an S1G STA shall transmit another Header Compression request.

**TGah Editor: *Change the paragraph below as follows (#5199):***

A STA that receives a Short frame with one or more compressed addresses that it has not stored or which causes a decryption error should transmit an unsolicited Header Compression response to the transmitter of the Short frames, in which the Store A3, and Store A4 fields are all equal to 0. The unsolicited Header Compression response shall include the TID/ACI of the received Short frame in the TID/ACI subfield of the CCMP Update field if the received frame caused a decryption error, where the CCMP Update field shall indicate the stored values for the BPN and Key ID that correspond to the received Short frame.(#4195, 3143)

A STA that has previously transmitted PV1 frames of a given TID/ACI to a peer STA and(#3637, et. al.) that receives an unsolicited Header Compression response from the peer STA relative to that TID/ACI(#3637, et. al.) shall transmit a Header Compression request to the transmitter of the Header Compression response. The Header Compression request shall include all the addresses that the transmitting STA requests to be stored at the receiver and/or the security information that corresponds to the indicated TID/ACI.(#4195, 3143)

9.12 A-MSDU operation

**TGah Editor: *Change the paragraph below as follows (#5329):***

An S1G STA transmitting an A-MSDU shall use only the Dynamic A-MSDU subframe format (see 8.3.2.2.4 (Dynamic A-MSDU format)). The DA Present and SA Present subfields in the Subframe Control field of each Dynamic A-MSDU subframe shall be set to 1 unless the frame carrying the A-MSDU is a Short frame (see 8.8 (MAC frame format for PV1 frames)).

An A-MSDU carried in a PV1 frame shall include the DA field in a Dynamic A-MSDU subframe if the value of this field:

* Is not equal to the value of the A3 stored at the recipient
* Is not equal to the value of the A3 field of the frame when an A3 is not stored at the recipient
* Is not equal to the value of the address identified by the A1 field when an A3 field is not present in the frame and an A3 is not stored at the recipient

Otherwise, the DA field shall not be included in the Dynamic A-MSDU subframe.

An A-MSDU carried in a PV1 frame shall include the SA field in a Dynamic A-MSDU subframe if the value of this field:

* Is not equal to the value of the A4 stored at the recipient
* Is not equal to the value of the A4 field of the frame when an A4 is not stored at the recipient
* Is not equal to the value of the address identified by the A2 field when an A4 field is not present in the frame and an A4 is not stored at the recipient

Otherwise, the SA field shall not be included in the Dynamic A-MSDU subframe.