IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CR on BQR Part 2 | | | | | | Date: 2018-04-25 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | Email | | Zhou Lan | Broadcom Ltd. | 250 Innovation Drive San Jose CA 95134 | (+1) 408 543 3450 | [zhou.lan@broadcom.com](mailto:zhou.lan@broadcom.com) | | Chunyu Hu | Broadcom Ltd. | 250 Innovation Drive San Jose CA 95134 |  | [chunyu.hu@broadcom.com](mailto:chunyu.hu@broadcom.com) | | Matthew Fischer | Broadcom Ltd. | 250 Innovation Drive San Jose CA 95134 |  | [matthew.fischer@broadcom.com](mailto:matthew.fischer@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

Comment resolution with proposed changes to TGax D2.0 for CIDs from the WG LB for TGax related to BQR.

The CID list is:

11095, 11491, 12496, 12497, 13850.

The proposed changes on this document are based on TGax Draft 2.0.

**REVISION NOTES:**

R0: Initial draft with comments from group.

**END OF REVISION NOTES**

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.***

**CIDs**

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| 11095 | Adrian Stephens | 243.64 | 27.5.2 | " the response A-MPDU shall contain MPDUs in the order described in Table 9-428 (A-MPDU contents MPDUs in the control response context)." -- there is no need to state this, because the STA is already subject to the requirements of clause 9. | Turn into a NOTE and remove normative language. | Accepted-  Agree in principle.  TGax editor makes changes as shown in 11-18/745 that are marked with CID 11095 |
| 11491 | Chao Chun Wang | 243.19 | 27.5.2 | If AP do not indicate its support BQR, why will an STA send its BQR report to AP. The "otherwise ...." sentence is not necessary. | Delete "otherwise ...." sentence. | Rejected-  “Otherwise” indicates the case that AP indicates no support of BQR, in such case, the STA shall not send BQR. |
| 12496 | Liwen Chu | 243.52 | 27.5.2 | Add the following text at the end of the sentence: and the STA wants to report the channel available information | As in comment | Revised-  Agree in principle. Per D2.3 the sentence has changed to a new location. Propose to make changes accordingly.  TGax editor makes changes as shown in 11-18/745 that are marked with CID 12496 |
| 12497 | Liwen Chu | 243.60 | 27.5.2 | CS Required for BQRP and the solicited acknowledge contradict with each other. Solution: BQRP's CS required can be 0, however the idle channel report should be based on ED and NAV. | As in comment | Revised-  Agree in principle. Corresponding changes need to be made in this section and section 27.5.3.5.  TGax editor makes changes as shown in 11-18/745 that are marked with CID 12497 |
| 13850 | Yonggang Fang | 243.04 | 27.5.2 | As a STA supports to send the BQR (Bandwidth Query Report) in unsolicited way via attaching BQR to any frame and in solicited way to respond to BQRP, it would be better to change Bandwidth Query Report to Bandwidth Report or Bandwidth Usage Report (i.e. remove "query"). In addition, the BQRP needs to change to "Bandwidth Report Poll" or "Bandwidth Usage Report Poll" as "Query" and "Poll" mean the same thing. | as suggested in the comment | Rejected-  The proposed new term doesn’t provide extra clarity. |

**Discussion:**

None

**Proposed Changes to Draft Text of TGax D2.3:**

TGax editor: change the following section as follows

**27.5.2 HE bandwidth query report operation for MU**

(#12492)A non-A STA(#13827) may send BQRs to an AP to assist DL MU and UL MU resource allocation in an efficient way. The non-AP STA may either implicitly deliver BQRs in the BQR Control subfield(# 14137) of a frame transmitted to the AP (unsolicited BQR) or explicitly deliver BQRs in a frame(#12494) sent to the AP in response to a BQRP Trigger frame (solicited BQR).

A non-AP STA reports its channel availability information (unsolicited BQR) to the AP to which it is associated using the BQR Control subfield(#14137) of frames it transmits as defined below:

* The HE STA may report the channel availability information as specified in 28.3.19.6.5 (Per 20 MHz CCA sensitivity) in the BQR Control subfield(#14137) of frames it transmits if the AP has indicated its support in the BQR Support subfield of its HE Capabilities element; otherwise the STA shall not report the channel availability information in the BQR Control subfield(#14137).

NOTE—The STA can send an unsolicited BQR in response to certain Trigger frames except MU-RTS and BQRP (with or without RA-RUs(#11033), as defined in 27.5.3.3 (STA behavior for UL MU operation) and in 27.5.5 (UL OFDMAbased random access (UORA))) or it can send the unsolicited BQR after accessing the WM using EDCA.

An AP(#14256) may solicit BQRs from(#11710) one or more non-AP HE STAs that support generating BQRs, by sending a BQRP Trigger frame (see 9.3.1.23 (Trigger frame format)). A non-AP STA that supports generating a BQR responds (solicited BQR) as defined below:

* An AP may solicit BQRs from a non-AP STA only if the non-AP STA has indicated support by setting the BQR Support field in the HE Capabilities element it transmits to 1; otherwise the AP shall not solicit BQRs from the non-AP STA.
* The STA that receives a BQRP Trigger frame shall follow the rules defined in 27.5.3.3 (STA behavior for UL MU operation) to generate the HE TB PPDU when the Trigger frame contains the STA's AID in any of the Per User Info fields; otherwise if the STA wants to report BQR(CID 12496), it ~~the STA~~ shall follow the rules defined in 27.5.5 (UL OFDMA-based random access (UORA)) to gain access to an RA-RU(#11033) and generate the HE TB PPDU when the Trigger frame contains one or more RA-RUs(#11033).
* The STA shall include in the HE TB PPDU one or more QoS Null or Action No Ack frames containing the BQR Control subfield(#14137) with the channel availability information of the STA. The HE STA shall not solicit an immediate response for the frames carried in the HE TB PPDU. The Ack Policy subfield of the frame shall be set to No Ack.(#11308)

An AP may include a BQRP Trigger frame together with other control, data and management frames in one A-MPDU to a STA if the HE Capabilities element received from the STA has the BSRP BQRP A-MPDU Aggregation field equal to 1. If a STA receives a BQRP Trigger frame aggregated with control, data and management frames that solicits an acknowledgment(#11208~~)., the response A-MPDU shall contain MPDUs in the order described in Table 9-428 (A-MPDU contents MPDUs in the control response context(#13283)).~~

Note- the response A-MPDU shall contain MPDUs in the order described in Table 9-428 (A-MPDU contents MPDUs in the control response context(#13283)).(CID 11095)

**27.5.3.5 UL MU CS mechanism**

The ED-based CCA and virtual CS functions are used to determine the state of the medium if CS is required before responding to a received Trigger frame. ED-based CCA for the UL MU CS mechanism is defined in 28.3.19.6.4 (CCA sensitivity for signals not occupying the primary 20 MHz channel)(#14261) and virtual CS is defined in 10.3.2.1 (CS mechanism).

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The CS Required subfield in the MU-RTS Trigger frame ~~and BQRP Trigger frame~~ (CID 12497)shall be set to 1.

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