IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CR for 35.2.1.2.2 | | | | |
| Date: 2023-06-23 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Yunbo Li | Huawei |  |  | liyunbo@huawei.com |
| Ming Gan |  |  |  |  |
| Yuchen Guo |  |  |  |  |
| Guogang Huang |  |  |  |  |
| Yousi Lin |  |  |  |  |
| Zhenguo Du |  |  |  |  |
| Stephen McCann |  |  |  |  |
| Edward Au |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes comment resolution(s) for the following 7 CID(s) received in LB271 on TGbe D3.2 related to 35.2.1.2 Triggered TXOP sharing procedure

CIDs: 15936, 16721, 16723, 17260, 17808, 18245, 18246

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: modify the CR of 15936

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 15936 | Zhou Lan | 35.2.1.2.2 | 475.01 | It is mentioned that "The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received a frame from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0."  In SC 35.2.1.2.3 (Non-AP STA behavior), it is mentioned that the frame is either a QoS Data or QoS Null frame. When TXOP Sharing Mode is 2, a BA from a peer STA can also be received by an AP. Please indicate the frame types in SC 35.2.1.2.2. | Please rephrase the sentence as underlined: "The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received either a QoS Data or QoS Null frame from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0." Please also include text for the case when CAS Control field is not present in either QoS Data or QoS Null frame. | Revised  Clarify that that frame carrying a CAS Control field with RDG/More PPDU subfield equal to 0 is a QoS Data, QoS Null or Management frame.  The case that when CAS Control field is not present in QoS Data, QoS Null or Management frame doesn’t need to explicitely mentioned here. Because this case doesn’t match the condition that AP can transmit a following PPDU.  TGbe editor to make the changes with the CID tag 15936 in doc 11-23/1045r1 |
| 16721 | Mark RISON | 35.2.1.2.2 | 475.01 | "The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield set to 1 " -- which AP is this? The one at line 59 on the previous page? If so put that condition at line 59, i.e. "If an EHT AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield set to 1 determines that [...]" and delete from here | As it says in the comment | Rejected.  If the condition “with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1” is moved to the main sentence of this paragraph, then the case that an EHT AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 0 will not be covered.  The first subbullet also applies to an EHT AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 0. |
| 16723 | Mark RISON | 35.2.1.2.3 | 476.42 | "The non-AP EHT STA that received a MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield equal to 2 may transmit a QoS Data or QoS Null frame containing a CAS Control subfield with the RDG/More PPDU subfield equal to 0" is not clear as to where the HT Control field is | Change to "The non-AP EHT STA that received a MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield equal to 2 may transmit a QoS Data or QoS Null that includes an HE variant HT Control field with a CAS Control subfield with the RDG/More PPDU subfield set to 0" | Revised  Agree with the commenter.  TGbe editor to make the changes with the CID tag 16723 in doc 11-23/1045r1 |
| 17260 | Zinan Lin | 35.2.1.2.2 | 474.01 | This condition may not be complete. It is possible that it is aggregated MPDU that the first frame containing a CAS Control field with the RDG/More PPDu subfield equal to 0 but there is another data frame sent from the non-AP STA following the frame with HTC field | Add the CS condition: The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received a frame from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0 and the CS mechanism indicates that the medium is idle at the TxPIFs slot boundary after the end of the reception of that frame sent from the non-AP STA or it may change to "The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received a PPDU from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0." | Rejected  The non-AP STA is not allowed to transmit a following frame after a frame containing a CAS Control field with RDG/More PPDU subfield equal to 0. |
| 17808 | Yunbo Li | 35.2.1.2.2 | 475.01 | "with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1" is redudant. The AP can transmit an MU-RTS TXS Trigger frame with Triggered TXOP Sharing Mode subfield equal to 2 must with TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1. | remove "with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1" | Rejected  The second subbullet only applied to an AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1. So the condition is needed. |
| 18245 | Li-Hsiang Sun | 35.2.1.2.2 | 475.01 | "The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received a frame from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0." It should indicate which IFS after the frame with CAS control AP can transmit | add "SIFS after the frame with CAS control, AP may transmit a PPDU | Revised  Agree with the commenter.  TGbe editor to make the changes with the CID tag 18245 in doc 11-23/1045r1 |
| 18246 | Li-Hsiang Sun | 35.2.1.2.2 | 475.10 | In L10 it says AP may transmit "after the end of the allocated time". But in L15 and L19 it says AP may transmit "SIFS after the end of the last PPDU transmission"  The conditions above may be in conflict if the last PPDU ended less than PIFS but more than SIFS before the end of the allocated time. | remove "after the end of the allocated time" on L10 | Accepted.  Agree with the commenter.  “after the end of the allocated time” are specified in each subbullets, so it doesn’t need to be repeated in the main body of this sentence. |

1. **Proposed spec text**

***TGbe editor: Please make the following changes in Table 9-404l (Subfields of the EHT MAC Capabilities Information field) :***

**Table 9-404l—Subfields of the EHT MAC Capabilities Information field**

|  |  |  |
| --- | --- | --- |
| Subfield | Definition | Encoding |
| … | … | … |
| TXOP Return Support In Triggered TXOP Sharing Mode 2 | Indicates support for receiving a frame with the RDG/More PPDU subfield in the CAS Control subfield of the HE variant HT Control field from a non-AP STA in Triggered TXOP Sharing Mode 2 (see 35.2.1.2 (Triggered TXOP sharing procedure)). | For an EHT AP:  Set to 1 to indicate that the AP is capable of receiving a QoS Data, QoS Null or Management (#15936)frame with the RDG/More PPDU subfield in the CAS Control subfield of the HE variant HT Control field from a non-AP STA in Triggered TXOP Sharing Mode 2.  Set to 0 otherwise.  For a non-AP EHT STA:  Reserved. |
| … | … | … |

***TGbe editor: Please make the following changes in subclause 35.2.1.2.2 (AP behavior) :***

If the EHT AP determines that its transmission of an MU-RTS TXS Trigger frame to a non-AP EHT STA with the Triggered TXOP Sharing Mode subfield equal to 1 is successful (see 26.2.6.2 (MU-RTS Trigger frame transmission)), then the AP shall not transmit any PPDU within the allocated time specified in the MU-RTS TXS Trigger frame unless one of the following conditions are true:

—The PPDU carries an immediate response that is solicited by the non-AP STA.

—The CS mechanism indicates that the medium is idle at the TxPIFS slot boundary after the end of either the transmission of an immediate response frame sent to that STA or the reception of a frame from that STA that did not require an immediate response.

If the EHT AP determines that its transmission of an MU-RTS TXS Trigger frame to a non-AP EHT STA with the Triggered TXOP Sharing Mode subfield equal to 2 is successful, then the AP shall not transmit any PPDU within the allocated time specified in the MU-RTS TXS Trigger frame unless one of the following conditions are true:

—The PPDU carries an immediate response that is solicited by the non-AP STA.

—The AP with the TXOP Return Support In TXOP Sharing Mode 2 subfield equal to 1 received a QoS Data, Qos Null or Management (#15936) frame from the non-AP STA containing a CAS Control field with the RDG/More PPDU subfield equal to 0, in which case the AP may transmit a PPDU SIFS after the frame with a CAS Control field. (#18245)

If the EHT AP determines that the transmission of an MU-RTS TXS Trigger frame is successful and the T*TXOP-REMAINING* (see 9.2.5.2 (Setting for single and multiple protection under enhanced distributed channel access (EDCA))) after the end of the allocated time is not zero, then the AP may transmit a PPDU (#18246) if any of the following conditions are satisfied:

—The medium is determined to be idle by the CS mechanism at the end of the allocated time in which case it may transmit PIFS after the end of the allocated time.

—The last PPDU transmitted by the AP ended less than PIFS before the end of the allocated time in which case it may transmit SIFS after the end of the last PPDU transmission.

—The last PPDU transmitted by the allocated STA to its associated AP did not contain any MPDU soliciting immediate acknowledgement from the AP and ended less than PIFS before the end of the allocated time in which case it may transmit SIFS after the end of the last PPDU transmission.

***TGbe editor: Please make the following changes in subclause 35.2.1.2.3 (Non-AP STA behavior) :***

The non-AP EHT STA may use the time allocated by the associated AP in an MU-RTS TXS Trigger frame, which is addressed to the STA and that has the Triggered TXOP Sharing Mode subfield equal to 2, for the transmission of one or more non-TB PPDUs that are addressed to the AP or to another STA. The non-AP EHT STA that received a MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield equal to 2 may transmit, within an allocated time, a QoS Data, QoS Null or Management (#15936) frame that includes an HE variant HT Control field with (#16723) a CAS Control subfield with the RDG/More PPDU subfield equal to 0 to the associated AP from which it has received an EHT Capabilities element with the TXOP Return Support In TXOP Sharing Mode 2 subfield set to 1. Otherwise, the STA shall not transmit such frame to its associated AP within the allocated time.