**IEEE P802.11  
Wireless LANs**

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| CC50 CR for CIDs on overhearing OBSS CSI | | | | |
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**Abstract**

This submission contains proposed comment resolutions to comments on P802.11bn D0.1.

This submission proposes resolutions for following CIDs received for TGbn CC50:

415, 982, 983, 3573, 3574

**Revisions:**

Rev 0: Initial version of the document.

***TGbn editor: The baseline for this document is P802.11bn D0.2, P802.11REVmeD7.0 and the document IEEE 802.11-25/0681r5.***

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 TGbn Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbn Draft (i.e., they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbn Editor: Editing instructions preceded by “TGbn Editor” are instructions to the TGbn editor to modify existing material in the TGbn draft. As a result of adopting the changes, the TGbn editor will execute the instructions rather than copy them to the TGbn Draft.***

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 415 | 37.7 | 69/19 | It's not clear how the responding AP acquire the OBSS CSI report in the UHR TB sequential/Joint NDP sounding process, through overhearing, or forwarding by initiating AP through the DS or over the air ? | Clarify that responding AP can obtain the OBSS CSI report though overhearing in the UHR TB sequential/Joint NDP sounding process | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #415 in 25/735r0. |
| 982 | 37.7.2 | 70 | According to Figure 37-2, in case of Cross-BSS UHR TB sounding sequence, the Compressed Beamforming/CQI report is transmitted to the UHR Co-BF beamformer. However, the text of clause 37.7.2 does not contain any technical details regarding how these reports are received by that responding AP, which need these report in order to derive the steering matrix in the following DL Co-BF PPDU (i.e. in order to null the OBSS STAs associated with the UHR Co-BF beamformer). | Please add the relevant technical requirements to deliver the Channel state information/ Compressed Beamforming/CQI reports to the responding AP. | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #982 in 25/735r0. |
| 983 | 37.7.2 | 70 | According to Figure 37-3, in case of UHR TB joint sounding sequence, the Compressed Beamforming/CQI report is transmitted by each of the solicited UHR non-AP STAs only (!!) to the UHR Co-BF beamformer. However, the text of clause 37.7.2 does not contain any technical details regarding how these reports are received by that responding AP, which need these report in order to derive the steering matrix in the following DL Co-BF PPDU (i.e. in order to "null" the OBSS STAs associated with the UHR Co-BF beamformer). | Please add the relevant technical requirements to deliver the Channel state information/ Compressed Beamforming/CQI reports to the responding AP. | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #983 in 25/735r0. |
| 3573 | 37.7.2 | 69/40 | UHR TB sounding relies on one AP overhearing CSI feedback solicited by another AP. However, the transmit power of the CSI feedback is based on the trigger frame soliciting the CSI feedback. Clarify how the overhearing AP can be guaranteed to receive the CSI feedback with enough link budget. | As in comment | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #3573 in 25/735r0. |
| 3574 | 37.7.2 | 69/40 | UHR TB sounding relies on one AP overhearing CSI feedback solicited by another AP. After the procedure, the soliciting or initiating AP does not know exactly whether the overhearing AP succesfully received the CSI feedback. We should define a mechanism for an initiating AP to solicit reception status of CSI feedback by the overhearing AP. | As in comment | Revised.  Agree in principle.  TGbn editor, please make the changes tagged by CID #3573 in 25/735r0. |

**Introduction**

This contribution introduces some changes to how the responding AP obtains OBSS CSI during the Co-BF sounding operation.

The changes are based on P802.11bn D0.2, P802.11REVmeD7.0 and the document IEEE 802.11-25/0681r5.

**Proposed Texts:**

**8.3.5.17 PHY-TRIGGER.request**

***TGbn editor, please make the following changes in Section* 8.3.5.17*:(#982 and 983)***

**8.3.5.17.1 Function:**

This primitive is a request by the MAC sublayer to the local PHY entity to set parameters for the receipt of an HE/EHT/UHR TB PPDU or an OBSS EHT TB PPDU.

**8.3.5.17.2 Semantics of the service primitive:**

The primitive provides the following parameter:

PHY-TRIGGER.request (

TRIGVECTOR

)

The TRIGVECTOR parameter provides the PHY with the information needed to demodulate of the expected an HE/EHT/UHR TB PPDU~~s~~ or an OBSS EHT TB PPDU.

**8.3.5.17.3 When generated:**

This primitive is issued by the MAC sublayer to the PHY entity either after issuing PHY-TXSTART.request and before receiving an HE/EHT/UHR TB PPDU, or after receiving an BFRP Trigger frame and before receiving an OBSS EHT TB PPDU.

**8.3.5.17.4 Effect of receipt:**

On receipt of this primitive, the PHY entity configures the receiver module for the expected arrival of ~~the~~ HE/EHT/UHR TB PPDU~~s~~ or an OBSS EHT TB PPDU.

***TGbn editor, please make the following changes in Section 37.7.3:***

**37.7.3 Rules for UHR Co-BF sounding protocol sequences**

[...]

***TGbn editor, please insert the following text after the fourth paragraphs in Section 37.7.3:***

*(#415)*The responding AP shall obtain the channel state information from non-AP UHR STA(s) associated with the initiating AP by overhearing the EHT Compressed Beamforming/CQI frames in either the cross-BSS UHR Co-BF sounding sequence or the UHR Co-BF joint NDP sounding sequence.

A UHR Co-BF sequential NDP sounding sequence initiated by one AP comprises an EHT TB sounding sequence to collect channel state information from its associated non-AP STA(s), and a cross-BSS UHR Co-BF sounding sequence for the responding AP to collect channel state information from the same STA(s). *(#982)*To obtain channel state information from its unassociated non-AP STA(s) by overhearing the EHT Compressed Beamforming/CQI frames, the responding AP shall use the PHY-TRIGGER.request primitive to configure its receiver module for the OBSS TB PPDU carrying in the EHT Compressed Beamforming/CQI frames. The cross-BSS UHR Co-BF sounding sequence uses the same sounding sequence as EHT TB sounding except that the initiating AP transmits the UHR NDP Announcement frame to solicit the EHT sounding NDP from the responding AP. The UHR NDP Announcement frame shall only be sent to the responding AP and the non-AP UHR STA(s) associated with the initiating AP. An example of a UHR Co-BF sequential NDP sounding sequence initiated by AP1 is shown in Figure 37-1 (UHR Co-BF sequential NDP sounding sequence initiated by AP1).



**Figure 37-1—UHR Co-BF sequential NDP sounding sequence initiated by AP1**

[...]

***TGbn editor, please revise paragraph 13 in Section 37.7.3, the one preceding Figure 37-3, as follows:***

The UHR Co-BF joint NDP sounding sequence use the same sounding sequence as EHT TB sounding except that the initiating AP transmits the UHR NDP Announcement frame followed after a SIFS by EHT sounding NDPs transmitted simultaneously from both the initiating AP and responding AP. The UHR NDP Announcement frame shall only be sent to the responding AP and the non-AP UHR STAs associated with the initiating AP. *(#983)*To obtain channel state information from its unassociated non-AP STA(s) by overhearing the EHT Compressed Beamforming/CQI frames, the responding AP shall use the PHY-TRIGGER.request primitive to configure its receiver module for the OBSS TB PPDU carrying in the EHT Compressed Beamforming/CQI frames. An example of a UHR Co-BF joint NDP sounding sequence initiated by AP1 is shown in Figure 37-3 (UHR Co-BF joint NDP sounding sequence initiated by AP1).



**Figure 37-3—UHR Co-BF joint NDP sounding sequence initiated by AP1**

[...]



**Figure 37-4—UHR Co-BF joint NDP sounding sequence initiated by AP2**

***TGbn Editor, please insert the following text after Figure 37-4 in Section 37.7.3:***

*(#3573)*There're two approaches for the initiating AP to obtain the responding AP's channel state information reception status. The initiating AP may transmit a frame to solicit the channel state information reception status from the responding AP after a cross-BSS UHR Co-BF sounding sequence or a UHR Co-BF joint NDP sounding sequence. The responding AP may announce its channel state information reception status in an unsolicited frame after a cross-BSS UHR Co-BF sounding sequence or a UHR Co-BF joint NDP sounding sequence.

A UHR Co-BF beamformer that sends a BFRP Trigger frame shall set the Feedback Segment Retransmission Bitmap fields of the BFRP Trigger frame to all 1s.