IEEE P802.11
Wireless LANs

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| Proposed Draft Text for TXOP: Bandwidth Signaling |
| Date: 2020-09-10 |
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Abstract

This submission proposes draft text for TXOP: Bandwidth signaling based on the following portions of the SFD:

1. 802.11be supports defining a MAC mechanism to protect TXOP for PPDUs with > 160 MHz and/or PPDUs with preamble puncturing.

[Motion 111, #SP0611-26, [13] and [85]]

1. 802.11be supports indicating BW larger than 160 MHz through scrambler sequence in non-HT or non-HT duplicated frames.

[Motion 115, #SP102, [10] and [86]]

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Added corresponding descriptions for all related control frames
* Rev 2: Added tables and wording changes
* Rev 3: Deleted the value of 160+160MHz bandwidth; Deleted changes to 9.3.1.8 BlockAck frame format because HT-delayed block ack is deprecated; Changed “signalling” to “signaling”; Deleted the new TXVECTOR parameter EXTENDED\_CH\_BANDWIDTH\_IN\_NON\_HT

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

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

***Insert new Clause 33 following Clause 32 as follows:***

33. Extremely High Throughput (EHT) MAC specification

33.x TXOP

33.x.y1 Bandwidth Signaling

An EHT STA transmitting a control frame in non-HT duplicate format with a bandwidth signaling TA addressed to an EHT STA shall set the TXVECTOR parameters CH\_BANDWIDTH\_IN\_NON\_HT according to Table 21-1 (TXVECTOR parameters CH\_BANDWIDTH\_IN\_NON\_HT).

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**9.3 Format of individual frame types**

**9.3.1 Control frames**

**9.3.1.2 RTS frame format**

***Change the 3rd paragraph as follows:***

The TA field is the address of the STA transmitting the RTS frame or the bandwidth signaling TA of the STA transmitting the RTS frame. In an RTS frame transmitted by a VHT STA or an HE STA or an EHT STA in a non-HT or non-HT duplicate format to another VHT STA or HE STA or EHT STA, the scrambling sequence carries the TXVECTOR parameters CH\_BANDWIDTH\_IN\_NON\_HT and DYN\_BANDWIDTH\_IN\_NON\_HT (see 10.3.2.8 (VHT and S1G RTS procedure)) and the TA field is a bandwidth signaling TA. In an RTS frame transmitted by an EHT STA in a non-HT duplicate format with bandwidth greater than 160/80+80 MHz to another EHT STA, the TBD field carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT and the TA field is a bandwidth signaling TA.

**9.3.1.5 PS-Poll frame format**

***Change the 2nd paragraph as follows:***

The BSSID (RA) is set to the address of the STA contained in the AP. The TA field value is the address of the STA transmitting the frame or a bandwidth signaling TA. In a PS-Poll frame transmitted by a VHT STA or an HE STA or an EHT STA in a non-HT or non-HT duplicate format and where the scrambling sequence carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT, the TA field value is a bandwidth signaling TA. In a PS-Poll frame transmitted by an EHT STA in a non-HT duplicate format with bandwidth greater than 160/80+80 MHz to another EHT STA, the TBD field carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT and the TA field value is a bandwidth signaling TA.

**9.3.1.6 CF-End frame format**

***Change the last paragraph as follows:***

If transmitted by a non-DMG STA, the BSSID (TA) field is the address of the STA contained in the AP except that the Individual/Group bit of the BSSID (TA) field is set to 1 in a CF-End frame transmitted by a VHT STA to a VHT AP or an HE STA to an HE AP or an EHT STA to an EHT AP in a non-HT or non-HT duplicate format to indicate that the scrambling sequence carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT. If transmitted by a DMG STA, the TA field is the MAC address of the STA transmitting the frame. In a CF-End frame transmitted by an EHT STA in a non-HT duplicate format with bandwidth greater than 160/80+80 MHz, the TBD field carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT and the TA field value is a bandwidth signaling TA.

**9.3.1.7 BlockAckReq frame format**

**9.3.1.7.1 Overview**

***Change the 4th paragraph as follows:***

The TA field value is the address of the STA transmitting the BlockAckReq frame or a bandwidth signaling TA. In a BlockAckReq frame transmitted by a VHT STA or an HE STA or an EHT STA in a non-HT or non-HT duplicate format and where the scrambling sequence carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT, the TA field value is a bandwidth signaling TA. In a BlockAckReq frame transmitted by an EHT STA in a non-HT duplicate format with bandwidth greater than 160/80+80 MHz, the TBD field carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT and the TA field value is a bandwidth signaling TA.

**9.3.1.19 VHT/HE/EHT NDP Announcement frame format**

***Change the 4th paragraphs as follows:***

The TA field is set to the address of the STA transmitting the VHT/HE NDP Announcement frame or the bandwidth signaling TA of the STA transmitting the VHT/HE/EHT NDP Announcement frame. In a VHT/HE/EHT NDP Announcement frame transmitted by a VHT or HE STA or an EHT STA in a non-HT or non-HT duplicate format and where the scrambling sequence carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT, the TA field is set to a bandwidth signaling TA. In an EHT NDP Announcement frame transmitted by an EHT STA in a non-HT duplicate format with bandwidth greater than 160/80+80 MHz, the TBD field carries the TXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT and the TA field value is a bandwidth signaling TA.

21.2.2 TXVECTOR and RXVECTOR parameters

***Within Table 21-1 – TXVECTOR and RXVECTOR parameters, modify the row as shown, header information shown for convenience:***

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| Parameter | Condition | Value | TXVECTOR | RXVECTOR |
| CH\_BANDWIDTH\_IN\_NON\_HT | FORMAT is NON\_HT | In TXVECTOR, if present, indicates the channel width of the transmitted PPDU, which is signaled: * via the scrambling sequence when the channel bandwidth is equal to or less than 160MHz/80+80MHz;
* Or via the TBD field when the channel bandwidth is greater than 160MHz/80+80MHz.

In RXVECTOR, if valid, indicates the channel width of the received PPDU, which is signaled:* via the scrambling sequence when the channel bandwidth is equal to or less than 160MHz/80+80MHz ;
* Or via the TBD field when the channel bandwidth is greater than 160MHz/80+80MHz.

Enumerated type:CBW20, CBW40, CBW80, CBW160, CBW80+80, CBW320.NOTE—In the RXVECTOR, the validity of this parameter is determined by the MAC based on the contents of the currently received MPDU (e.g., RTS) or the previous MPDU in an exchange (e.g., the RTS preceding a CTS). | Y | Y |

**Straw Poll: Do you support to incorporate the proposed draft text in this document 11-20/1281r0 to the TGbe Draft 0.1?**

**Result: Yes/No/Abstain**