### IEEE P802.11Wireless LANs

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| PDT BW Extension field in trigger frame for EHT |
| Date: 2021-03-22 |
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Abstract

We propose draft text based on 802.11be Draft 0.4

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 subsequent TGbe Draft. This introduction is not part of the adopted material.

***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.***

**Discussion:**

**Do you agree to modify the UL BW extension field for R1 STA**

**-        An R1 EHT AP shall not use these two new entries in EHT Trigger frames it transmits**

**-        An R1 EHT non-AP STA shall be able to parse these two new entries of the UL BW extension field**

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| --- | --- | --- | --- |
| **UL BW****(2 bits)** | **Bandwidth for HE TB PPDU, MHz** | **UL BW Extension (2 bits)** | **Bandwidth for EHT TB PPDU, MHz** |
| 0 | 20 | 0 | 20 |
| 0 | 20 | 1 | reserved |
| 0 | 20 | 2 | reserved |
| 0 | 20 | 3 | reserved |
| 1 | 40 | 0 | 40 |
| 1 | 40 | 1 | reserved |
| 1 | 40 | 2 | reserved |
| 1 | 40 | 3 | reserved |
| 2 | 80 | 0 | 80 |
| 2 | 80 | 1 | ~~reserved~~ 160 |
| 2 | 80 | 2 | reserved |
| 2 | 80 | 3 | reserved |
| 3 | 160 | 0 | ~~reserved~~ 80 |
| 3 | 160 | 1 | 160 |
| 3 | 160 | 2 | 320 -1 |
| 3 | 160 | 3 | 320-2 |

The SP result: Yes/No/Abstain: 61/26/61/115, the ratio is about 70.11%

**Propose:**

### Trigger frame format

***TGbe editor: Please modify the subclause 9.3.1.22.1.3 Special User Info field as follows:***

### 9.3.1.22.1.3 Special User Info field

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The format of the Special User Info field is defined in the Figure 9-64e2.

**Figure 9-64e 2— Special User Info field format**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B11 | B12   B14 | B15          B16 | B17 B20 | B21   B24 | B25 B36 | B37 B39 |  |
|  | AID12 | PHY Version ID | UL Bandwidth Extension | Spatial Reuse 1 | Spatial Reuse 2 | U-SIG Disregard And Validate | Reserved | Trigger Dependent User Info |
| Bits: | 12 | 3 | 2 | 4 | 4 | 12 | 3 | variable |

The PHY Version ID subfield indicates the PHY version. The PHY Version ID subfield is set to 0 for EHT.

The UL BW Extension subfield, together with the UL BW subfield in the Common Info field, indicates the bandwidth of the solicited TB PPDU from the addressed EHT STA (i.e., the bandwidth in the U-SIG of the EHT TB PPDU). The UL BW Extension subfield is defined in Table 9-29j3 (UL Bandwidth Extension subfield encoding).

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| **Table 9-29j3—UL BW Extension subfield encoding** |
| **UL BW** | **Bandwidth for HE TB PPDU (MHz)** | **UL BW Extension** | **Bandwidth for EHT TB PPDU (MHz)** |
| 0 | 20 | 0 | 20 |
| 0 | 20 | 1 | Reserved |
| 0 | 20 | 2 | Reserved |
| 0 | 20 | 3 | Reserved |
| 1 | 40 | 0 | 40 |
| 1 | 40 | 1 | Reserved |
| 1 | 40 | 2 | Reserved |
| 1 | 40 | 3 | Reserved |
| 2 | 80 | 0 | 80 |
| 2 | 80 | 1 |  160 |
| 2 | 80 | 2 | Reserved |
| 2 | 80 | 3 | Reserved |
| 3 | 160 | 0 |  80 |
| 3 | 160 | 1 | 160 |
| 3 | 160 | 2 | 320-1 |
| 3 | 160 | 3 | 320-2 |

The Spatial Reuse *n* subfield, 1 <= *n* <= 2, is set to the same value as its corresponding subfield in the U-SIG of the EHT TB PPDU, which are defined in Table 36-22 (U-SIG field of an EHT TB PPDU).

The U-SIG Disregard and Validate subfield carries the value to be included in the Disregard and Validate subfield of the U-SIG field of the solicited EHT TB PPDUs.TheMapping from the U-SIG Disregard and Validate subfield to bits in the U-SIG field for a TB PPDU is defined in Table 9-31l (Mapping from U-SIG Disregard and Validate subfield to bits in the U-SIG field for a TB PPDU).

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| **Table 9-31l-Mapping from Special User Info field to U-SIG-1 and U-SIG-2 fields in the TB PPDU** |
| **Bits in Special User Info field** | **Action at Receiving STA** |
| B25-B30 | Copy to B20-B25 of the U-SIG-1 field (Disregard subfield) |
| B31 | Copy to B2 of the U-SIG-2 field (Validate subfield) |
| B32-B36 | Copy to B11-B15 of the U-SIG-2 field (Disregard subfield) |

The presence and length of the Trigger Dependent User Info subfield in the Special User Info field depends on the variant of the Trigger frame. When present, the length and the subfields of the Trigger Dependent User Info subfield are as follows:

* The length is 8 bits and all the subfields are reserved in a Basic Trigger frame and in a BFRP Trigger frame,
* The length is 32 bits and all the subfields, except for the BAR Type subfield, are reserved in an MU-BAR Trigger frame and a GCR MU-BAR Trigger frame. The BAR Type subfield is set to indicate a Compressed BAR in an MU BAR Trigger frame and is set to indicate a GCR BAR in a GCR MU BAR Trigger frame.

### 35.4 MU operation

### 35.4.2 UL MU operation

### 35.4.2.2 Rules for soliciting UL MU frames

***TGbe editor: Please modify the subclause 35.4.2.2.1 Allowed settings of the Trigger frame fields and TRS Control subfield as follows:***

### 35.4.2.2.1 Allowed settings of the Trigger frame fields and TRS Control subfield

An EHT AP may transmit a Trigger frame that solicits an HE TB PPDU from an HE STA and/or an EHT STA subject to the rules defined in 26.5.2.2 (Rules for soliciting UL MU frames).

An EHT AP may transmit a Trigger frame that solicits an EHT TB PPDU from an EHT STA subject to the rules defined in 26.5.2.2 (Rules for soliciting UL MU frames) and the additional rules defined below.

If thedot11EHTBaseLineFeaturesImplementedOnly is equal to true, then an EHT AP shall not transmit a Trigger frame that solicits both an HE TB PPDU and an EHT TB PPDU.

If the dot11EHTBaseLineFeaturesImplementedOnly is equal to true, then an EHT AP shall not set the UL BW subfield in the Common Info field to 2 and the UL BW Extension subfield in the Special User Info field to 1 in a Trigger frame that it transmits.

If the dot11EHTBaseLineFeaturesImplementedOnly is equal to true, then an EHT AP shall not set the UL BW subfield in the Common Info field to 3 and the UL BW Extension subfield in the Special User Info field to 0 in a Trigger frame that it transmits.

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An EHT non-AP STA shall not send an EHT TB PPDU unless it is explicitly triggered by an AP in one of the operation modes described in 26.5.2.3 (Non-AP STA behavior for UL MU operation) and the operation modes described in 35.4.2.3.3.

An EHT non-AP STA shall not send an HE TB PPDU on the secondary 160MHz.

If an EHT non-AP STA is solicited to transmit an EHT TB PPDU by a Trigger frame, it shall set the BW subfield of the U-SIG field of the EHT TB PPDU to the bandwidth indicated by the combination of the UL BW subfield in the Common Info field and the UL BW Extension subfield of the Special User Info field as defined in Table 9-29j3 (UL Bandwidth Extension subfield encoding).