IEEE P802.11
Wireless LANs

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| PDT-PHY-EHT-PPDU-Format-Update |
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Abstract

This document contains proposed draft text update for 36.3.4 EHT PPDU formats.

* TBD updated related to PE
* Add the missed description regarding TB PPDU and signal extension that are explained in 11ax.

R0: initial version

###  EHT PPDU Format

EHT MU PPDU and EHT TB PPDU are defined.

The format of the EHT MU PPDU is defined as in Figure 36-22 (EHT MU PPDU format). This format is used for transmission to one or more users if the PPDU is not a response to ~~of~~ a Ttrigger frame. In the EHT MU PPDU, the EHT-SIG field is present.

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| Figure 36-22 EHT MU PPDU Format |

The format of the EHT TB PPDU is defined as in Figure 36-23 (EHT TB PPDU format). This format is used for a transmission that is a response to a triggering frame from an AP.

In the EHT TB PPDU, the EHT-SIG field is not present and the duration of the EHT-STF field is twice the duration of the EHT-STF field in the EHT MU PPDU.



Figure 36-23 EHT TB PPDU Format

The fields of the EHT PPDU formats are summarized in Table 36-8 (EHT PPDU fields).

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| Table 36-8 EHT PPDU fields  |
| Field | Description |
| L-STF | Non-HT Short Training field |
| L-LTF | Non-HT Long Training field |
| L-SIG | Non-HT SIGNAL field |
| RL-SIG | Repeated Non-HT SIGNAL field |
| U-SIG | Universal SIGNAL field |
| EHT-SIG | EHT SIGNAL field |
| EHT-STF | EHT Short Training field |
| EHT-LTF | EHT Long Training field |
| Data | The Data field carrying the PSDU(s) |
| PE | Packet extension field |

The RL-SIG, U-SIG, EHT-STF, EHT-LTF, and PE fields are present in all EHT PPDU formats. The EHT-SIG field is present only in the EHT MU PPDU.The PE field is defined in 36.3.13 (Packet extension).~~TBD~~.

The L-STF, L-LTF, L-SIG, RL-SIG, U-SIG, and EHT-SIG fields are referred to as pre-EHT modulated fields, while the EHT-STF, EHT-LTF and Data fields are referred to as the EHT modulated fields.

In the EHT TB PPDU, the pre-EHT modulated fields, which include L-STF, L-LTF, L-SIG, RL-SIG and U-SIG fields, are sent only on the 20 MHz channels where the STA’s EHT modulated fields are located. If the EHT modulated fields are located in more than one 20 MHz channel, the pre-HE modulated fields are duplicated over the multiple 20 MHz channels.

Note: We don’t have to include the figure as the figure 27-12 in 11ax because the OFDMA tone plan for 80MHz EHT PPDU was changed so that it is aligned with 20MHz. (To editor, please doesn’t include this note when updating into D0.2.)

 A PPDU transmitted with the TXVECTOR parameter NO\_SIG\_EXTN set to false is followed by a period of duration aSignalExtension without transmission. See 10.3.8 (Signal extension).

A signal extension shall be present in a transmitted PPDU if the TXVECTOR parameter NO\_SIG\_EXTN is false and one of the following conditions apply:

— The TXVECVTOR parameter FORMAT is EHT, HE, HT\_MF or HT\_GF

— The TXVECTOR parameter FORMAT is NON\_HT and the TXVECTOR parameter NON\_HT\_MODULATION is ERP-OFDM or NON\_HT\_DUP\_OFDM

A signal extension shall be assumed to be present (for the purpose of timing of PHY-RXEND.indication and

PHY-CCA.indication primitives, as described below and in 36.3.20 (EHT receive procedure)) in a received PPDU if one of the following conditions apply:

— The RXVECTOR parameter FORMAT is EHT, HE, HT\_MF or HT\_GF

— The RXVECTOR parameter FORMAT is NON\_HT and the RXVECTOR parameter NON\_HT\_MODULATION is ERP-OFDM or NON\_HT\_DUP\_OFDM

A PPDU containing a signal extension is called a signal extended PPDU. When transmitting a signal extended PPDU, the PHY-TXEND.indication primitive shall be emitted a period of aSignalExtension after the end of the actual ending time of the PPDU. When receiving a signal extended PPDU, the PHYRXEND.indication primitive shall be emitted a period of aSignalExtension after the end of the actual ending time of the PPDU.