IEEE P802.11
Wireless LANs

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| PDT - PHY: Preamble Puncture Update |
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Abstract

This submission proposed “TBD” resolve for the Preamble Puncture sub-clause (36.3.11.11) in TGbe D0.2.

The text in this submission is a copy of the above sub-clause from D0.2 with the proposed changes marked in cyan.

Resolved TBDs are marked in green

36.3.11.11 – Preamble Punctured EHT PPDU

36.3.11.11.1 – General

### Preamble puncturing allows an EHT STA to transmit and receive a PPDU in a given bandwidth, even when a portion of the bandwidth is not occupied by the PPDU.

### NOTE – The unavailability of any part of the bandwidth may be due to various reasons, for example when an OBSS STA operates on a 20 MHz channel which is one of the secondary channels of the BSS.

Preamble puncturing refers to transmission of a PPDU in which no signal is present in at least one 20 MHz subchannel within the PPDU BW.

Preamble puncturing resolution for an EHT PPDU shall be 20 MHz. In other words, puncturing a subchannel smaller than a 242-tone RU is not allowed.

Primary 20 MHz shall not be punctured in any PPDU.

NOTE – In case of EHT TB PPDU, transmission from certain non-AP STAs may have the primary 20 MHz unmodulated depending on the RU allocated to the STA.

~~36.3.11.11.2 – Preamble Puncturing for PPDUs transmitted to a single user~~

~~Preamble puncturing for a PPDU transmitted to a single user is applied by using large-size MRUs. The supported large-size MRUs are defined in 36.3.2.3.3. U-SIG or EHT-SIG (TBD) includes information on the preamble puncturing of the PPDU as defined in 36.3.11.7. (U-SIG) and 36.3.11.8 (EHT-SIG), respectively.~~

36.3.11.11.2~~3~~ – Preamble puncturing for PPDUs in an OFDMA transmission ~~transmitted to multiple users~~

Preamble puncturing may exist in ~~for a~~ PPDUs transmitted to ~~multiple~~ one or more users using OFDMA transmission ~~exists in a non-compressed mode (TBD).~~ U-SIG ~~or~~ and EHT-SIG ~~(TBD)~~ include~~s~~ information on the preamble puncturing of the PPDU. ~~as defined in 36.3.11.7 (U-SIG) and Table 36-21 36.3.11.8 (EHT-SIG Common field for non-compressed mode).~~

U-SIG contains signaling of the punctured 20 MHz channels in the 80MHz segment where it belongs (see Table 36-19 (U-SIG field of an EHT MU PPDU)).

EHT-SIG contains indication of the punctured channels in the entire BW of the PPDU by using the “Punctured 242-tone RU” entry in the RU Allocation subfield (see Table 36-24 (RU Allocation subfield)).

36.3.11.11.3 – Preamble puncturing for PPDUs in a non-OFDMA transmission

Preamble puncturing in a non-OFDMA transmission is applied by using a single large-size MRU that spans the entire BW. The supported MRUs for non-OFDMA transmission are defined in 36.3.2.3.3 and signaled in U-SIG by setting the Punctured Channel Information field to the puncturing pattern of the large-size MRU corresponding to the punctured subchannel (see Table 36-20 (5-bit punctured channel indication for the non-OFDMA case in an EHT MU PPDU)).

NOTE – non-OFDMA transmission include PPDUs to a single user, PPDUs to multiple users using MU-MIMO and EHT sounding NDP.

~~Preamble puncturing for a PPDU transmitted to multiple users in a compressed mode is TBD~~