IEEE P802.11
Wireless LANs

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| Resolution of CID 4166 |
| Date: YYYY-MM-DD |
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Abstract

This document proposes resolution to CID4166 of LB239

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| --- | --- | --- | --- | --- |
| 4166 | 127.01 | 9.4.2.250.4 | The Long CW bit appears to be the equal to the logical OR of the Long CW Punctured Supported and the Long CW Superimposed Supported bits and is therefore redundant. | Suggest removing the Long CW bit or providing a sentence explaining how it is different from the logical OR of the other two capability bits. |

Proposed Resolution: **Revise**

**Discussion:**

Instruct the editor to modify the text in 9.4.2.250.4 as shown below:

**9.4.2.250.4 PHY Capabilities subelement**

The Data field of the PHY Capabilities subelement is defined in Figure 51.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 | B3 | B4 | B5 | B6 | B7 B9 |
|  | Phase Hopping Supported | Open Loop Precoding Supported | DCM π/2-BPSK Supported | Rate 7/8 Short CW Punctured Supported | Rate 7/8 Short CW Superimposed Supported | Rate 7/8 Long CW Punctured Supported | Rate 7/8 Long CW Superimposed Supported | SC Maximum Number of SU-MIMO Spatial Streams Supported |
| Bits: | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B10 B12 | B13 | B14 | B15 | B16 B18 | B19 B20 | B21 | B22 | B23 |
|  | OFDM Maximum Number of SU-MIMO Spatial Streams Supported | NUC TX Supported | NUC RX Supported | π/2-8-PSK Supported | Number of Concurrent RF Chains | STBC Supported | EDMG A-PPDU | Long CW Supported | Reserved |
| Bits: | 3 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 |

**— Data field of the PHY Capabilities subelement format**

If the Phase Hopping Supported subfield is set to 1, the STA supports phase hopping as specified in 29.6.9.3. Otherwise, the STA does not support phase hopping.

If the Open Loop Precoding Supported subfield is set to 1, the STA supports open loop precoding as specified in 29.6.9.3. Otherwise, the STA does not support open loop precoding.

If the DCM π/2-BPSK Supported subfield is set to 1, the STA supports DCM π/2-BPSK as specified in 29.5.9.5.2. Otherwise, the STA does not support DCM π/2-BPSK.

The Rate 7/8 Short CW Punctured Supported, Rate 7/8 Short CW Superimposed Supported, Rate 7/8 Long CW Punctured Supported and Rate 7/8 Long CW Superimposed Supported subfields indicate the support by an EDMG STA for LDPC code rate 7/8 with codeword length equal to 624, 672, 1248, and 1344 bits as follows:

A STA indicates support for transmission and reception of LDPC code with short codeword length equal to 624 bits and code rate 7/8 by setting Rate 7/8 Short CW Punctured Supported subfield to 1, otherwise this subfield is set to 0. The encoding procedure for short codeword length equal to 624 bits is defined in 20.6.3.2.3.

A STA indicates support for transmission and reception of LDPC code with short codeword length equal to 672 bits and code rate 7/8 by setting Rate 7/8 Short CW Superimposed Supported subfield to 1, otherwise this subfield is set to 0. The encoding procedure for short codeword length equal to 672 bits is defined in 29.5.9.4 and parity check matrix is defined in 30.3.6.2. This field is reserved if the Short CW Punctured Supported subfield is 0.

A STA indicates support for transmission and reception of LDPC code with long codeword length equal to 1248 bits and code rate 7/8 by setting Rate 7/8 Long CW Punctured Supported subfield to 1, otherwise this subfield is set to 0. The encoding procedure for long codeword length equal to 1248 bits is defined in 29.5.9.4.

A STA indicates support for transmission and reception of LDPC code with long codeword length equal to 1344 bits and code rate 7/8 by setting Rate 7/8 Long CW Superimposed Supported Bit subfield to 1, otherwise this subfield is set to 0. The encoding procedure for long codeword length equal to 1344 bits is defined in 29.5.9.4. This field is reserved if the Rate 7/8 Long CW Punctured Supported subfield is 0.

The SC Maximum Number of SU-MIMO Spatial Streams Supported subfield indicates the maximum number of SU-MIMO spatial streams for the EDMG SC modulation class that the STA can demodulate. The value of this subfield is in the range 1 to 8, with the value being equal to the bit representation plus 1.

The OFDM Maximum Number of SU-MIMO Spatial Streams Supported subfield indicates the maximum number of SU-MIMO spatial streams for the EDMG OFDM modulation class that the STA can demodulate. The value of this subfield is in the range 1 to 8, with the value being equal to the bit representation plus 1.

The NUC TX Supported subfield is set to 1 to indicate that the STA supports transmission of PPDUs using non-uniform constellation. Otherwise, this subfield is set to 0.

The NUC RX Supported subfield is set to 1 to indicate that the STA support reception of PPDUs using non-uniform constellation. Otherwise, this subfield is set to 0.

The π/2-8-PSK Supported subfield is set to 1 to indicate that the STA supports SC MCS 12 and SC MCS 13 using 8-PSK modulation. Otherwise, this subfield is set to 0.

The value of the Number of Concurrent RF Chains subfield plus one indicates the maximum number of concurrent transmit or receive chains of the STA. The value of this subfield ranges from 0 to 7. The value of this field is less than or equal to the value of the Number of DMG Antennas subfield in the Antenna Polarization Capability field.

The STBC Supported subfield is set to 1 to indicate that the STA supports single stream STBC reception. It is set to 2 to indicate that the STA supports one or more spatial stream STBC reception; in this case, the maximum number of spatial streams which can be decoded is limited by the minimum of four and the value of the SC Maximum Number of SU-MIMO Spatial Streams Supported subfield for an EDMG SC PPDU and the value of the OFDM Maximum Number of SU-MIMO Spatial Streams Supported subfield for an EDMG OFDM PPDU. This field set to 0 to indicate that the STA does not support STBC. Value 3 is reserved.

The EDMG A-PPDU subfield is set to 1 to indicate that the STA supports EDMG A-PPDU as described in 10.15. Otherwise, it is set to 0.

The Long CW subfield is set to 1 to indicate that the STA supports LDPC codeword of length 1344 on code rates ½, 5/8, 3/4 and 13/16. It is set to 0 otherwise. If this subfield is 0, the Rate 7/8 Long CW Punctured Supported and Rate 7/8 Long CW Superimposed Supported subfields are set to 0.