IEEE P802.11
Wireless LANs

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| LB236 some XDMG PHY CIDs |
| Date: 2019-06-10 |
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|  |  |  |  |  |

Abstract

This document proposes resolutions to CIDs on C/DMG PHY

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| --- | --- | --- | --- | --- | --- |
| 2041 | 3448.00 | 31 | 25.5.7.2.2 | CCA is based on senstivity of MCS0, which is not defined in the standard. The quoted numbers fir the sensitiviy for SC MCS1. | change MCS0 to MCS1 |
| 2042 | 3508.00 | 51 | 25.6.9.3.2 | CCA is based on senstivity of MCS0, which is not defined in the standard. The quoted numbers fir the sensitiviy for SC MCS1. | change MCS0 to MCS1 |

**Proposed Resolution: Revise**

Discussion: MCS0 sensitiviy has been defined in 11-19-1034. However, that resolution did not align the new sensitivity numbers.

***Editor: Change P3511L31 as follows:***

MCS 0 (–~~74~~81 dBm for 540 MHz, –~~71~~78 dBm for 1080 MHz) shall cause CCA to indicate busy with a

***Editor: Change P3532L52 as follows:***

the minimum sensitivity for MCS 0 (–~~74~~81 dBm for 540 MHz, –~~71~~78 dBm for 1080 MHz) shall cause CCA to

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2047 | 3510.00 | 1 | 25.7.2.4 | "Any transmit signal transients that occur due to this TX AWV configuration change" - which TX AWV configuration chagne? None were discussed in this sub clause | Move this sentence afterh the first sentence of the next paragraph |
| 2069 | 3099.00 | 43 | 20.9.2.2.5 | "Any transmit signal transients that occur due to this TX AWV configuration change" - which TX AWV configuration chagne? None were discussed in this paragraph | Move this as the third sentence in the next paragraph |

Proposed Resolution: **Accept**

***Editor: Change the text in P3119L63 as follows:***

sequences). The sequences are transmitted using rotated π/2-BPSK modulation. ~~Any transmit signal~~

***Editor: delete the text I P31209L43-44 as follows:***

~~transients that occur due to this TX AWV configuration change shall completely settle by the end of the first Ga64 or Gb64 subsequence.~~

***Editor: Change following text at the pargraph at P3120L46-48:***

In a BRP-TX PPDU(#1379), the transmitter may change the TX AWV configuration at the beginning of each AGC subfield. Any transmit signal transients that occur due to this TX AWV configuration change shall completely settle by the end of the first Ga64 or Gb64 subsequence.

The set of AWVs used for the AGC subfields should be the same as that used for the

***Editor: delete the text in last sentence of the pargraph P3469L11-13***

sequences). The sequences are transmitted using rotated π/2-BPSK modulation. ~~Any transmit signal transients that occur due to this TX AWV configuration change shall completely settle by the end of the first Ga64 or Gb64 subsequence.~~

***Editor: Change the first two lines of the paragraph in P3469L15-17***

In a BRP-TX PPDU(#1379), the transmitter may change the TX AWV configuration at the beginning of each AGC field. Any transmit signal transients that occur due to this TX AWV configuration change shall completely settle by the end of the first Ga64 or Gb64 subsequence. The set of AWVs used for the AGC subfields should be the same as that used for the TRN

***Editor: Delete the text in the last sentence of the paragraph in P3534L3-6***

modulation. Any transmit signal transients that occur due to this TX AWV configuration change shall completely settle by the end of the first $z\_{64}^{1}$, $z\_{64}^{2}$, or $z\_{64}^{3} $subsequence in bandwidth 540 MHz and $z\_{128}^{1}$, $z\_{128}^{2}$, or $z\_{128}^{3} $subsequence in bandwidth 1080 MHz.

***Editor: Change the first two lines of the paragraph in P3434L8-10***

In a BRP-TX PPDU(#1379), the transmitter may change the TX AWV configuration at the beginning of each AGC subfield. Any transmit signal transients that occur due to this TX AWV configuration change shall completely settle by the end of the first $z\_{64}^{1}$, $z\_{64}^{2}$, or $z\_{64}^{3} $subsequence in bandwidth 540 MHz and $z\_{128}^{1}$, $z\_{128}^{2}$, or $z\_{128}^{3} $subsequence in bandwidth 1080 MHz. The set of AWVs used for the AGC subfields should be the

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| --- | --- | --- | --- | --- | --- |
| 2498 | 3072.00 | 54 | 20.4.3.3.4 | Re CID 1024: if the coding process \*does\* affect the DEI field, then how is d(0) recovered from c(0)? | Change the NOTE to "NOTE---The scrambling and coding process that transforms the DMG control mode header into the bit stream c(k) does not affect the Differential Encoder Initialization field of the DMG control mode header(#1024)." |

Proposed Resolution: **Reject**

**Discussion:**

The Differential Encoder Initialization bit is part of the header. As such it used by the encoder to create the LDPC parity bits and the general structure of the first LDPC CW as described in **20.4.3.3.3 Encoder.** In the receiver, there are different ways to recover the Differential Encoder Initializaiton bit. The “simplest” way is to use, as an input to the LDPC decoder a value that indicates no knowledge as to whether this bit is 0 or 1. The LDPC decoder has enough power to recover this bit. Therefore, we cannot state that the Differential Encoder Initialization field is not affected by the encoder.

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| --- | --- | --- | --- | --- | --- |
| 2050 | 3520.00 |  |  | In the receive procedure there is no reference as to what does the receiver do with a bad CRC in the decoding of each LDPC word. If the procedure does not specify behavior, or which primitive is used to transfer this to the MAC those bits are wasted. | Maybe sending a primitive of bad/OK CRC in between PHY\_DATA can be usefull. It can help if there is a receive state machine that tells what to do in this case |

Proposed Resolution: **Revise**

***Editor: Add a last line to Table 8-2—PHY SAP inter-(sub)layer service primitives:***

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| --- | --- | --- | --- |
| **PHY-BAD-LPCW-CRC** |  | **X** |  |

***Editor: Add the following subclause after the end of 8.3.5.16.4***

**8.3.5.17 PHY-BAD-LPCW-CRC.indication**

**8.3.5.17.1 Function**

This primitive indicates that the current LDPC codeword had failed the CRC check.

**8.3.5.17.2 Semantics of the service primitive**

The semantics of the primitive are as follows:

PHY-BAD-LPCW-CRC.indication

This primitive has no parameters.

**8.3.5.17.3 When generated**

The PHY- BAD-LPCW-CRC.indication primitive is generated by a reciever PHY entity when the CRC check of an LPDC code

**8.3.5.17.4 Effect of receipt**

The receipt of this primitive by the MAC entity may cause the MAC to discard the current received MPDU

***Editor: Insert the following before P3544L53:***

During the reception of the PPDU, if the receiver detects an LDPC with bad CRC, it shall generate a PHY-BAD-LPCW-CRC.indication to the MAC.

**References:**

**[1]** [**Draft P802.11REVmd\_D2.3**](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.3.pdf)

**[2]** [**11-19-0225-00-00ay-tg-ay-january-2019-st-louis-meeting-minutes**](https://mentor.ieee.org/802.11/dcn/19/11-19-0225-00-00ay-tg-ay-january-2019-st-louis-meeting-minutes.docx)