IEEE P802.11
Wireless LANs

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| Proposed Comment Resolution for CID 4, 6, 128, 156, 158, 159, 414, 415 in 11ay |
| Date: 2017-06-07 |
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Abstract

This document proposes comment resolution for CID 4, 6, 128, 156, 158, 159, 414, 415, [1], [2].

**Comment CID 4: revised in D0.4**

*Comment text:*

There is an inconsistency in the draft; in some places NCB is used, in other places N\_CB is used

*Proposed change:*

In draft D0.4 the N\_CB notation was selected

**Comment CID 6, 414: revised**

*Comment text, p 99, line 20:*

EDMG preamble enables channel estimation for more than just MIMO, it is required for channel bonding

*Proposed change – add the text below:*

The EDMG portion of the EDMG format preamble enables estimation of the MIMO channel to support demodulation of the PSDU transmitted over 2.16 GHz, 4.32 GHz, 6.48 GHz, and 8.64 GHz by EDMG STAs.

**Comment CID 128: reject**

*Comment text:*

We need to improve the link budget and increase the range of 802.11ay. In 802.11n, STBC is optional and hardly used in the field. We should make it mandatory in 802.11ay

*Discussion:*

Making STBC mandatory requires that all devices in the market shall have at least 2 RF chains. At the current state of technology devices are equipped with single RF chain.

**Comment CID 156: revised**

*Comment text, p 93, line 20:*

Non-EDMG duplicate format transmission is ambiguous. Does this apply to only MCS0, or could other 802.11ad MCSs be transmitted in duplicated mode.

*Discussion:*

Non-EDMG duplicate format is applied not for MCS0 only. It also can be applied for SC PHY. For legacy SC PHY MCS 1 – 4 are mandatory. So, it is proposed to require for EDMG STA to transmit non-EDMG PPDU to DMG legacy STA for MCS0, 1, 2, 3, and 4.

EDMG-Header-A is not transmitted in this mode, so no additional signaling is required.

*Proposed change – add the text below:*

Non-EDMG duplicate format transmission for MCS0, MCS 1 – 4.

**Comment CID 158: reject**

*Comment text, p 141, line 1:*

The MCS table is a good start, but we need to update it to accommodate the channel aggregation modes.

*Discussion:*

The clarification on channel aggregation is provided on p 110, lines 1 – 5. It states that in case of channel aggregation and N spatial streams transmission, the first N/2 channels shall be allocated to the primary channel and the second N/2 channels shall be allocated to the secondary channel.

The configuration 2.16 + 2.16 GHz or 4.32 + 4.32 GHz is selected by *NCB* parameter. In the first case it is equal to 1 and in the second case it is equal to 2.

So, additional explanation of that on p 141 is redundant.

**Comment CID 159: reject**

*Comment text, p 141, line 1:*

We need to specify somewhere that the configuration of each spatial stream is the same, I,e, CB=2 or 2.16+2.16 aggregation.

*Discussion:*

This comment is not needed. The signaling in EDMG-Header-A does not allow different BW set up for different spatial streams. So, BW is the same for all streams.

**Comment CID 415: reject**

*Comment text, p 100, line 12:*

use of both "Non-EDMG" and "L" (legacy) terms in table 12 for STF, LTF and header may be confusing. What happens when we move to 11ay+? Non-EDMG may be even more confusing. Same problem exists in 30.3.3.(EDMG preamble section)

*Discussion:*

**Table 8—Fields of the EDMG PPDU**

|  |  |
| --- | --- |
| **Field**  | **Description** |
| L-STF  | Non-EDMG Short Training field |
| L-CEF  | Non-EDMG Channel Estimation field |
| L-Header  | Non-EDMG Header field |

*Discussion:*

The prefix “L-” is used as a reference to 11n, where L-STF, L-LTF, and L-SIG are used (see 19.3.2). The prefix “L-” is not interpreted as “Legacy”. Table 19.5 also defines L-STF, L-LTF, and L-SIG as Non-HT fields (see below).

For EDMG PHY we avoid using of term “Legacy” in the spec. We use term non-EDMG. The difference between non-EDMG and legacy (DMG) is that non-EDMG format can be transmitted in duplicate mode and using multiple RF chains. DMG device cannot transmit non-EDMG frames, but it can receive non-EDMG frame.

**Table 19-5—Elements of the HT PPDU**

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| --- | --- |
| **Element**  | **Description** |
| L-STF  | Non-HT Short Training field |
| L-LTF  | Non-HT Long Training field |
| L-SIG  | Non-HT SIGNAL field |

**References:**

1. Draft P802.11ay\_D0.3
2. IEEE802.11-2016