IEEE P802.11
Wireless LANs

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| Proposed Comment Resolution for CID 462 |
| Date: 2017-07-09 |
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Abstract

This document proposes comment resolution for CID 462, [1].

*CID 462 text:*

There is no definition of secondary 2.16 GHz channel, secondary 4.32 GHz channel, and secondary 6.48. Provide definition of secondary channels that should use the same approach as in (21.3.7.3 Channel frequencies).

*Proposed change:*

Provide secondary channel definition in clause 30 and refer to the definition in all places the term is used.

**30.3.4 Channelization**

*Editor: replace the text in the 30.3.4 in D0.4 with the text proposed in this subclause.*

An EDMG channel is specified by five PLME MIB fields defined in Table 1.

Table 1: Fields to specify EDMG channels.

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| dot11CurrentChannelWidth | Channel width. Possible values represent 2.16 GHz, 4.32 GHz, 6.48 GHz, 8.64 GHz, 2.16+2.16 GHz, and 4.32+4.32 GHz. |
| dot11ChannelCenterFrequencyIndex | Defines a center of 8.64 GHz channel allocated for BSS operation.Value range is 4 – 8. |
| dot11CurrentChannelCenterFrequencyIndex0 | For a 2.16 GHz, 4.32 GHz, 6.48 GHz, and 8.64 GHz channel, denotes the channel center frequency.For a 2.16+2.16 GHz channel denotes the center frequency of the primary channel.For a 4.32+4.32 GHz channel denotes the center frequency of the bonded channel containing the primary 2.16 GHz channel.Value range is 1 – 11. |
| dot11CurrentChannelCenterFrequencyIndex1 | For a 2.16+2.16 GHz channel denotes the center frequency of the secondary channel.For a 4.32+4.32 GHz channel denotes the center frequency of the bonded channel which does not contain the primary 2.16 GHz channel.For a 2.16 GHz, 4.32 GHz, 6.48 GHz, and 8.64 GHz channel, it is N/A.Value range is 1 – 11. |
| dot11CurrentPrimaryChannel | Denotes the location of the primary 2.16 GHz channel.Value range is 1 – 11. |

The channelization used by EDMG STAs is shown in Figure 1.



Figure 1: Channelization used by EDMG STAs

The current channel center frequency is selected by dot11CurrentChannelCenterFrequencyIndex value defined in the range [1, 11]. The relation between the dot11CurrentChannelCenterFrequencyIndex and channel number is defined in Table 2.

The current channel center frequency index dot11CurrentChannelCenterFrequencyIndex can be equal to dot11CurrentChannelCenterFrequencyIndex0 or dot11CurrentChannelCenterFrequencyIndex1.

Table 2: Relation between channel number and channel index.

|  |  |  |
| --- | --- | --- |
| dot11CurrentChannelWidth | Channel number | dot11CurrentChannelCenterFrequencyIndex |
| 2.16 GHz | [1, 2, 3, 4, 5, 6] | [1, 3, 5, 7, 9, 11] |
| 4.32 GHz | [9, 10, 11, 12, 13] | [2, 4, 6, 8, 10] |
| 6.48 GHz | [17, 18, 19, 20] | [3, 5, 7, 9] |
| 8.64 GHz | [25, 26, 27] | [4, 6, 8] |

The center frequency of 8.64 GHz channel intended for BSS operation is defined as follows:

Channel center frequency [GHz] =

= Channel starting frequency + 1.08 × dot11ChannelCenterFrequencyIndex

The channel starting frequency is given by the operating class (Annex E). The possible values for dot11ChannelCenterFrequencyIndex are 4, 6, and 8.

The current center frequency for the channel containing primary 2.16 GHz channel is defined as follows:

Channel center frequency [GHz] =

= Channel starting frequency + 1.08 × dot11CurrentChannelCenterFrequencyIndex0

where:

* dot11CurrentChannelCenterFrequencyIndex0 = dot11ChannelCenterFrequencyIndex + idx0(m);
	+ For dot11CurrentChannelWidth = 2.16 GHz: idx0 = [-3, -1, +1, +3], m =1, 2, …, 4;
	+ For dot11CurrentChannelWidth = 4.32 GHz: idx0 = [-2, 0, +2], m =1, 2, 3;
	+ For dot11CurrentChannelWidth = 6.48 GHz: idx0 = [-1, +1], m =1, 2;
	+ For dot11CurrentChannelWidth = 8.64 GHz: idx0 = [0], m = 1;

The center frequency of the primary 2.16 GHz channel is given by equation:

Primary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × dot11CurrentPrimaryChannel

where:

dot11CurrentPrimaryChannel = dot11CurrentChannelCenterFrequencyIndex0 + idxP(n)

The center frequencies for the secondary 2.16 GHz channels are given by equations:

Secondary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex0 + idxS(n))

Secondary1 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex0 + idxS1(n))

Secondary2 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex0 + idxS2(n))

Table 3 defines idxP, idxS, idxS1, and idxS2 index arrays.

Table 3: Possible idxP, idxS, idxS1, idxS2 values and dependences.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| dot11CurrentChannelWidth | idxP | idxS | idxS1 | idxS2 |
| 2.16 GHz | 0 | N/A | N/A | N/A |
| 4.32 GHz | [-1, +1] | [+1, -1] | N/A | N/A |
| 6.48 GHz | [-2, 0, +2] | [0, -2, 0] | [+2, +2, -2] | N/A |
| 8.64 GHz | [-3, -1, +1, +3] | [-1, -3, +3, +1] | [+1, +1, -1, -1] | [+3, +3, -3, -3] |

Note that index n selects the primary channel location, all other secondary channel locations are selected accordingly.

If dot11CurrentChannelWidth = 2.16+2.16 GHz, center frequency of the primary 2.16 GHz channel is given by equation:

Primary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × dot11CurrentChannelCenterFrequencyIndex0

The center frequency of the secondary 2.16 GHz channel is given by equation:

Secondary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × dot11CurrentChannelCenterFrequencyIndex1

The dot11CurrentChannelCenterFrequencyIndex0 can be equal to 1, 3, 5, 7, 9, and 11. The dot11CurrentChannelCenterFrequencyIndex1 can be equal to 1, 3, 5, 7, 9, and 11.

The dot11CurrentChannelCenterFrequencyIndex1 shall not be equal to dot11CurrentChannelCenterFrequencyIndex0.

If dot11CurrentChannelWidth = 4.32+4.32 GHz, center frequencies of the primary and secondary 2.16 GHz channel are given by equations:

Primary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex0 + idxP(n))

Secondary 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex0 + idxS(n))

The idxP = [-1, +1] and idxS = [+1, -1].

The center frequencies for the secondary1 and secondary2 2.16 GHz channels are given by equations:

Secondary1 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex1 - 1)

Secondary2 2.16 GHz channel center frequency [GHz] =

= Channel starting frequency + 1.08 × (dot11CurrentChannelCenterFrequencyIndex1 + 1)

The dot11CurrentChannelCenterFrequencyIndex0 can be equal to 2, 4, 6, and 8.

The dot11CurrentChannelCenterFrequencyIndex1 can be equal to 2, 4, 6, and 8.

The difference between dot11CurrentChannelCenterFrequencyIndex1 and dot11CurrentChannelCenterFrequencyIndex0 shall be equal or greater than 4.

The circumstances in which a channel can be used in a regulatory domain is determined by local regulatory rules and any additional rules prescribed by the 11ay specification.

**SP:**

Do agree to accept the comment resolution for CID 462 proposed in (11-17-1047-00-00ay Proposed Comment Resolution for CID 462)?

**References:**

1. 11-17-0649-01-00ay-comments-on-11ay-d0-3 (6)
2. Draft P802.11ay\_D0.35