IEEE P802.11
Wireless LANs

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| Proposed Comment Resolution for CID 24 in 11ay |
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Abstract

This document proposes comment resolution for CID 24, [1], [2].

Comment text:

The description of definition of EDMG-STF and EDMG-CEF fields can be significantly shorten, precise mathematical definition can be used.

**Proposed resolution for subclause 30.5.2.2 EDMG-STF definition:**

**30.5.2.2 EDMG-STF definition**

*It is proposed to replace the text in the current subclause 30.5.2.2 in the spec draft [2] with the text provided in this document.*

The EDMG-STF field transmit waveform in time domain shall be defined at the SC chip rate *Fc* equal to 1.76 GHz and chip time duration *Tc* = 1/*Fc* ns. The EDMG-STF field for *iTX*-th transmit chain is defined as follows:



where:

*  is a total number of space-time streams
*  is a short training field definition for *iSTS*-th space-time stream
*  is a spatial mapping matrix
*  is a matrix element from *m*-th row and *n*-th column

The EDMG-STF field is composed of 18 repetitions of  followed by one with inverse sign . The waveform for the EDMG-STF field  is defined as follows:



Note that sequence  is defined for 0 ≤ *n* ≤ 128\**NCB* – 1. For other values of *n*,  is set to zero.

**Proposed resolution for subclause 30.5.3.2 EDMG-CEF definition:**

**30.5.3.2 EDMG-CEF definition**

*It is proposed to replace the text in the current subclause 30.5.3.2 in the spec draft [2] with the text provided in this document.*

The EDMG-CEF field transmit waveform in time domain shall be defined at the SC chip rate *Fc* equal to 1.76 GHz and chip time duration *Tc* = 1/*Fc* ns. The EDMG-CEF field is composed of  subfields and *n*-th subfield for *iTX*-th transmit chain is defined as follows:



where:

*  is a total number of EDMG-CEF subfields, index *n* defines a subfield number
*  is a total number of space-time streams
*  is a channel estimation field definition for *iSTS*-th space-time stream, *m* = 1 for *n* = 1 and *m* = 2 for *n* > 1
*  is a EDMG-CEF mapping matrix
*  is a spatial mapping matrix
*  is a matrix element from *m*-th row and *n*-th column

The waveform for the channel estimation subfield  is defined as follows:



The waveform for the channel estimation subfield  is defined as follows:



Note that sequences  and , *iSTS* = 1, 2, …, 8, are defined for 0 ≤ *n* ≤ 128\**NCB* – 1. For other values of *n*,  and  are set to zero.

The sequences  and  are defined as follows:

* , for *iSTS*=1, 2, 3, 4, 5, 6, 7, 8
* , for *iSTS*=1, 2, 3, 4, 5, 6, 7, 8

Note that sequences  and  are defined for 0 ≤ *n* ≤ 512\**NCB* – 1. For other values of *n*,  and  are set to zero.

The EDMG-CEF mapping matrix for *NSTS* = 1, 2 is defined as follows:



The EDMG-CEF mapping matrix for *NSTS* = 3, 4 is defined as follows:



The EDMG-CEF mapping matrix for *NSTS* = 5, 6, 7, and 8 is defined as follows:



**References:**

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