IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 30.6.7.2 OFDM Modulation | | | | |
| Date: 2017-05-27 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Artyom Lomayev | Intel | Turgeneva 30, Nizhny Novgorod 603024, Russia | +7 (831) 2969444 | artyom.lomayev@intel.com |
| Alexander Maltsev | Intel |  |  | alexander.maltsev@intel.com |
| Miki Genossar | Intel |  |  | miki.genossar@intel.com |
| Claudio da Silva | Intel |  |  | claudio.da.silva@intel.com |
| Carlos Cordeiro | Intel |  |  | carlos.cordeiro@intel.com |

Abstract

This document proposes specification text for subclause 30.6.7.2 of the spec defining OFDM modulation, [1].

**30.6.7.2 OFDM modulation**

*Note to Editor: it is proposed to add this subclause to the spec draft, [1].*

**30.6.7.2.1 General**

This subclause defines the OFDM EDMG transmission for data part of PPDU over 2.16 GHz, 4.32 GHz, 6.48 GHz, and 8.64 GHz channels with *iSTS* = 1, 2, 3, 4, 5, 6, 7, 8.

**30.6.7.2.2 Transmission in EDMG format**

The EDMG data transmit waveform for *iTX*-th transmit chain in time domain shall be defined at the OFDM sampling rate *Fs* equal to *NCB*×2.64 GHz, 1 ≤ *NCB* ≤ 4, and sample time duration *Ts* = 1/*Fs* ns as follows:



where:

*  is the total number of active tones
*  is the total number of space-time streams
*  is the OFDM symbol duration in time domain
*  is the guard interval duration
*  is the spatial mapping matrix per *k*-th subcarrier
*  is a matrix element from *m*-th row and *n*-th column
*  is window function applied to smooth the transitions between consecutive OFDM symbols, it’s definition is implementation specific
*  is the data sequence, it is defined by inserting zeros from –*NSR* to *NSR*, and then inserting data at the *Md*(*k*) tones defined in 30.6.1.6, *D*(*iSTS*, *n*, *Md*(*k*)) = *d*(*iSTS, n*, *k*), *k* = 0, 1, …, *NSD* – 1
*  is the pilot sequence defined in 30.6.1.5

NOTE – in case of EDMG-Header-B transmission, the zeroth OFDM symbol corresponds to the EDMG-Header-B, *n* = 0, and the numbering of OFDM symbols for the data part starts from *n* = 1.

**References:**

1. Draft P802.11ay\_D0.35