IEEE P802.11
Wireless LANs

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| Annex I Text for EDMG Encoding Examples |
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Abstract

This document proposes the specification text for the Annex I EDMG encoding examples, [1].

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| **Clause Number(C)** | **Page(C)** | **Line(C)** | **Comment** | **Proposed Change** |
|  |  |  | Can not find the EDMG PHY sample data for reference. | Please add the EDMG PHY sample data as appropriate, as those in Annex I of IEEE Std IEEE-802.11-2016 for previous formats. |

*Resolution:*

Revised.

*Editor: introduce changes as below, p 376, line 12*

* The RX TRN-Units per Each TX TRN-Unit, EDMG TRN-Unit P, EDMG TRN-Unit M, EDMG TRN-Unit N, TRN Subfield Sequence Length, TRN-Unit RX Pattern, EDMG Beam Tracking Request, EDMG Beam Tracking Request Type, DMG TRN, First Path Training, and Dual Polarization TRN Training fields are reserved for all EDMG PPDUs, except the last EDMG PPDU. For the last EDMG PPDU in the EDMG A-PPDU, the values of these fields may be set based on the TRN field parameters and EDMG TRN Length field value.

*Editor: add the text below in the Annex I with the reference to the document 11-18/1346r0 containing the encoding examples*

**I.9 EDMG example data vectors**

This subclause contains encoding examples for the EDMG PHY (see Clause 29).

Encoding examples are provided for the FORMAT parameter set to EDMG and the EDMG\_MODULATION parameter set to EDMG\_C\_MODE or EDMG\_SC\_MODE. Encoding examples for the EDMG\_OFDM\_MODE are not provided.

Encoding examples are contained in the EDMGEncodingExamples.zip file embedded into the IEEE 802.11 Working Group document 11-18/1346r0, located at <https://mentor.ieee.org/802.11/documents?is_dcn=1346&is_group=00ay>. The specified document provides the detailed description of the input and output interfaces as well as the modes that were tested.

The EDMGEncodingExamples.zip contains three types of files:

* “PSDU.txt” – the TXT-file containing a time ordered sequence of 1 and 0 digits, separated by commas. It contains PSDU payload bit content used in all configuration modes.
* “\*.xlsx” – the XLSX-file containing the configuration parameters for given mode of operation. The file represents an XL table with fields used to configure the PPDU transmission. Each field is represented in the decimal notation with bit precision defined in the EDMG PHY. The field names are aligned with the ones used in the TX/RXVECTOR and PHY headers.
* “\*.mat” – the MATLAB MAT-file containing the output encoded and modulated PPDU. The file names for the MAT-files are identical to the XLSX-files to which they are coupled. The MAT-file contains a time ordered sequence of complex symbols, formatted as ±<real>±<imag>j with double floating point precision.

For EDMG\_C\_MODE and EDMG\_SC\_MODE, the spectrum shaping filter is not applied to the output PPDU and it is defined at the original chip rate. The shaping filter is not defined in the EDMG PHY and is implementation dependent.

In case of EDMG\_C\_MODE, the Preamble and Data fields are defined at the chip rate *Fc* = 1.76 GHz and the TRN field (if present) is defined at the chip rate *Fc\_EDMG* = 1.76 x *NCB* GHz, where *NCB* defines the number of contiguous 2.16 GHz channels. In case of EDMG\_SC\_MODE, the pre-EDMG modulated fields are defined at the chip rate *Fc* = 1.76 GHz and the EDMG modulated fields are defined at the chip rate *Fc\_EDMG* = 1.76 x *NCB* GHz.

The TXT, XLSX, and MAT-files can be read using the standard MATLAB dlmread(), xlsread(), and load() functions respectively. To convert the cell array into the ordinary array and to the char array, the standard MATLAB cell2mat() and char() functions can be used.

**SP:**

Do you agree to include the proposed text for the EDMG encoding examples in (11-18-1347-00-00ay Annex I Text for EDMG Encoding Examples) into the Annex I in [1]?

**References:**

1. Draft P802.11ay\_D2.0