IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 802.11  [802.11az PHY Spec Text for Random LTF Symbol Generation]  (relative to REVmd D0.5) | | | | |
| Date: 2018-05-07 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | Email |
| Qinghua Li | Intel Corporation | 3600 Juliette Ln, Santa Clara, CA 95054 |  | qinghua.li@intel.com |
| Feng Jiang | Intel Corporation | 3600 Juliette Ln, Santa Clara, CA 95054 |  | feng1.jiang@intel.com |
| Jonathan Segev | Intel Corporation |  |  | jonathan.segev@intel.com |
| Assaf Gurevitz | Intel Corporation |  |  |  |
| Xiaogang Chen | Intel Corporation |  |  |  |
| Robert Stacey | Intel Corporation |  |  | robert.stacey@intel.com |

**Abstract**

This submission proposes P802.11az draft amendment text for the P802.11az Negotiation Protocol. The baseline documents that this proposal depends on are:

1. D0.05 of REVmd
2. D3.0 of PIEEE802.11ax
3. D0.3 of PIEEE802.11az

***TGaz Editor: Insert the following subclause after 28.3.17 (HE TB NDP feedback PPDU):***

**28.3.17a Generation of Secure LTF Symbol**

When the TXVECTOR parameter LTF\_SEQUENCE is present, each sounding symbol of the HEz LTF field shall be generated from input bits denoted by for , which are derived from a corresponding SAC specified in subclause 9.3.1.20. The generation process is shown in Figure 28-aa.



Figure 28-aa Generation of Secure LTF Symbol

The number is 8, 9, 10, and 11 for 20, 40, 80, and 160 MHz transmissions, respectively. A CSD value is given by

(28-rr)

where is 50, 25, 12.5, and 6.25 ns for 20, 40, 80, and 160 MHz transmissions, respectively; the bits for are the first bits of the input bits. A sequence of 8PSK symbols are generated by iterations. In the -th iteration, two sequences and are generated by concatenating two sequences and that are generated in the (-th iteration as

and (28-ss)

, for (28-tt)

where denotes the concatenation of two sequences and ; denotes the multiplications of a scalar with each element of sequence ; the initial sequences and are given by

(28-uu)

(28-vv)

where is the -th bit of the input bits. The scalar in Equation (28-tt) is given by

, for (28-ww)

where is the -th bit of the input bits.

The sequences and are mapped to the subcarriers that are used by the non-OFDMA HE PPDU transmission defined in subclause 28.3.9. The subcarrier mapping is as the following:

— In a 20 MHz transmission, the mapping is given by:

TBD

— In a 40 MHz transmission, the mapping is given by:

TBD

— In an 80 MHz transmission, the mapping is given by:

TBD

— In a 160/80+80 MHz transmission, the mapping is given by:

TBD

After the subcarrier mapping, a linear phase shift for a time-domain cyclic shift is applied to each subcarrier. The phase of the -th subcarrier is rotated by , where is the subcarrier spacing and is given by Equation (28-rr). After the phase shift, the frequency domain signal is transformed to the time domain. A zero power guard interval is added to the transformed time domain signal as a prefix for each LTF symbol.