IEEE P802.11  
Wireless LANs

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| Changes to Dual Polarization TRN Training Text | | | | |
| Date: 2019-04-08 | | | | |
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Abstract

This submission proposes changes to text that defines the TRN field configuration for the dual polarization TRN training procedure. The text used as reference is D3.0.

**Discussion**: Recall that, as defined in Table 57 (EDMG-Header-A field structure and definition for an SU PPDU) and other places, the relationship between EDMG TRN-Unit P/M/N (EDMG-Header-A fields) and the corresponsing number of TRN subfields is as follows:

* M (# of TRN subfields used for training within a TRN-Unit) is derived from EDMG TRN-Unit M as follows:
  + M is the value of EDMG TRN-Unit M plus one
* P (# of “pilot” TRN subfields in a TRN-Unit) is derived from EDMG TRN-Unit P as follows:
  + 0: indicates zero TRN subfields (that is, P = 0)
  + 1: indicates one TRN subfield (P = 1)
  + 2: indicates two TRN subfields (P = 2)
  + 3: indicates four TRN subfields (P = 4)
* N (repetition factor) is derived from EDMG TRN-Unit N as follows:
  + 0: indicates one TRN subfield
  + 1: indicates two TRN subfields
  + 2: indicates three TRN subfields if EDMG TRN-Unit M is equal to 2, 5, 8, 11 or 14; indicates eight TRN subfields if EDMG TRN-Unit M is equal to 7 or 15.
  + 3: indicates four TRN subfields

**Modifications**: *Please modify lines 24-32 in page 588 as follows:*

If the Dual Polarization TRN Training field is 1 and the value N indicated by the EDMG TRN-Unit N field ~~is an even value~~ in the EDMG-Header-A of an EDMG BRP-RX, EDMG BRP-TX or EDMG BRP-RX/TX ~~PPDU~~ packet is even, the transmitter changes the antenna polarization at the end of each group of *N*/2 TRN subfields, in the last *M* subfields in each TRN unit, where *~~N~~* ~~and~~ *M* is the value of EDMG TRN-Unit M plus one ~~are, respectively, the values of the EDMG TRN-Unit N and EDMG TRN-Unit M fields in the EDMG-Header-A of the PPDU~~. The antenna polarization change shall be done while keeping the same AWV. The antenna polarization change should take no more time than the settling time for the change of an AWV.

The receiver shall also switch polarization at the end of each *k* TRN subfields within the last *M* subfields in each TRN unit, where *k* is *N*/2 ~~and~~,*M* is the value of EDMG TRN-Unit M plus one,and *N* ~~are, respectively, the values of the EDMG TRN-Unit M and~~ is the value indicated by the EDMG TRN-Unit N field~~s~~ in the EDMG-Header-A of the received PPDU.