IEEE P802.11
Wireless LANs

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| 29.9.3.26.9 TRN Subfield Definition |
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Abstract

This document proposes specification text for subcaluse 29.9.3.26.9 of the spec describing EDMG TRN subfield definition, [1]. The spec text is based on the contribution [2].

**29.9.2.2.6 TRN subfield definition**

The basic TRN subfield for *i*-th spatial stream is composed of 6 Golay complementary sequences GaiN and GbiN as follows TRNibasic = [GaiN, -GbiN, GaiN, GbiN, GaiN, -GbiN], where:

* N is the Golay sequence length and is equal to 128 × NCB; and
* NCB represents the integer number of contiguous 2.16 GHz channels over which the TRN subfield is transmistted and 1 ≤ NCB ≤ 4.

The sequences (Gai128, Gbi128), (Gai256, Gbi256), (Gai384, Gbi384), and (Gai512, Gbi512) are defined in subclause 29.10. These sequences shall be transmitted using rotated π/2-BPSK modulation.

Table 1 defines the TRNi subfield that shall be used for given total number of spatial streams and each spatial stream number *i*, 1 ≤ *i* ≤ 8.

1. —TRN subfield definition

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| Total number of spatial streams | Spatial stream number | TRN subfield definition |
| 1, 2 | 1 | TRN1basic |
| 2 | TRN2basic |
| 3, 4 | 1 | [TRN1basic, TRN1basic] |
| 2 | [TRN2basic, TRN2basic] |
| 3 | [TRN3basic, -TRN3basic] |
| 4 | [TRN4basic, -TRN4basic] |
| 5, 6, 7, 8 | 1 | [TRN1basic, TRN1basic, TRN1basic, TRN1basic] |
| 2 | [TRN2basic, TRN2basic, TRN2basic, TRN2basic] |
| 3 | [TRN3basic, -TRN3basic, TRN3basic, -TRN3basic] |
| 4 | [TRN4basic, -TRN4basic, TRN4basic, -TRN4basic] |
| 5 | [TRN5basic, TRN5basic, -TRN5basic, -TRN5basic] |
| 6 | [TRN6basic, TRN6basic, -TRN6basic, -TRN6basic] |
| 7 | [TRN7basic, -TRN7basic, -TRN7basic, TRN7basic] |
| 8 | [TRN8basic, -TRN8basic, -TRN8basic, TRN8basic] |

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**References:**

1. Draft P802.11ay\_D0.1
2. 11-17-0212-00-00ay Clarification on TRN Subfield Definition for MIMO