Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: [Proposal for MR-FSK 4-Level Preamble and SFD Values]

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Re: [TG4g Letter Ballot 59 Comment Resolution]

Abstract: [This proposal provides the explicit specifications of the preamble and SFD values for filtered 4-FSK.]

Purpose: [Technical proposal. Presented to the 802.15.4g SUN Task Group for consideration.]

Proposal for Filtered 4-FSK Preamble and SFD Values

8th November 2010

Khanh Tuan Le

Introduction

- The preamble and SFD values for 2-level filtered FSK are explicitly defined in the IEEE P802.15.4g/D2.

- The preamble and SFD for 4-level filtered FSK are specified but the values are not explicitly defined in the draft.

- To avoid ambiguity this proposal explicitly defines the preamble and SFD values for 4-level filtered FSK based on the definitions in the IEEE P802.15.4g/D2.

- Addressing the following comments:
  CID#543 and CID#544

Proposal for Filtered 4-FSK Preamble

- 6.3a.1.1 Preamble field (page 38)

  Proposed Change:

  From

  "The Preamble field shall contain phyFSKPreambleRepetitions multiples of the 8-bit sequence "01010101.""

  to

  "The Preamble field shall contain phyFSKPreambleRepetitions multiples of the 8-bit sequence "01010101" for filtered 2-FSK. The Preamble field shall contain phyFSKPreambleRepetitions multiples of the 16-bit sequence "0111011101110111" for filtered 4-FSK."

> Please note that this 4-level preamble sequence is functionally equivalent to the 2-level preamble sequence. Both preamble sequences have eight symbols.

Proposal for Filtered 4-FSK SFD Values (1)

- 6.3a.1.2 SFD (page 38)

  Proposed Change:

  From

  "The SFD shall be a 2-octet sequence selected from the list of values shown in Table 29a."

  to

  "The SFD for filtered 2-FSK shall be a 2-octet sequence selected from the list of values shown in Table 29a.

  The SFD for filtered 4-FSK shall be a 4-octet sequence selected from the list of values shown in Table 29b."

Proposal for Filtered 4-FSK SFD Values (2)

- *Proposed Change (cont'd):*

  – Change "Table 29a—MR-FSK PHY SFD values <u>for filtered 2-FSK</u>"

  – Add "Table 29b—MR-FSK PHY SFD values for filtered 4-FSK"

Table 29b—MR-FSK PHY SFD values for filtered 4-FSK

	SFD value for coded (PHR+PSDU) (bits 0–31)	SFD value for uncoded (PHR+PSDU) (bits 0–31)
phySUNMRFSKSFD = 0	01 11 11 01 11 11 11 11 01 11 01 01 11 11 11 01	11 01 01 11 01 01 01 01 01 11 01 01 11 11 11 01
phySUNMRFSKSFD = 1	01 11 11 01 01 01 11 11 01 01 11 01 11 11 01 11	01 11 11 11 11 01 11 01 01 01 01 01 11 11 11 01

- Comment, not part of the proposal:

  Please note that the 4-level SFD values in Table 29b are functionally equivalent to the 2-level SFD values in Table 29a and both have 16 symbols.

Thank you.