

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

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

Date Submitted: [20 January, 2011]

Source: [Khanh Tuan Le] Company [Texas Instruments]
[] Company []

Address [Gaustadalleen 21, 0349 Oslo, Norway]

Voice: [+47 22958535], E-Mail:[k.t.le@ti.com]

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.]

Notice: This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

Release: The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.

Proposal for Filtered 4-FSK Preamble and SFD Values

20th January 2011

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 (1)

- 6.3a.1.1 Preamble field (page 38)

Proposed Change:

From

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

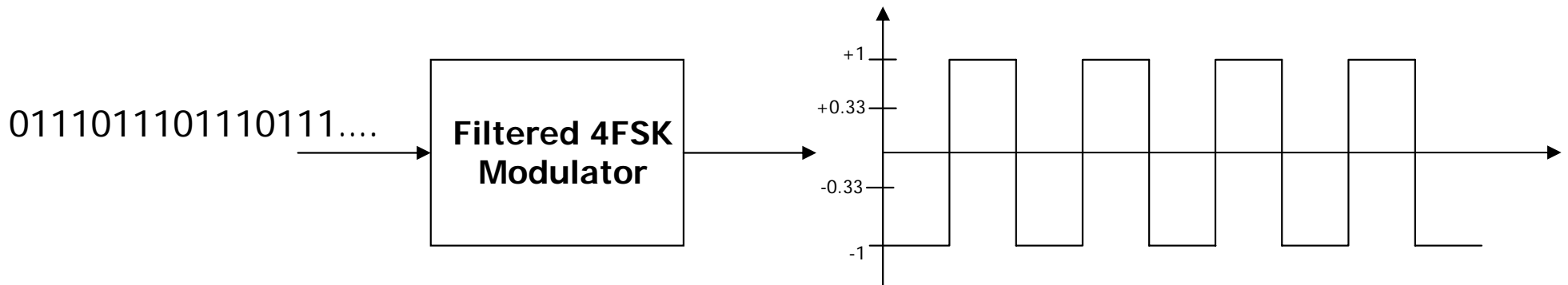
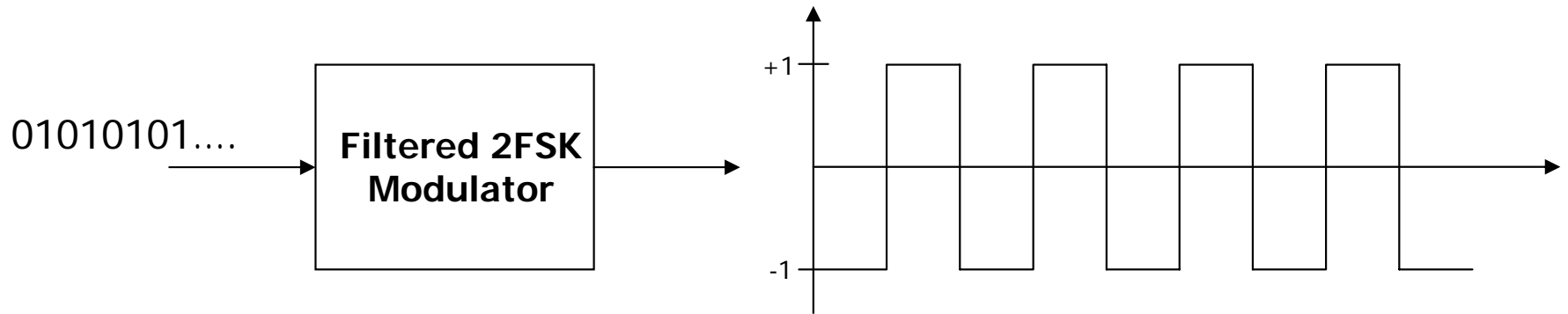
to

“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.”

- This 4-level preamble sequence is functionally the same as the 2-level preamble sequence, and both preamble sequences have eight symbols.

Proposal for Filtered 4-FSK Preamble (2)



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 for filtered 2-FSK”
 - 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 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 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.
- *Properties of the SFDs: DCNs 802.15-10-0157-01-4g and 15-10-0126-02-004g*

Thank you.