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

Submission Title: [Generic PHY descriptor for FSK modulation polarity]

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Re: [802.15.4g Comment Resolution for LB59]

Abstract: []

Purpose: [Generic PHY related Comments Resolution for LB59]

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CID 970 (Generic PHY descriptors)

- **There is missing a descriptor for FSK modulation: the "FSK modulation polarity".**
- **Add a descriptor for FSK modulation polarity.**

Proposed Resolution : Accept

Proposed change: See document xxx-0094-01-004g.

CID 1020 (PIB Attribute IE: Generic PHY Descriptor PIB Attribute format)

- **The Generic PHY Descriptor PIB attribute format, described in Figure 103g, does not contain a field for the FSK modulation polarity.**
- **Borrow 1 bit from the "Modulation Order" field or from "BT" field and use this bit to signal the FSK modulation polarity. When set to 0, positive polarity. When set to 1 negative polarity.**

Proposed Resolution : Reject.

Response: Once the proper value has been configured in the Generic PHY descriptor, for the FSK modulation polarity, there is no need to (over the air) exchange the FSK modulation polarity information .

Proposed change: No change.

Table XXX: Generic FSK PHY: Bit to symbol mapping rules for 2-level FSK.

Symbol (binary)	Frequency deviation (ΔF)	
	Modulation Polarity = 0	Modulation Polarity = 1
0	Insert reference to Table 75c (from document d2P802-15- 4g_Draft_Standard.pdf)	$+\Delta F$
1	Insert reference to Table 75c (from document d2P802-15- 4g_Draft_Standard.pdf)	$-\Delta F$

Table YYY: Generic FSK PHY: Bit to symbol mapping rules for 4-level FSK.

Symbol (binary)	Frequency deviation (ΔF)	
	Modulation Polarity = 0	Modulation Polarity = 1
01	Insert reference to Table 75c (from document d2P802-15-4g_Draft_Standard.pdf)	$+3*\Delta F$
00	Insert reference to Table 75c (from document d2P802-15-4g_Draft_Standard.pdf)	$+\Delta F$
10	Insert reference to Table 75c (from document d2P802-15-4g_Draft_Standard.pdf)	$-\Delta F$
11	Insert reference to Table 75c (from document d2P802-15-4g_Draft_Standard.pdf)	$-3*\Delta F$

Instruction to editors:

In clause 6.1.2.7.2 Channel page structure for Generic PHY modes:

- Insert the descriptor “*Modulation Polarity*” in Figure 22x, immediately after or before the “*Symbol Rate*” descriptor.
- On page 30, lines 2 or 3: Remove the proposition: “*The bit to symbol mapping follows SUN PHY convention.*”
- On page 30, insert the following paragraph at line 2 or 3: “*The Modulation Polarity provides the bit to symbol mapping rules for the 2-level and 4-level FSK modulation schemes. The bit to symbol mapping follows the convention defined in <insert reference to Table describing bit to symbol mapping for 2-FSK> and <insert reference to table describing bit to symbol mapping for 4-FSK>.*”
- Insert Table XXX from Page 4 of the present document immediately after the text describing the *Modulation Polarity* descriptor of the Generic PHY. This table describes the bit to symbol mapping rules for 2-FSK, as a function of *Modulation Polarity* values.
- Insert Table YYY from Page 5 of the present document immediately after the text describing the *Mod_Polarity* descriptor of the Generic PHY. This table describes the bit to symbol mapping rules for 4-FSK, as a function of *Modulation Polarity* values.

Thank You !