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

Submission Title: Comment Resolution for CID-1002

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Abstract: Comment Resolution

Purpose: Comment Resolution for CID-1002

CID 1002:

Comment:

The PAR mentioned backwards compatibility with the O-QPSK PHY, However, there is no mechanism for the device to decide what PHY should be used.

Proposed change:

Make the RS-GFSK Link Margin IE available for these two PHY's or make the RS-GFSK Link Margin IE available for all 802.15.4 PHYs. This IE is specified in the 15.4q amendment, see clause 7.4.4.32.

Proposed Resolution: Make the RS-GFSK Link Margin IE available for all 802.15.4 PHYs

Remove “RS-GFSK” from clause 6.17, including the clause title.

Remove “RS-GFSK” from the Name of Sub-ID value 0x037 in Table 7-16.

Remove “RS-GFSK” from clause 7.4.4.32, including the clause title and figure title.

Replace “RS-GFSK Link Margin IE” with “Link Margin IE” in clause 7.4.4.33.

Proposed resolution continues on next slide.

Change text in 7.4.4.32 from “The Link Margin field shall comply…” until the end of the clause to”:

“The Link Margin field shall comply with the following equation:

Link Margin = $S_{received}$ - $S_{sensitivity}$

where

$S_{received}$ is the received power, in dBm, during a frame as measured in the receiver.

$S_{sensitivity}$ is the lowest input power required by the receiver, for the PHY that was used during the received frame. The conditions at which the lowest input power is determined are: the packet error rate (PER) is 1%, each packet in the PER measurement has a PSDU containing random data with a length of 250 octets.

The accuracy of $S_{received}$ and $S_{sensitivity}$ is left to the implementer.

For example, if a frame is received with $S_{received}$ = -72 dBm and the receive sensitivity ($S_{sensitivity}$) is -102 dBm, then the subsequent Enh-Ack frame may have the Link Margin IE included with the link margin field set to 30 (dB).”