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

Submission Title: Channelization proposal for resolution to CID 32
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Re: Proposed resolution to LB183 Comment Resolution

Abstract: Proposed resolution for CID 32

Purpose: Resolve comment ID 32 from LB183

CID 32 Proposed Resolution

In Section 10.1.3.9, update the lines 10 to 28 with the following,

"For the SUN FSK operating mode #5, #6, #7 and #8, 1 MHz ~~the~~ channel ~~bandwidth~~ spacing is used ~~the same, 1 MHz~~. Overlapping channels are assigned in order to increase the number of available channels; represented by the channel separation, which ~~is~~ can be narrower than the channel spacing ~~bandwidth~~, is permitted by Japanese regulation [B3a]. ~~The overlapping channel separation is 0.2 * N MHz where N is an integer value from 1 to 5.~~ The channel center frequency *ChanCenterFreq* shall be derived as follows:

ChanCenterFreq = *ChanCenterFreq*0 + (*NumChan - FirstNumChan)* . *ChanSeparation*

Where

*ChanCenterFreq*0 is the first channel center frequency for each channel separation
ChanSeparation is the separation between adjacent channels, which is 0.2 * N MHz where N is an integer value from 1 to 5
NumChan is the channel number from *FirstNumChan* to
FirstNumChan+*TotalNumChan*–1
TotalNumChan is the total number of channels for each channel separation
FirstNumChan is the first channel number for each channel separation
"

CID 32 Proposed Resolution

Change Table 19-8 - SUN FSK modulation and channel parameters for additional sub-GHz bands (continued) as follows:

Band designation (MHz)	Parameter	Operating mode #1	Operating mode #2	Operating mode #3	Operating mode #4	Operating mode #5
920	Data rate (kb/s)	50	100	200	400	400
	Modulation	2-FSK	2-FSK	2-FSK	4-FSK	2-FSK[c]
	Modulation index	1.0	1.0	1.0	0.33	0.5
	Channel spacing (kHz)[b]	200	400	600	600	1000[d] ~~200 * Nc 1 ≦ N ≦ 5~~

aData rates shown are over-the-air data rates (the data rate transmitted over the air regardless of whether the FEC is enabled).
bChannel separation of 200 kHz is used. Channel spacing shows bundling of 200 kHz channels.
d~~The channel spacing is treated as the channel separation.~~ Usage of channels and channel separation is defined in 10.1.3.9

CID 32 Proposed Resolution

Change Table 19-9a - Additional SUN FSK modulation and channel parameters as follows:

Band designation (MHz)	Parameter	Operating mode #6	Operating mode #7	Operating mode #8
920	Data rate (kb/s)	600	600	800
	Modulation[a]	2-FSK	4-FSK	4-FSK
	Modulation Index	0.4	0.5	0.33
	Channel ~~Separation~~Spacing (kHz)[b]	1000~~200 * N kHz 1 ≤ N ≤ 5~~	1000~~200 * N kHz 1 ≤ N ≤ 5~~	1000~~200 * N kHz 1 ≤ N ≤ 5~~

aGFSK with the Gaussian filter value (BT) of 0.5.
bUsage of channels and channel separation is defined in 10.1.3.9

CID 32 Proposed Resolution

As slide 2, 3 and 4, specifies the usage of the channel spacing for modes#5, #6, #7 and #8, no need to specify explicitly additional details for new 15.4aa modes.

Remove clause 19.6.8 from 15.4aa draft.

~~19.6.8 Receiver interference rejection~~

~~Change the first paragraph as indicated:~~

~~For all operating mode other than mode #5,#6,#7 and #8 in 920MHz, the adjacent designated channels are those on either side of the desired designated channel that are closest in frequency to the desired designated channel. The alternate designated channel is more than one removed from the desired designated channel in the operational frequency band. For operating mode #5,#6,#7 and #8 in 920 MHz band specified in Table 19-8, and Table 19-9a, the adjacent channel rejection is measured on those channels on either side of the desired designated channel that is 1MHz away in frequency to the designated channel center frequency, and the alternate designated channels are those on either side of the desired designated channel that are 2 MHz away in frequency to the designated channel center frequency.~~