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

Submission Title: [Proposal for channelization-harmonization-for-LECIM-draft-PHY]

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Re: []

Abstract: []

Purpose: [To assist with the definition of the 15.4k PHY of the LECIM draft standard]

LECIM PHY Channelization

- Proposals to adopt a common100 kHz channelization raster for both DSSS and FSK PHY modes

- Define equation based upon 100 kHz channel raster with ChanCenterFreq$_0$ for each frequency band as defined in 15-12-0089-05-004k

- # 8.1.2.11 Channel Assignments for LECIM PHYs

- # Amend 8.1.2.11 as follows:

  - LECIM PHY channelization is based upon a 100 kHz channel raster
  - The channel center frequency, $ChanCenterFreq_0$ for all LECIM PHYs, except those listed in 8.1.2.11.1 shall be derived as follows:

  - $ChanCenterfreq = ChanCenterfreq_0 + (NumChan \times m/10) + (m/20 - 0.05)$

  - Where
    - $ChanCenterFreq0$ is the first channel center frequency in MHz
    - $NumChan$ is the channel identifier number from 0 to $TotalNumChan-1$
    - $TotalNumChan$ is the total number of channels for the available frequency band
    - m = 1, 2 for the 433 and 863 MHz PHY modes
    - m = 1 for all other PHY modes

- # 8.1.2.11 Channel Assignments for LECIM PHYs

  – The parameters Total$NumChan$ and $ChanCenterfreq_0$ are defined frequency bands are defined in table 68l, below.

  – Table 68l: Total number of channels and channel center frequencies for LECIM PHYs

Frequency Band (MHz)	$TotalNumChan$	$ChanCenterfreq_0$ (MHz)	
		m = 1	m = 2
433.050 – 434.790	16	433.170	433.170
470 – 510	399	470.1	
779 – 787	79	779.1	
863 – 870	69	863.075	863.075
902 – 928	259	902.1	
915 – 928	129	915.1	
917 – 923.5	64	917.1	
920.5 – 923.5	30	920.6	
921 – 928	69	921.1	
2400 – 2483.5	832	2400.1	

- Delete table 68m

- Add Section 8.1.2.11.1

- 8.1.2.11.1 Non-100 kHz Raster LECIM PHYs
    - The following LECIM PHYs are based upon a non-100 kHz channel raster:
    - 169 MHz LECIM FSK PHY
        - The channelization for the 169 MHz band is as follows:
            - Channel0: 169.4375 MHz
    - 868 MHz LECIM DSSS PHY
        - The channelization for the 868MHz band is as follows:
            - Channel 0: 868.300 MHz
            - Channel 1: 868.950 MHz
            - Channel 2: 869.525 MHz

- Amend 19.2.4.7 as follows:
- 19.2.4.7 Receiver interference rejection
  - The minimum receiver interference rejection levels are given in Table202. 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 example if a 100 kHz channelization is implemented the adjacent designated channel is ChanNum±1 removed from the desired designated channel and the alternate channel is ChanNum±2 from the desired designated channel.
  - For a 200 kHz channelization implementation the adjacent designated channel is ChanNum±2 removed from the desired designated channel and the alternate channel is ChanNum±4 from the desired designated channel.
  - ChanNum is the channel identifier number of the wanted channel