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

Submission Title: [Resolution for Multiple PHYs]
Date Submitted: [13 May, 2008]
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Re: [In response to TG3c Call for Proposals (IEEE P802.15-07-0586-02-003c)]

Abstract: [Comment resolutions for interoperability among the three PHY modes, comment #16, #30, #80, #97, #115, #12, #31, #79, #96, #141]

Purpose: [To be considered in TG3C baseline document]

Resolution for Multiple PHYs

Comments Resolution for Interoperability among the Three PHYs in DF3

Comments on Interoperability

- Comments #16, #30, #80, #97, #115

  (in 15-08-0255-02-003c-df3-issue-tracking)

: The optional MMC is not sufficient for interoperability

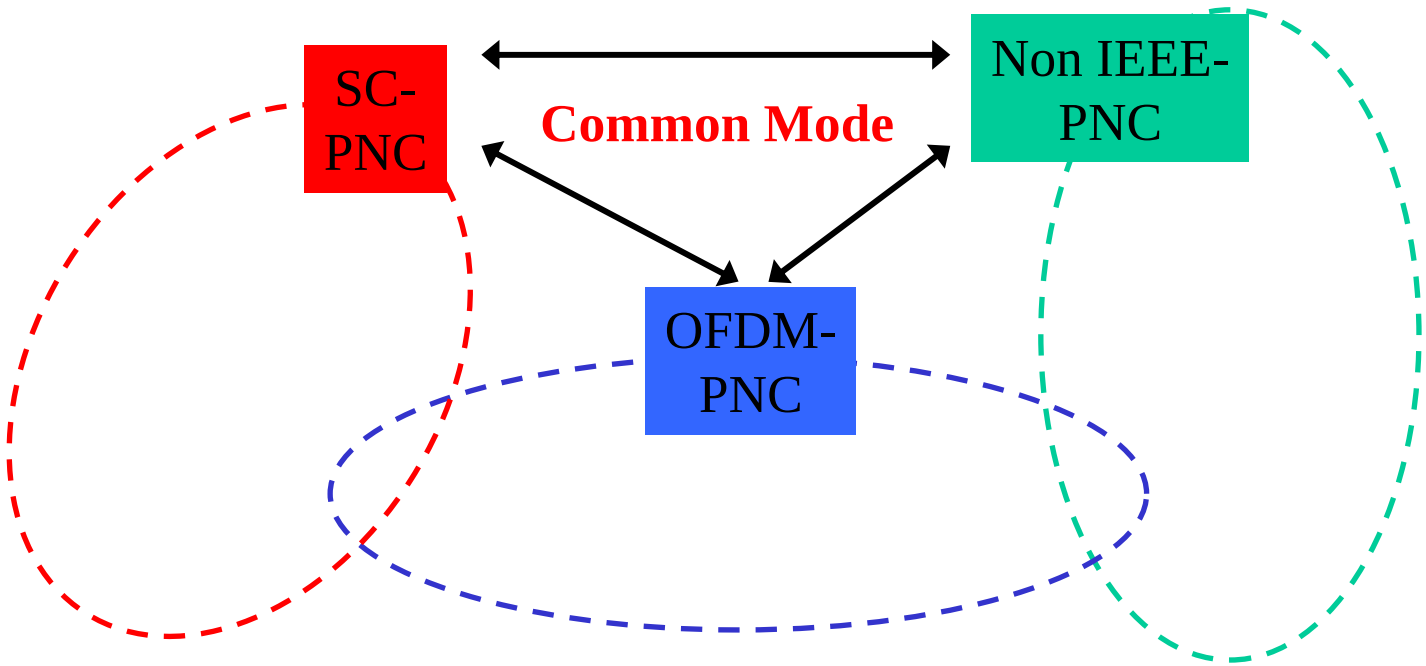
: A mandatory mechanism is needed for efficient interoperability among multiple PHYs

Resolution

- Mandating the SC common rate as the common transmission mode (Common Mode) for all PNC-capable devices to ensure efficient interoperability and/or piconet-coexistence
  - OFDM PNC-capable devices should transmit both OFDM and SC beacons in a superframe
  - OFDM PNC-capable devices should be able to receive the SC common rate

Resolution

- PNC-capable devices can communicate with each other using the Common Mode



Comments on the Two OFDMs

- Comments #12, #31, #79, #96, #141

  (in 15-08-0255-02-003c-df3-issue-tracking)

: The two OFDMs are very similar and should be consolidated into one

: The two OFDMs will not interoperate and will create market confusion

Resolution

- Each of the two OFDM modes has been developed and optimized for its own specific purpose.

	HSI-OFDM	AV-OFDM
Chip Rate	2592MHz	2538MHz
Preamble	Golay Sequence	M-Sequence
Control Channel	-	3 LRP channels for 1 HRP channel
Primary Application	Low-latency High Speed Interface	Uncompressed AV Streaming

Resolution

- It is apparent that the two OFDMs are very different in nature
- Efficiency can be maximized by choosing one of the two OFDMs for a specific application
- They can co-exist/inter-operate under the SC common mode : no market confusion

→ Reject the comments on merging the two OFDM modes and on removing either of the OFDM modes