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

Submission Title: [Common understanding of TG7 VLC requirements]
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Abstract:

Purpose: Common understanding of TG7 VLC requirements

Common understanding of TG7 VLC requirements

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Common Understanding (1 of 2)

two PHY types

- a low rate PHY to service long range applications   (< 1 Mbps, > 10 m)
- a high rate PHY to service short range applications (> 1 Mbps, < 10 m)

the two PHY types should coexist while not requiring interoperability.

a common VLC frame structure

- PHY and MAC headers that minimize the overhead for low rate PHY applications
- meeting the more demanding needs of the high rate PHY applications.

single MAC protocol design that can service both the High Rate and Low Rate PHY designs

Common Understanding (2 of 2)

VLC application modes : P2P, VLAN (without backhaul, including infrastructure illumination), IB/VB broadcasting and visibility support.

frame formats (Beacon, Acknowledgement, Management, Data, Visibility) and related MAC commands.

frame flicker compensation via the use of compensating visibility idle patterns.

- Infrastructure continuous illumination and point-and-shoot support using visibility

To accommodate light dimming , the ideal solution when possible, is to intercept the dimming command at the MAC frame format level and adjust the frames and visibility idle patterns accordingly