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

Submission Title: [proposed resolutions about comments CID 529 and more]
Date Submitted: [July 09. 2009]
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Re: []

Abstract: [Proposed resolution about comment CID 529 and more and helping discussion]

Purpose: [Contribution to IEEE 802.15.7 TG-VLC]

Proposed resolutions of CID 529 and more
(529, 530, 517, 519, 523, 515, 518, 524, 528)

2010. 07.09

Samsung Electronics

Technical comment CID 529, 530, 517

CID	Name	Clause	Subclause	Page	Line	Comment	SuggestedRemedy		
517	Clint Chaplin	6	6.9	59	45	(SY) For interoperability, this document needs a minimum peak irradiance specification and a maximum "off" irradiance specification	Insert a specification for minimum peak irradiance of the form, "Transmitter shall have an optical output with a minimum peak irradiance of x W/m^2 between 380 nm and 780 nm over an area of at least y cm x y cm at a distance of z cm" and a specification for maximum irradiance of the form, "Transmitter shall have a maximum off irradiance of x mW/m^2"	Lim	
529	Clint Chaplin	6	6.9.3	60	12	(SY) For interoperability (in order to define what the minimum capablilties of the receiver need to be) this document needs a maximum jitter specification	Add a maximum jitter specification	Lim	
530	Clint Chaplin	6	6.9.3	60	12	(SY) For interoperability (in order to define what the minimum capablilties of the receiver need to be) this document needs a maximum rise and fall time specification	Add a maximum rise and fall time specification	Lim	It depends on LED specification

❖ Peak irradiance, Jitter spec and rising/falling time is important. However, it's very depends on LED specification. It's not easy to generalize the data of every different kind of optical source's specification.

❖ So, my suggested remedy is Accept in principle for comment, but reject the remedy
❖ TE: please nothing to do.

Technical comment CID 519

CID	Name	Clause	Subclause	Page	Line	Comment	Suggested Remedy		
519	Khanh Tuan Le	6	6.9	59	50	Minimum link requirements of compliant devices are missing (transmitter signal intensity and receiver sensitivity).	Please define.	Lim	

❖**Accept in principle.**

❖Usually, minimum link requirement is required for the document. By the way, for VLC, it's very LED or Optical source dependant.

❖There's so many parameters that characterize the optical source are exist. At this moment, we can not make general link requirement condition.

❖**TE: Please do nothing.**

Technical comment CID 523

CID	Name	Clause	Page	Line	Comment	Suggested Remedy		
523	Soo-Young Chang	6	6.9.5	60	45	CCA concept should be reviewed by analyzing spectral shapes of modulated signals in modulation domain.	Need to verify the spectral shapes of modulated signals.	Lim	It depends on LED specification

❖**Accept in principle and reject the remedy**

❖ However, having a generalized spectral shapes for the modulation signal for each different kind of optical sources is not easy.

❖**TE: Please do nothing.**

Technical comment CID 515, 518, 524, 528

CID	Name	Clause	Subclause	Page	Line	Comment	Suggested Remedy		
515	David Cypher	6	6.9.1	59	52	If turnaround time is less than aTurnaroundTime (zero) in 6.5.1, then we are entering negative time.	Physically impossible	Lim	
518	Clint Chaplin	6	6.9.1	59	51	(SY) "The TX-to-RX turnaround time shall be less than aTurnaroundTime (see 6.5.1)." aTurnaroundTime is defined in 6.9.1 as zero symbols. How the H-E-doubletoothpicks can a turnaround time be less than zero?	Fix		Lim
524	David Cypher	6	6.9.2	60	6	If turnaround time is less than aTurnaroundTime (zero) in 6.5.1, then we are entering negative time.	Physically impossible		Lim
528	Clint Chaplin	6	6.9.2	60	6	(SY) "The TX-to-RX turnaround time shall be less than aTurnaroundTime (see 6.5.1)." aTurnaroundTime is defined in 6.9.1 as zero symbols. How the H-E-doubletoothpicks can a turnaround time be less than zero?	Fix		Lim

❖ **Accept in principle.**

❖ By the way, not like other RF communication, VLC has a separate RX / TX, it's possible that both RX and TX work separately. so turnaround time can be zero.

❖ Suggested remedy. **Change "less than" into "same as"**

6.9.1 TX-to-RX turnaround time

The TX-to-RX turnaround time shall be less than *aTurnaroundTime (see 6.5.1).*

6.9.2 RX-to-TX turnaround time

The RX-to-TX turnaround time shall be less than aTurnaroundTime (see 6.5.1**).**