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**IEEE P802.15**  
**Wireless Personal Area Networks**

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Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)		
Title	<b>SG VLC Project Draft PAR</b>		
Date Submitted	[09 September, 2008]		
Source	[Euntae Won, SG VLC Chair] [Samsung Electronics] [Dong Suwon P.O.BOX 105, Suwon, Korea]	Voice: E-mail:	[+82-31-279-4960] [etwon@samsung.com ]
Re:	[]		
Abstract	[Scope and purpose of proposed project and reason for the proposed project are described.]		
Purpose	[This document is supporting the submission of the PAR to the P802.15 Working Group]		
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Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.		

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<b>Draft PAR Confirmation Number</b> 247826722.29217
<b>Submittal Email:</b> bheile@ieee.org
<b>Type of Project:</b> PAR for a New Standard
<b>1.1 Project Number:</b> P802.15.7
<b>1.2 Type of Document:</b> Standard for
<b>1.3 Life Cycle:</b> Full
<b>1.4 Is this project in ballot now?</b> No
<b>2.1 Title of Standard:</b> PHY and MAC standard for short-range wireless optical communication using visible light
<b>3.1 Name of Working Group:</b> Wireless Personal Area Network (WPAN) Working Group(C/LM/WG802.15) <b>Contact information for Working Group Chair</b> Robert F Heile 11 ROBERT TONER BLVD SUITE 5-301 North Attleboro, MA 02763 US bheile@ieee.org
<b>3.2 Sponsoring Society and Committee:</b> IEEE Computer Society/Local and Metropolitan Area Networks(C/LM) <b>Contact information for Sponsor Chair:</b> Paul Nikolich 18 Bishops Lane Lynnfield, MA 01940 US p.nikolich@ieee.org <b>Contact information for Standards Representative:</b>
<b>4.1 Type of Ballot:</b> Individual
<b>4.2 Expected Date of Submission for Initial Sponsor Ballot:</b> 2010-07
<b>4.3 Projected Completion Date for Submittal to RevCom:</b> 2010-11
<b>5.1 Approximate number of people expected to work on this project:</b> 150
<b>5.2 Scope of Proposed Standard:</b> This standard will define a PHY and MAC standard for short-range optical wireless communications using visible light. The visible light spectrum extends from 380 to 780 nm in wavelength. The standard will be capable of delivering data rates sufficient to support audio and video multimedia services and will also consider mobility of the visible link; compatibility with visible-light infrastructures; impairments due to noise and interference from, e.g., ambient light; health and other environmental effects; and a MAC layer that accommodates visible links. The standard will adhere to any applicable eye safety regulations
<b>5.3 Is the completion of this standard is dependent upon the completion of another standard:</b> No <b>If yes, please explain:</b>
<b>5.4 Purpose of Proposed Standard:</b> The purpose of this standard is to provide a global standard for short-range optical wireless communication using visible light. The standard will provide (i) access to several hundred THz of unlicensed spectrum; (ii) immunity to electromagnetic interference and noninterference with RF systems; (iii) additional security by allowing the user to see the communication channel; and (iv) communication augmenting and complementing existing services (such as illumination, display, indication, decoration, etc.) from visible-light infrastructures.
<b>5.5 Need for the Project:</b> Visible light is drawing great interest as a new communication media due to the following recent devvlopments. Firstly, solid-state light sources are rapidly replacing conventional ones in illumination and display infrastructures. It thus becomes possible to carry communication data on such light sources. Secondly, the visible band is free from frequency regulation and RF interference so that it is well-suited to RF-crowded or RF-restricted environments. Thirdly, the unique feature of visibility can enhance the physical-layer security and offer intuitive usage. Given the growing expectation of ubiquitous connectivity in all settings and environments, the need for unlicensed, high bandwidth, easy to use wireless communications technology has never been greater. Potential applications include secure point-to-point communication, indoor Location Based Service (LBS), secure point-to-Multipoint communication (office, hospital, air plane), Intelligent Transportation System (ITS), information broadcast, and etc. A visible light communication standard will provide economic opportunities to equipment manufacturers, component suppliers, service providers, infrastructure operators.

**5.6 Stakeholders for the Standard:** Mobile Communications Device Manufacturers and Users, Location Based Services Suppliers and Users, component suppliers, other service providers, infrastructure operators.

**Intellectual Property**

**6.1.a.** Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR prior to the PAR submittal to the IEEE-SA Standards Board? Yes

If yes, state date: 2008-09-07

If no, please explain:

**6.1.b.** Is the Sponsor aware of any copyright permissions needed for this project? No

If yes, please explain:

**6.1.c.** Is the Sponsor aware of possible registration activity related to this project? No

If yes, please explain:

**7.1 Are there other standards or projects with a similar scope?** No

Explanation:

Sponsor Organization:

Project/Standard Number:

Project/Standard Date: 0000-00-00

Project/Standard Title:

**7.2 International Standards Activities**

**a. Adoptions**

Is there potential for this standard to be adopted by another organization? Do not know at this time

Organization:

Technical Committee Name:

Technical Committee Number:

Contact person Name:

Contact Phone:

Contact Email:

**b. Joint Development**

Is it the intent to develop this document jointly with another organization? No

Organization:

Technical Committee Name:

Technical Committee Number:

Contact person Name:

Contact Phone:

Contact Email:

**c. Harmonization**

Are you aware of another organization that may be interested in portions of this document in their standardization development efforts? Do not know at this time

Organization:

Technical Committee Name:

Technical Committee Number:

Contact person Name:

Contact Phone:

Contact Email:

**8.1 Additional Explanatory Notes: (Item Number and Explanation)**

Contact the [NesCom Administrator](#)