

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

**Submission Title:** [comment and proposed resolution for no 35]

**Date Submitted:** [May. 11. 2011]

**Source:** [Taehan Bae, Jaeseung Son] Company [Samsung Electronics Co.,LTD]

Address [Dong Suwon P.O. Box 105, 416 Maetan-3dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742 Korea]

Voice:[82-31-279-7293], FAX: [82-31-279-5130], E-Mail:[taehan.bae@samsung.com]

**Re:** []

**Abstract:** [Proposed resolution about comment No 35]

**Purpose:** [Contribution to IEEE 802.15.7 TG-VLC]

**Notice:** This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

**Release:** The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.

# **Comment and proposed resolution for no 35**

**2011. 05**

**Samsung Electronics**

# Comment No.35 (1)

Comment #	Name	Category	Page	Subclause	Line	Comment	Must Be Satisfied	Proposed Change
35	Lim, Sang-Kyu	Technical	227	8.6.4	38	It is beneficial to add the optional field for VPPM in order to indicate the VPPM symbol (VSk1 and VSk2 as shown in Figure 115) lengths.	No	Add the optional fields for the indication of VSk1 and VSk2 VPPM symbol lengths to subclauses of 8.6.4.

# Comment No.35 (2)

## ❖ Suggested resolution I

### ❖ Disagree

- VPPM-mode dimming (8.5.2.3) consists of a couple of algorithms steps like below (Page 220)

The algorithm relies on the following symbols:  $VS_0, VS_1, VS_2, \dots, VS_{10}$ .  $VS_0$  corresponds to the light source being turned off ( $macDim = 0$ ) and  $VS_{10}$  corresponds to the light source fully being turned on ( $macDim = 1000$ ).  $VS_1$  to  $VS_9$  are the VPPM symbols for  $d = 0.1$  to  $0.9$  (see 10.6).

- a) Choose the diming level  $macDim$  (see Table 60).
- b) First, determine the type of the corresponding symbols, viz.  $k_1 = \lfloor macDim / 100 \rfloor$   
and  $k_2 = \lceil macDim / 100 \rceil$ , where  $\lfloor \cdot \rfloor$  stands for rounding to the next lower integer and  $\lceil \cdot \rceil$  for rounding to the next higher integer.
- c) Next, calculate the number of how often each symbol is to be sent:  $rep\_2 = macDim - 100 \cdot k_1$   
and  $rep\_1 = 100 - rep\_2$ .
- d) Then, to achieve the desired dimming level  $macDim$ :
  - Sequentially assign  $VS_{k_1}$   $rep\_1$  times, and then,
  - assign  $VS_{k_2}$   $rep\_2$  times.

# Comment No.35 (3)

## ❖ Suggested resolution I

**Table 60—MAC PIB attributes (continued)**

Attribute	Identifier	Type	Range	Description	Default
<b>macDim</b>	0x5c	Integer	0-1000	Percentage dimming, 0 is 0% visibility and 1000 is 100% visibility	0

- If the receiver know the diming level providing through the *macDim* and have the algorithm in 8.5.2.3, the VPPM-mode dimming can be accomplished.
- So, sending the VSk1 and VSk2 VPPM symbol lengths information to the receiver is not quiet mandatory.
- It can help to save time to calculating the algorithm time, however it's duplicate work.

# Comment No.35 (4)

## ❖ Suggested resolution II

### ❖ Discipline:

- out of scope

- It did not mentioned or changed on the previous comment & resolution and previous Draft.