

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

**Submission Title:** [LB comment resolution related to 5.5.3.3 and 5.5.3.4]

**Date Submitted:** [6th July, 2010]

**Source:** [Sang-Kyu Lim, Dae Ho Kim, Il Soon Jang, You Jin Kim, Tae-Gyu Kang] Company [ETRI]

Address [138 Gajeongno, Yuseong-Gu, Daejeon, Korea]

Voice:[+82-42-860-1573], FAX: [+82-42-860-5218], E-Mail:[sklim@etri.re.kr]

**Re:** [Response to LB comment of TG7]

**Abstract:** [This document describes LB comment resolution related 5.5.3.3 and 5.5.3.4.]

**Purpose:** [To resolve LB comments related to 5.5.3.3 and 5.5.3.4]

**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.

# LB comment resolution related to 5.5.3.3 and 5.5.3.4

Sang-Kyu Lim  
sklim@etri.re.kr  
ETRI

## The Current Status related to 5.5.3.3 and 5.5.3.4

- The technical editor has rewritten the clause 5.5.3 including its subclauses and the clause 5.5.4 to implement the editorial comments.
- We conditionally agreed to reorganize 5.5.3 and 5.5.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- The doc.10/351/r0 recommend that the subclauses 5.5.3.4 and 5.5.3.3 are deleted.
- However, only the subclause 5.5.3.4 has been deleted in the current D2 draft.

# D1 Draft (5.5.3 and 5.5.4)

## 5.5.3 Cross Layer Consideration

### 5.5.3.1 Flicker Compensation

#### 5.5.3.1.1 Intra-frame Flicker Compensation

#### 5.5.3.1.2 Inter-frame Flicker Compensation

### 5.5.3.2 Light Dimming

#### 5.5.3.2.1 VPM Dimming

#### 5.5.3.2.2 Idle Pattern and Adjustment Time Dimming

#### 5.5.3.2.3 Analog Dimming

### 5.5.3.3 Idle Pattern

### 5.5.3.4 Idle Pattern

## 5.5.4 Flicker Mitigation (Informative)

# Current D2 Draft (5.5.3 and 5.5.4)

## 5.5.3 Flicker compensation and dimming

### 5.5.3.1 Flicker Compensation

#### 5.5.3.1.1 Intra-frame Flicker Compensation

#### 5.5.3.1.2 Inter-frame Flicker Compensation

### 5.5.3.2 Light Dimming

#### 5.5.3.2.1 VPM Dimming

#### 5.5.3.2.2 Idle Pattern and Adjustment Time Dimming

#### 5.5.3.2.3 Amplitude Dimming

### 5.5.3.3 Idle Pattern

### ~~5.5.3.4 Idle Pattern~~

## 5.5.4 Flicker Mitigation (Informative)

# Option A (5.5.3 and 5.5.4) - 10/351/r0

## 5.5.3 Cross Layer Consideration

### 5.5.3.1 Flicker Compensation

#### 5.5.3.1.1 Intra-frame Flicker Compensation

#### 5.5.3.1.2 Inter-frame Flicker Compensation

### 5.5.3.2 Light Dimming

#### 5.5.3.2.1 xxx Dimming (in document 10/0159/r)

#### 5.5.3.2.2 VPM Dimming

#### 5.5.3.2.3 Idle Pattern Dimming

#### 5.5.3.2.4 Adjustment Time Dimming

#### 5.5.3.2.5 Visibility Pattern Dimming (or xxx)

#### (5.5.3.2.6 Amplitude Dimming)

### ~~5.5.3.3 Idle Pattern~~

### ~~5.5.3.4 Idle Pattern~~

## 5.5.4 ~~Flicker Mitigation (Informative)~~ : Merge this with 5.5.3.1

# CID 28

| CID | Name         | Clause | Subclause | Page | Line | Comment   | SuggestedRemedy       |
|-----|--------------|--------|-----------|------|------|---|-----------------------|
| 28  | Michael Bahr | 5      | 5.5.3.4   | 2    | 46-4 | This Clause is pretty much redundant to Clause 5.5.3.2.2 and also contains falsities (see my comment on clause 5.5.3.2.2) | Delete Clause 5.5.3.4 |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft submitted to letter ballot resolution committee no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 28 : Automatically resolved as per the current D2 draft and the doc.10/351/r0.

# CID 100c

| CID  | Name          | Clause | Subclause | Page | Line | Comment                  | SuggestedRemedy                  |
|------|---------------|--------|-----------|------|------|--------------------------|----------------------------------|
| 100c | Clint Chaplin | 5      | 5.5.3.4   | 10   | 48   | (SY) Clause is redundant | delete this redundant sub-clause |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 100c : Automatically resolved as per the current D2 draft the doc.10/351/r0.

# CID 100d

| CID  | Name       | Clause | Subclause | Page | Line | Comment   | SuggestedRemedy   |
|------|------------|--------|-----------|------|------|---|---|
| 100d | James Gilb | 5      | 5.5.3.4   | 10   | 46   | This entire subclause is a repeat of previous information and so should be deleted, with the exception of the last sentence, "The details ... in 6.9.6." Remember a standard isn't done when there is nothing more to add, it is done when there is nothing more to remove. | Delete subclause 5.5.3.4 except for the last sentence, which probably belongs in 5.5.3.1. |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 100d : Automatically resolved as per the current D2 draft the doc.10/351/r0

# CID 100f

| CID  | Name | Clause | Subclause | Page | Line | Comment   | SuggestedRemedy              |
|------|------|--------|-----------|------|------|---|------------------------------|
| 100f | ETRI | 5      | 5.5.3.4   | 10   | 46   | The title of 5.5.3.3, idle pattern, is the same with the title of 5.5.3.4 | Remove the subclause 5.5.3.4 |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 100f : Automatically resolved as per the current D2 draft the doc.10/351/r0.

# CID 108

| CID | Name              | Clause  | Subclause | Page | Line | Comment              | SuggestedRemedy       |
|-----|-------------------|---------|-----------|------|------|----------------------|-----------------------|
| 108 | Sridhar Rajagopal | 5.5.3.4 |           | 10   |      | idle pattern section | delete entire section |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 108 : Automatically resolved as per the current D2 draft the doc.10/351/r0.

# CID 113

| CID | Name       | Clause  | Subclause | Page | Line | Comment            | SuggestedRemedy     |
|-----|------------|---------|-----------|------|------|--------------------|---------------------|
| 113 | R. Roberts | 5.5.3.4 |           | 10   |      | Redundant material | Delete this section |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 113 : Automatically resolved as per the current D2 draft the doc.10/351/r0.

# CID 113b

| CID  | Name            | Clause | Subclause | Page | Line | Comment  | SuggestedRemedy              |
|------|-----------------|--------|-----------|------|------|--|------------------------------|
| 113b | Soo-Young Chang | 5      | 5.5.3.4   | 10   | 46   | This section is almost a duplicate of the second paragraph of the previous section, 5.5.3.2.2. | Need to remove this section. |

- The clause 5.5.3.4 (Idle pattern) is not in the current D2 draft no longer.
- We conditionally agreed to delete the subclause 5.5.3.4 on Beijing F2F meeting. → See the doc.10/351/r0.
- **Recommendation/Instruction to editor**
  - CID 113b : Automatically resolved as per the current D2 draft the doc.10/351/r0.

# CID 100a

| CID  | Name          | Clause | Subclause | Page | Line | Comment                                   | SuggestedRemedy            |
|------|---------------|--------|-----------|------|------|---|----------------------------|
| 100a | Clint Chaplin | 5      | 5.5.3.3   | 10   | 36   | (JS) there are two idle pattern subclause | combine or distinguish it. |

- The current D2 draft (5.5.3.3 Idle pattern)
  - “The idle pattern can be used to compensate for inter-frame flicker and to allow a light source to support dimming. ~~However, the use of idle pattern for light dimming is in conflict with the inter frame flicker compensation because that can be resulted in the inter frame flicker. The on and off times of light source are essential to the dimming through the use of idle pattern, but they decrease the communication efficiency extremely. Therefore, the standard supports that the idle pattern is used only on the applications such as P2P communication which are independent of flicker and it allows to be used only for the inter frame flicker compensation on the applications which need the non flicker.”~~
  - We’d like to recommend that 5.5.3.3 Idle pattern will be also deleted because the first sentence are already shown in inter-frame flicker compensation subclause (5.5.3.1.2 in the current D2) and idle pattern and adjustment time dimming subclause (5.5.3.2.2 in th current D2).

# CID 100a (cont.)

- **Recommendation/Instruction to editor**
  - We conditionally agreed to delete the subclause 5.5.3.3 on Beijing F2F meeting.
  - Delete the subclause 5.5.3.3 in the current D2 draft as per doc. 10/351/r0.
  - CID 100a will be automatically resolved if we delete the subclause 5.5.3.3 in the current D2 draft.

# CID 100b

| CID  | Name          | Clause | Subclause | Page | Line | Comment  | SuggestedRemedy   |
|------|---------------|--------|-----------|------|------|--|---|
| 100b | Clint Chaplin | 5      | 5.5.3.3   | 10   | 38   | (SY) "As described in 5.5.3.1.2 and 5.5.3.2.2, the idle pattern can be used to compensate the inter-frame flicker and to allow a light source to have the dimming function. However, the use of idle pattern for light dimming is in conflict with the inter-frame flicker compensation because that can be resulted in the inter-frame flicker. "ON" and "OFF" times of light source are essential to the dimming through the use of idle pattern, but they decrease the communication efficiency extremely. Therefore, the standard supports that the idle pattern is used only on the applications such as P2P communication which are independent of flicker and it allows to be used only for the inter-frame flicker compensation on the applications which need the non-flicker." | "As described in 5.5.3.1.2 and 5.5.3.2.2, the idle pattern can be used to eliminate inter-frame flicker or to allow a light source to have the dimming function. However, the use of idle pattern for light dimming is in conflict with inter-frame flicker compensation because idle patterns used for light dimming will cause inter-frame flicker. "ON" and "OFF" times of the light source are essential to dimming through the use of idle pattern, but the "ON" and "OFF" times decrease the communication efficiency. Therefore, this standard supports using idle pattern for dimming function only on the applications such as P2P communication which are do not need to eliminate flicker, and supports using idle pattern for inter-frame flicker compensation only on the applications which need the non-flicker and will not use light dimming." |

# CID 100b (cont.)

- **Recommendation/Instruction to editor**
  - These sentences are not in the current D2 draft no longer.
  - CID 100b will be automatically resolved if we delete the subclause 5.5.3.3 in the current D2 draft as we resolved CID 100a.

# CID 101

| CID | Name         | Clause | Subclause | Page | Line | Comment  | SuggestedRemedy        |
|-----|--------------|--------|-----------|------|------|--|------------------------|
| 101 | David Cypher | 5      | 5.5.3.3   | 10   | 36   | Both this subclause and the next have the same heading. If so, then there is not need for separate subclauses. | remove heading 5.5.3.4 |

- **Recommendation/Instruction to editor**
  - CID 101 will be automatically resolved if we delete the subclauses 5.5.3.3 and 5.5.3.4 in the current D2 draft.

# CID 105

| CID | Name         | Clause | Subclause | Page | Line  | Comment   | SuggestedRemedy       |
|-----|--------------|--------|-----------|------|-------|---|-----------------------|
| 105 | Michael Bahr | 5      | 5.5.3.3   | 10   | 36-45 | This Clause is pretty much redundant to Clause 5.5.3.2.2 and also contains falsities (see my comment on Clause 5.5.3.2.2) | Delete Clause 5.5.3.3 |

- **Recommendation/Instruction to editor**
  - CID 105 will be automatically resolved if we delete the subclause 5.5.3.3 in the current D2 draft.

# CID 107

| CID | Name              | Clause  | Subclause | Page | Line | Comment              | SuggestedRemedy       |
|-----|-------------------|---------|-----------|------|------|----------------------|-----------------------|
| 107 | Sridhar Rajagopal | 5.5.3.3 |           | 10   |      | idle pattern section | delete entire section |

- **Recommendation/Instruction to editor**
  - CID 107 will be automatically resolved if we delete the subclause 5.5.3.3 in the current D2 draft.

# CID 112

| CID | Name       | Clause  | Subclause | Page | Line | Comment     | SuggestedRemedy   |
|-----|------------|---------|-----------|------|------|-------------|---|
| 112 | R. Roberts | 5.5.3.3 |           | 10   |      | Remove text | "In section 5.5.3.3 keep the first sentence and delete everything after the first sentence. That is, delete the following <del>...However, the use of idle pattern for light dimming is in conflict with the inter frame flicker compensation because that can be resulted in the inter frame flicker. "ON" and "OFF" times of light source are essential to the dimming through the use of idle pattern, but they decrease the communication efficiency extremely. Therefore, the standard supports that the idle pattern is used only on the applications such as P2P communication which are independent of flicker and it allows to be used only for the inter-frame flicker compensation on the applications which need the non-flicker.</del> " |

- **Recommendation/Instruction to editor**

- CID 112 will be automatically resolved if we delete the subclause 5.5.3.3 in the current D2 draft.

# Summary

- 13 CIDs related to 5.5.3.3 and 5.5.3.4 have been resolved.
- 7 CIDs (28, 100c, 100d, 100f, 108, 113, and 113a) are associated with the clause 5.5.3.4.
- 6 CIDs (100a, 100b, 101, 105, 107, and 112) are associated with the clause 5.5.3.4.