**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |  |
| --- | --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **D2 Comments Resolution Based MAC PIB Attributes Revision** | |
| Date Submitted | May, 2017 | |
| Source | Jaesang Cha (SNUST), Minwoo Lee (SNUST), Vinayagam Mariappan (SNUST), Soonho Jung (SNUST), Kim Chan (SNUST), Ilkyoo Lee (Kongju Nat’ Univ.), Gilsik Lee (The Univ. of Texas at Dallas), Sooyoung Chang CSUS) | Voice: [ ] Fax: [ ] E-mail: [chajs@seoultech.ac.kr]1 |
| Re: | MAC PIB attributes specification revision to Use of over-the-air PHY frame configuration is forbidden for PHY types IV, V and VI | |
| Abstract | Details of Resolutions regarding to the submitted Comments on D2 are suggested for MAC PIB Attributes Specification Revision to use of over-the-air PHY frame configuration is forbidden for PHY types IV, V and VI. The proposed method is designed to operate on the application services like LED ID using Color/QR Code, etc, LBS, Emergency EXIT Signage, LiFi/CamCom, LED-IT and Digital Signage with Advertisement Information etc. | |
| Purpose | D1 Comments Resolutions and Editorial Revision. | |
| 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. | |

**I. PHY TYPE IV MAC PIB Attributes**

# **1. MAC PIB Attributes for Offset-VPWM**

The MAC PIB attributes for Offset-VPWM is presented in the Table 97 - MAC PIB attributes (continued for Offset-VPWM).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute** | **Identifier** | **Type** | **Range** | **Description** | **Default** |
| macOffsetVPWMDataUsage | 0x81 | Unsigned | 0-255 | This attribute indicates the type of data transmitted using Flash Light Transmitter.  0 : LED ID without IP address  1 : LED ID with IP address  3 : Authentication Data | 0 |

**Table 97 - MAC PIB attributes (continued for OffsetVPWM)**

**II. PHY TYPE VI MAC PIB Attributes**

# **1. MAC PIB Attributes for VTASC**

The MAC PIB attributes for VATSC is presented in the Table 97 - MAC PIB attributes (continued for VTASC).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute** | **Identifier** | **Type** | **Range** | **Description** | **Default** |
| macVTASCTxMode | 0x91 | Unsigned | 0-255 | This attribute indicates the VTASC MAC transmission modes.  0 : VTASC Mode  1 : SS VTASC Mode | 0 |
| macVTASCTxCamerEnable | 0x92 | Unsigned | 0-255 | This attribute indicates the Transmitter is Enabled with Camera or not for Interactive Receiver distance specific data transfer control.  0 : Camera not connected  1 : Camera connected | 0 |
| macVTASCRxDistance | 0x93 | Unsigned | 0-255 | This attribute notify the Receiver distance from Transmitter | 0 |
| macVTASCTxDataType | 0x94 | Unsigned | 0-255 | This attribute indicates the type of data to be transmitted.  0 : Normal Data (Media Content, Information Content based on the Application its used)  1 : LED ID Data  2 : Authentication Data | 0 |
| maxVTASCDataLength | 0x95 | Integer | 0-65535 | This attribute specify the length of the data to be transmitted | 1 |
| maxVTASCCodedArea | 0x96 | Unsigned | 0~255 | This attribute specify the Coded Area of the VTASC  0 : Full Screen  1 : Partial Screen  2~255 : Reserved | 0 |
| maxVTASCCodedLocation | 0x97 | Unsigned | 0~255 | This attribute specify the Coded Location of the VTASC  0 : Center  1 : Bottom Right  2 : Bottom Left  3 : Top Right  4 : Top Left  5~255 : Reserved | 0 |
| macVTASCTxHSize | 0x98 | Integer | 0-65535 | This attribute specify the no of Horizontal Pixel in the 2D Display Transmitter | 1920 |
| macVTASCTxVSize | 0x99 | Integer | 0-65535 | This attribute specify the no of Vertical Pixel in the 2D Display Transmitter | 1080 |

**Table 97 - MAC PIB attributes (continued for VTASC)**

# **2. MAC PIB Attributes for Sequential Scalable 2D Code**

The MAC PIB attributes for Sequential Scalable 2D Code is presented in the Table 97 —MAC PIB attributes (continued for Sequential Scalable 2D Code).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute** | **Identifier** | **Type** | **Range** | **Description** | **Default** |
| MacSS2DCTxMode | 0xA1 | Unsigned | 0-255 | This attribute indicates the Sequential Scalable 2D Code MAC transmission modes.  0 : SS2DC Mode  1 : SS SS2DC Mode | 0 |
| macSS2DCTxCamerEnable | 0xA2 | Unsigned | 0-255 | This attribute indicates the Transmitter is Enabled with Camera or not for Interactive Receiver distance specific data transfer control.  0 : Camera not connected  1 : Camera connected | 0 |
| macSS2DCRxDistance | 0xA3 | Unsigned | 0-255 | This attribute notify the Receiver distance from Transmitter | 0 |
| macSS2DCTxDataType | 0xA4 | Unsigned | 0-255 | This attribute indicates the type of data to be transmitted.  0 : Normal Data (Media Content, Information Content based on the Application its used)  1 : LED ID Data  2 : Authentication Data | 0 |
| maxSS2DCDataLength | 0xA5 | Integer | 0-65535 | This attribute specify the length of the data to be transmitted | 0 |
| maxSS2DCCodedArea | 0xA6 | Unsigned | 0~255 | This attribute specify the Coded Area of the SS2DC  0 : Full Screen  1 : Partial Screen  2~255 : Reserved | 0 |
| maxSS2DCCodedLocation | 0xA7 | Unsigned | 0~255 | This attribute specify the Coded Location of the SS2DC  0 : Center  1 : Bottom Right  2 : Bottom Left  3 : Top Right  4 : Top Left  5~255 : Reserved | 0 |
| macSS2DCTxHSize | 0xA8 | Integer | 0-65535 | This attribute specify the no of Horizontal Pixel in the 2D Display Transmitter | 1920 |
| macSS2DCTxVSize | 0xA9 | Integer | 0-65535 | This attribute specify the no of Vertical Pixel in the 2D Display Transmitter | 1080 |

**Table 97 — MAC PIB attributes (continued for SS2DC)**

# **3. MAC PIB Attributes for Invisible Data Embedding**

The MAC PIB attributes for Invisible Data Embedding is presented in the Table 97 - MAC PIB attributes (continued for Invisible Data Embedding).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute** | **Identifier** | **Type** | **Range** | **Description** | **Default** |
| macIDETxMode | 0xB1 | Unsigned | 0-255 | This attribute indicates the Invisible Data Embedding transmission modes.  0 : IDE-BLEND Mode  1 : IDE-WATERMARK Mode  2 : SS IDE-BLEND Mode  3 : SS IDE-WATERMARK Mode | 0 |
| macIDETxCamerEnable | 0xB2 | Unsigned | 0-255 | This attribute indicates the Transmitter is Enabled with Camera or not for Interactive Receiver distance specific data transfer control.  0 : Camera not connected  1 : Camera connected | 0 |
| macIDERxDistance | 0xB3 | Unsigned | 0-255 | This attribute notify the Receiver distance from Transmitter | 0 |
| macIDETxDataType | 0xB4 | Unsigned | 0-255 | This attribute indicates the type of data to be transmitted.  0 : Normal Data (Media Content, Information Content based on the Application its used)  1 : LED ID Data  2 : Authentication Data | 0 |
| maxIDEDataLength | 0xB5 | Integer | 0-65535 | This attribute specify the length of the data to be transmitted | 0 |
| maxIDECodedArea | 0xB6 | Unsigned | 0~255 | This attribute specify the Coded Area of the IDE  0 : Full Screen  1 : Partial Screen  2~255 : Reserved | 0 |
| maxIDECodedLocation | 0xB7 | Unsigned | 0~255 | This attribute specify the Coded Location of the IDE  0 : Center  1 : Bottom Right  2 : Bottom Left  3 : Top Right  4 : Top Left  5~255 : Reserved | 0 |
| macIDETxHSize | 0xB8 | Integer | 0-65535 | This attribute specify the no of Horizontal Pixel in the 2D Display Transmitter | 1920 |
| macIDETxVSize | 0xB9 | Integer | 0-65535 | This attribute specify the no of Vertical Pixel in the 2D Display Transmitter | 1080 |

**Table 97 - MAC PIB attributes (continued for Invisible Data Embedding)**