**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **PHY modes and TXs/RXs (Kookmin comment)** |
| Date Submitted | September 2016 |
| Source | Trang Nguyen, Yeong Min Jang |  |
| Re: | [Proposed revision for Hideki contribution on PHY modes and TXs/RXs][Cite to 16-0540-00-007a.] |
| Abstract | [Description of document contents.] |
| Purpose | [Description of what the author wants P802.15 to do with the information in the document.] |
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# Annex X

(informative)

Table X1 shows that each PHY mode mainly supports what sorts of Tx.

Kookmin comments:

**Comment #1:** The PHY 4, PHY 5 and PHY 6 modes classification is already up on the types of transmitter. Table X1 may be not so necessary. Table X2 is important.

Table X1 – PHY Modes / TXs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 　  | Discrete (or single) source | Surface source | 2-Dimensional / Screen | Painting |
| PHY I | x | x | 　 | 　 |
| PHY II | x | x | 　 | 　 |
| PHY III | x | x | 　 | 　 |
| PHY IV | UFSOOK | x | x | 　 | 　 |
| Twinkle VPPM | x | x | 　 | 　 |
| S2-PSK | x | 　 | 　 | 　 |
| S2+DMS-PSK | x | 　 | 　 | 　 |
| Offset-VPWM | x | x | 　 | 　 |
| PHY V | RS-FSK | 　 | x | 　 | 　 |
| Compatible M-FSK | 　 | x | 　 | 　 |
| C-OOK | 　 | x | 　 | 　 |
| Packet PPM/PWM | 　 | x | 　 | 　 |
| PHY VI | 2D-sequential color code | 　 | 　 | x | 　 |
| VTASC | 　 | 　 | x | x |
| Kookmin Invisible code  | 　 | 　 | x | 　 |
| Invisible Data embedded display Tx Scemes | 　 | 　 | x | 　 |
| PHY VII | Fraunhofer High-bandwidth PHY | x | x | 　 | 　 |
| PureLiFi Low-bandwidth PHY | x | x | 　 | 　 |

# Annex Y

(informative)

**Comment #2:** Combination of PD and Camera Receivers is fine, but too much information in a table may be not easy for reader understanding. The table information should be comprehensive.

Table X2 shows that each PHY mode mainly supports what sorts of Rx.

Table X2 – PHY Modes / RXs

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | Photodiode | Image sensor | Other characteristics |
| Monochrome | Color | Global shutter | Rolling shutter | High-speed / ROI |
| PHY I |  |  |  |  |  |  |
| PHY II |  |  |  |  |  |  |
| PHY III |  |  |  |  |  |  |
| PHY IV | UFSOOK | Y1 |  | Y2 |  | Y3 |  |
| Twinkle VPPM | Y4 |  |  |  | Y5 |  |
| S2-PSK |  |  | Y6 |  | Y7 |  |
| S2+DMS-PSK |  |  |  |  | Y8 |  |
| Offset-VPWM |  |  | Y9 | Y10 |  |  |
| PHY V | RS-FSK |  |  |  | 15.1 | Y11 |  |
| Compatible M-FSK |  |  |  | 15.2 | Y12 | camera support |
| C-OOK |  |  |  | 13.3 |  |  |
| Packet PPM/PWM |  |  |  |  |  |  |
| PHY VI | 2D-sequential color code |  |  |  |  |  |  |
| VTASC |  |  |  |  |  |  |
| Kookmin Invisible code |  |  |  |  |  |  |
| Invisible Data embedded display Tx Scemes |  |  |  |  |  |  |
| PHY VII | Fraunhofer High-bandwidth PHY |  |  |  |  |  |  |
| PureLiFi Low-bandwidth PHY |  |  |  |  |  |  |

**Comment #3:** The technical descriptions are addressed after the summarized information in the table as follows. The descriptions should contain:

* The suggested parameters for system
* The demodulation technique and the numerical performance

**(Y-1). UFSOOK Monochrome Photodiode Decoder**

TBD

**(Y-2). UFSOOK Color Photodiode Decoder**

TBD

**(Y-3). UFSOOK High-speed camera/RoI Camera Decoder**

TBD

**(Y-6). S2-PSK Rolling Shutter Camera Decoder**

TBD

**(Y-7). S2-PSK High-speed camera/RoI Camera Decoder**

TBD

**(Y-10). Offset VPWM Rolling Shutter Camera Decoder**

TBD