**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **OCC operating modes - table** |
| Date Submitted | [May 2017] |
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| Re: |  |
| Abstract | Discussion on D2 comments’ resolution |
| Purpose | Resolution for D2 technical comments |
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# #1: PHY A,B,C tables

**Table XYZ. PHY operating modes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Modulation**  *(phyOccMcsID)* | **RLL**  *(phyOccRLLCode)* | **Optical clock rate**  *(phyOccOpticalClockRate)* | **FEC**  *(phyOccFec)* | **Bit Rate** |
| **PHY IV operating modes** | | | | |
| UFSOOK | NA | multiple of frame rate | MIMO path dependent | (1/2)\*(code rate)\*Frame Rate) |
| Twinkle VPPM | NA | 4x bit rate | RS(15, 11) | 4 kbps |
| S2-PSK | Differential code | 10 Hz | Temporal error correction | 5 bps |
| S8-PSK | Grey code | 10 Hz | Temporal error correction | 30 bps |
| HS-PSK | ½ code rate for S2-PSK; none for DS8-PSK | 10 kHz | Temporal error correction;  Outer FEC with GF(16) | 22 kbps |
| Offset VPPM |  |  |  |  |
| **PHY V operating modes** | | | | |
| NS-FSK | None | 30 Hz | XOR FEC | 60/90 bps |
| C-OOK | Manchester/ 4B6B | 2.2 kHz/ 4.4 kHz | Temporal error correction  (DS rate=100/ DS rate=60) | 60/150/580/700 bps |
| CM-FSK | None | 10 Hz | Temporal error correction | 40/50/60  bps |
| Packet PWM/PPM | None | 100 kHz | Temporal error correction | 5.5/ 8 kbps |
| **PHY VI operating modes** | | | | |
| A-QL | None | 10 Hz | Hamming (11,15)/ None | 5.28/ 7.56 kbps  (16x16 cells) |
| HA-QL | Differential code | 10 Hz | Hamming (11,15)/ None | 220/ 300 bps  (8x8 cells) |
| VTASC | None |  |  |  |
| Invisible data embedded | None |  |  |  |

**Note:**

Green data is gathered from doc. *17-13r1* (by NTU and Intel)

Yellow data is pending to update (from SNUST)