

IEEE 802.11
Wireless Access Method and Physical Specification

Title: **Section 11 PICS Proforma**

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Introduction

This submission is a first draft of the PICS Proforma for section 11, the Frequency Hopping Physical Layer, of the D2.0 802.11 draft standard.

| Item | Protocol Feature | References | Status | Value | Support |
|-------|---|-------------------------|--------|------------|--|
| 11.1 | TXVECTOR parameter: LENGTH | 11.2.2.1 | M | | Yes <input type="checkbox"/> |
| 11.2 | TXVECTOR parameter: PLCP_BITRATE | 11.2.2.2 | C:O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.3 | RXVECTOR parameter: LENGTH | 11.2.3.1 | M | | Yes <input type="checkbox"/> |
| 11.4 | RXVECTOR parameter: ANTSEL | 11.2.3.2 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.5 | RXVECTOR parameter: RSSI | 11.2.3.2 | M | | Yes <input type="checkbox"/> |
| 11.6 | PLCP Preamble: Sync | 11.3.2.1.1 | M | | Yes <input type="checkbox"/> |
| 11.7 | PLCP Preamble: Start Frame Delimiter | 11.3.2.1.2 | M | | Yes <input type="checkbox"/> |
| 11.8 | PLCP Header: Length Word | 11.3.2.2.1 | M | | Yes <input type="checkbox"/> |
| 11.9 | PLCP Header: Signaling Field | 11.3.2.2.2 | M | | Yes <input type="checkbox"/> |
| 11.10 | PLCP Header: Header Error Check | 11.3.2.2.3 | M | | Yes <input type="checkbox"/> |
| 11.11 | PLCP Data Whitener: Scrambling and Bias Suppression Encoding | 11.3.2.3, 11.3.3.1.1 | M | | Yes <input type="checkbox"/> |
| 11.12 | Transmit: transmit on MAC request | 11.3.3.1.1 | M | | Yes <input type="checkbox"/> |
| 11.13 | Transmit: format and whiten frame | 11.3.3.1.1 | M | | Yes <input type="checkbox"/> |
| 11.14 | Transmit: Support PHY service primitives | 11.3.3.1.1 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.15 | Transmit: Timing | 11.3.3.1.1 | M | | Yes <input type="checkbox"/> |
| 11.16 | CS/CCA: perform on a minimum of one antenna | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.17 | CS/CCA: Detect preamble starting up to 20 μ s after start of slot time | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.18 | CS/CCA: Detect preamble starting at least 16 μ s prior to end of slot time | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.19 | CS/CCA: Detect random data | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.20 | CS/CCA: Perform on antenna with essentially same gain and pattern as transmit antenna | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.21 | CS/CCA: Detect valid SFD and PLCP header | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.22 | CS/CCA: Maintain BUSY indication until end of length contained in valid PLCP header | 11.3.3.2.1 | M | | Yes <input type="checkbox"/> |
| 11.23 | CS/CCA: Support PHY service primitives | 11.3.3.2.1 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.24 | Receive: Receive and dewhiten frame | 11.3.3.3.1 | M | | Yes <input type="checkbox"/> |
| 11.25 | Receive: Support PHY service primitives | 11.3.3.3.1 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.26 | PLME: Support frequency hopping sync | 11.4.2.2 | M | | Yes <input type="checkbox"/> |
| 11.27 | PLME: Support PLME primitives | 11.4.3.1 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.28 | PMD: Support PMD service primitives | 11.5.5 | O | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.29 | 1M PMD: Operating frequency range | 11.6.3 | C:M | Local reg. | Yes <input type="checkbox"/> |
| 11.30 | 1M PMD: Number of operating channels | 11.6.4 | C:M | | Yes <input type="checkbox"/> |
| 11.31 | 1M PMD: Operating channel frequencies | 11.6.5 | C:M | | Yes <input type="checkbox"/> |
| 11.32 | 1M PMD: Occupied channel bandwidth | 11.6.6 | C:M | Local reg. | Yes <input type="checkbox"/> |
| 11.33 | 1M PMD: Minimum hop rate | 11.6.7 | C:M | Local reg. | Yes <input type="checkbox"/> |
| 11.34 | 1M PMD: Hop sequences | 11.6.8 | C:M | | Yes <input type="checkbox"/> |
| 11.35 | 1M PMD: Unwanted emissions | 11.6.9 | C:M | Local reg. | Yes <input type="checkbox"/> |
| 11.36 | 1M PMD: Modulation 2GFSK, BT=0.5, 1=positive freq dev, 0=negative freq dev | 11.6.10 | M | | Yes <input type="checkbox"/> |
| 11.37 | 1M PMD: Peak frequency deviation | 11.6.10 | M | > 110 KHz | Yes <input type="checkbox"/> |
| 11.38 | 1M PMD: Zero crossing error | 11.6.10 | M | < +/-1/8 | Yes <input type="checkbox"/> |

| | | | | symbol | |
|-------|---|-----------|---|--|--|
| 11.39 | 1M PMD: Nominal channel data rate | 11.6.11 | M | 1 Mbps | Yes <input type="checkbox"/> |
| 11.40 | 1M PMD: Channel switching/settling time | 11.6.12 | M | < 224 μ s | Yes <input type="checkbox"/> |
| 11.41 | 1M PMD: Receive to transmit switch time | 11.6.13 | M | < 19 μ s | Yes <input type="checkbox"/> |
| 11.42 | 1M PMD: Nominal frame transmit power | 11.6.14.1 | M | < +/-2 dB of nominal | Yes <input type="checkbox"/> |
| 11.43 | 1M PMD: Transmit power levels | 11.6.14.2 | M | Local reg., >10 mW | Yes <input type="checkbox"/> |
| 11.44 | 1M PMD: Transmit power level control to <100 mW | 11.6.14.3 | M | | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11.45 | 1M PMD: Transmit spectrum shape | 11.6.14.4 | M | | Yes <input type="checkbox"/> |
| 11.46 | 1M PMD: Transmit center frequency tolerance | 11.6.14.5 | M | < +/-60 KHz | Yes <input type="checkbox"/> |
| 11.47 | 1M PMD: Transmitter ramp periods | 11.6.14.6 | M | < 8 μ s | Yes <input type="checkbox"/> |
| 11.48 | 1M PMD: Receiver input dynamic range | 11.6.15.1 | M | Sensitivity to >-20 dBm | Yes <input type="checkbox"/> |
| 11.49 | 1M PMD: Receiver center frequency acceptance range | 11.6.15.2 | M | +/- 60 KHz | Yes <input type="checkbox"/> |
| 11.50 | 1M PMD: Clear channel assessment power threshold for Pdet 90% (preamble) / 70% (random data) for 100 mW units | 11.6.15.3 | M | -85 dBm (preamble) -65 dBm (random) | Yes <input type="checkbox"/> |
| 11.51 | 1M PMD: Clear channel assessment power threshold for units >100 mW; sensitivity threshold is 1/2 dB lower for every dB above 20 dBm | 11.6.15.3 | M | | Yes <input type="checkbox"/> |
| 11.52 | 1M PMD: Minimum receiver sensitivity at FER=3% with 400 octet frames | 11.6.15.4 | M | < -80 dBm | Yes <input type="checkbox"/> |
| 11.53 | 1M PMD: Intermodulation protection | 11.6.15.5 | M | 30 dB | Yes <input type="checkbox"/> |
| 11.54 | 1M PMD: Desensitization | 11.6.15.6 | M | +/-2 ch: 30 dB >+/-3 ch: 40 dB | Yes <input type="checkbox"/> |
| 11.55 | 1M PMD: Operating temperature range | 11.6.16 | M | I: 0-40 C II: -30-+70 C | Yes <input type="checkbox"/> |
| 11.56 | 2M PMD: All 1M PMD requirements | 11.7.1 | M | | Yes <input type="checkbox"/> |
| 11.57 | 2M PMD: Modulation 4GFSK, BT=0.5 | 11.7.2 | M | | Yes <input type="checkbox"/> |
| 11.58 | 2M PMD: Frame structure for 2M PHY | 11.7.2.1 | M | | Yes <input type="checkbox"/> |
| 11.59 | 2M PMD: Nominal channel data rate | 11.7.3 | M | 2 Mbps | Yes <input type="checkbox"/> |
| 11.60 | 2M PMD: Input Dynamic Range | 11.7.4 | M | Sensitivity to >-20 dBm | Yes <input type="checkbox"/> |
| 11.61 | 2M PMD: Minimum receiver sensitivity at FER=3% with 400 octet frames | 11.7.5 | M | < -75 dBm | Yes <input type="checkbox"/> |
| 11.62 | 2M PMD: Intermodulation protection | 11.7.6 | M | 25 dB | Yes <input type="checkbox"/> |
| 11.63 | 2M PMD: Desensitization | 11.7.7 | M | +/-2 ch: 20 dB >+/-3 ch: 30 dB | Yes <input type="checkbox"/> |
| 11.64 | PHY MIB: aSlot_Time | 11.8.2 | M | 50 μ s | Yes <input type="checkbox"/> |

| | | | | | |
|-------|--------------------------------|--------|---|-----------------------|------------------------------|
| 11.65 | PHY MIB: aRxTx_Turnaround_Time | 11.8.2 | M | 20 μ s | Yes <input type="checkbox"/> |
| 11.66 | PHY MIB: aSIFS_Time | 11.8.2 | M | 28 \pm 2/-3 μ s | Yes <input type="checkbox"/> |