

Xeta14 OEM Module

1.4 GHz Serial

Software Defined Industrial Radio

The **Xeta14 OEM Module** is an extremely capable and flexible industrial software defined radio. The module utilizes the XetaWave patent pending **Dual Decode Digital Architecture™** that offers superior receiver performance.

The **Xeta14** supports multiple modulation schemes and features that can selectively switch the modulation scheme to achieve optimal data throughput given the available channel size and environmental noise.



The **MultiSpeed MultiPoint™** mode enables Endpoints operating at different over-the-air data transfer rates to communicate with an Access Point over the same network. To eliminate self-interference, transmission timing within networks with multiple Access Points is precisely control using **Multi-Master Synchronization**.

Key Features

High Speed Over-the-air data transfer rates from 10 kbps to 210 kbps.

Selective Modulation Multiple MSK, PSK, and QAM modulations.

Adjustable RF Output RF power output from 10 mW to 610 mW (+10 dBm to +27.8 dBm).

Secure Over-the-air data encryption using 256-bit AES.

Multi-Speed TDMA Offers multiple logical data channels with different speeds within a single radio.

Flexible Channel Sizes Comply with world wide regulations and maximize throughput.

Interchangeable Xeta3, Xeta9, Xeta13, Xeta14, and Xeta24 radio modules are drop in replacements.

Xeta14 Specifications

Transmitter

| | |
|---------------------|-------------------------------------|
| Frequency Range | 1.427 to 1.432 GHz |
| RF Output Power | 10 to 610 mW |
| Modulation | MSK, BPSK, QPSK, 8PSK, 16QAM, 32QAM |
| RF Data Rate | 10 to 210 kbps |
| Occupied Bandwidth | 12.5, 25, & 50 kHz |
| Frequency Stability | 0.5 ppm |

Receiver (subset)

| Channel Size | Sensitivity | Data Rate | Modulation |
|----------------|--------------------------------------|-----------|------------|
| 12.5 kHz | -115 dBm | 10 kbps | MSK |
| | -103 dBm | 23 kbps | QPSK |
| | -97 dBm | 34 kbps | 8PSK |
| | -89 dBm | 57 kbps | 32QAM |
| 25 kHz | -112 dBm | 19 kbps | MSK |
| | -106 dBm | 36 kbps | QPSK |
| | -100 dBm | 52 kbps | 8PSK |
| 50 kHz | -86 dBm | 105 kbps | 64QAM |
| | -109 dBm | 39 kbps | MSK |
| | -102 dBm | 71 kbps | QPSK |
| | -97 dBm | 101 kbps | 8PSK |
| | -90 dBm | 175 kbps | 32QAM |
| | -84 dBm | 210 kbps | 64QAM |
| RF Selectivity | 33 dB (12.5 kHz) / 30 dB (25&50 kHz) | | |

Specifications subject to change without notice.

Ordering

| | |
|--------------------|----------------------------------|
| XETA14-00MNNFA | Board level OEM, TTL interface |
| XETA14-00MNNFA-232 | Board level OEM, RS232 interface |

Data Transmission

| | |
|---------------------|--|
| Data Interface | Serial TTL or RS232 |
| Data Connector | 24-pin Header |
| Data Interface Rate | Up to 2 Mbps (TTL) Up to 921.6 kbps (RS232) |
| Data Encryption | 256-bit AES |
| Error Detection | 32-bit CRC, Retransmit on error |
| RF Connector | MMCX |
| RF Impedance | 50 Ohms |

Power

| | |
|------------------|--------------------|
| Input Voltage | +7.5 Vdc \pm 0.5 |
| Transmit Current | < 1.0 A @ 7.5 Vdc |
| Receive Current | < 275 mA @ 7.5 Vdc |
| Idle Current | < 150 mA @ 7.5 Vdc |

Environmental / Physical

| | |
|-----------------------|---------------------------------|
| Operating Temperature | -40°C to +75°C |
| Humidity | 95% @ +40°C non-condensing |
| Safety | UL Class 1 Div 2 |
| Dimensions | 2.0" x 1.4" x 0.37" (L x W x H) |
| Weight | 24 grams |

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