

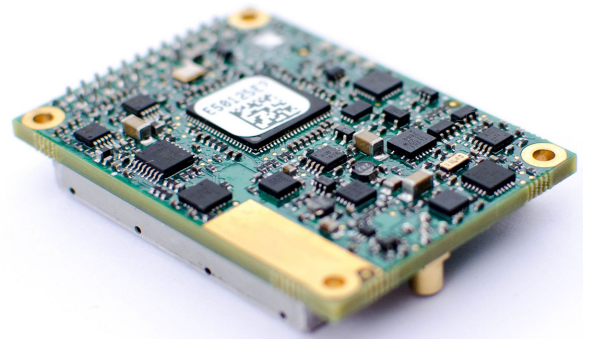
# Xeta13 OEM Module

## 1.3 GHz Serial *Software Defined Industrial Radio*

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The **Xeta13 OEM Module** is an extremely capable and flexible industrial Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System (DTS) software defined radio. The module utilizes a XetaWave patent pending **Dual Decode Digital Architecture™** that offers significant receiver performance.

The **Xeta13** 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. Simultaneous transmissions within a network using the new **XetaMESH** feature increases the aggregate throughput while supporting peer to peer communications.

### Key Features

**High Speed** Over-the-air data transfer rates from 57 kbps to 4.4 Mbps.

**Selective Modulation** Multiple MSK, FSK, PSK, and QAM modulations.

**Dual Mode** Frequency hopping and single channel operations.

**Adjustable RF Output** 100 mW to 5 Watts (+20 to +37 dBm) RF output.

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

**XetaMESH** Provides peer to peer communications within a point to multipoint network.

**Options** Available with TTL or RS232 serial interface, and TDMA.

# Xeta13 OEM Module Specifications

## Transmitter

Frequency Range	1.35 to 1.39 GHz
RF Output Power	0.10 to 5 Watts
Modulation	MSK, 2FSK, BPSK, QPSK, 8PSK, 16PSK, 16QAM, 32QAM
RF Data Rate	57 kbps to 4.4 Mbps
Occupied Bandwidth	76 kHz to 1.2 MHz
Frequency Stability	1.0 ppm

## Receiver

Channel Size	Sensitivity	Data Rate	Modulation
76 kHz	-110 dBm	57 kbps	MSK
154 kHz	-108 dBm	114 kbps	MSK
207 kHz	-107 dBm	153 kbps	MSK
310 kHz	-104 dBm	229 kbps	MSK
600 kHz	-100 dBm	530 kbps	BPSK
	-91 dBm	1.59 Mbps	8PSK
	-85 dBm	2.12 Mbps	16QAM
900 kHz	-81 dBm	2.65 Mbps	32QAM
	-98 dBm	663 kbps	2FSK
	-98 dBm	884 kbps	BPSK
1.2 MHz	-96 dBm	1.76 Mbps	QPSK
	-90 dBm	2.65 Mbps	8PSK
	-83 dBm	3.53 Mbps	16PSK
	-85 dBm	3.53 Mbps	16QAM
	-81 dBm	4.41 Mbps	32QAM

## Ordering

XETA13-TORA	Board level OEM, TTL interface
XETA13-RORA	Board level OEM, RS232 interface
XETA13-TORA-TDMA	Board level OEM, TTL interface, TDMA

## Data Transmission

Data Interface	Serial TTL or RS232
Data Connector	24-pin Samtec Header
Data Interface Rate	Up to 2 Mbps (TTL) Up to 921.6 kbps (RS232)
Error Detection	32-bit CRC, Retransmit on error
Error Correction	Golay, Small Block, Reed-Solomon
RF Connector	MMCX / 50 Ohms

## Power

Input Voltage	+12.5 ± 5% Vdc
Transmit Current	< 2.9 A @ +12.5 Vdc
Receive Current	< 80mA @ +12.5 Vdc
Idle Current	< 3mA @ +12 Vdc

## Environmental / Physical

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

