

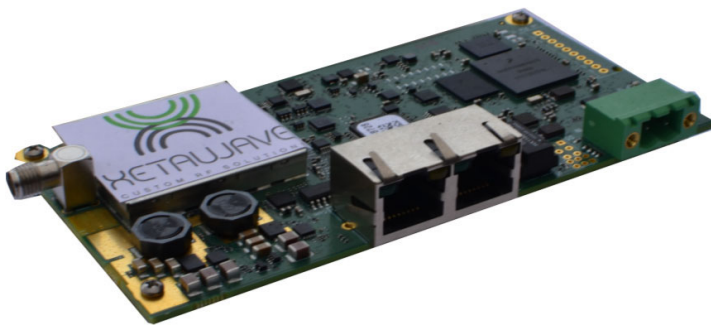
### *Software Defined Industrial Radio*

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The **Xeta89x Ethernet radio** is an extremely capable, flexible, low cost industrial Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System

(DTS) software defined radio (SDR).

The **Xeta89x** is a board level radio that supports the 868 MHz and 900 MHz ISM frequency bands.



The **Xeta89x** 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.

## Key Features

**High Speed** Over-the-air data transfer rates from 10 kbps to 2.6 Mbps.

**Dual Band** 864.9 to 870 MHz and 902 to 928 MHz operation.

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

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

**Secure** Over-the-air data encryption using 128-bit and 256-bit AES.

**Adjustable RF Output** 3 mW to 500 mWatts (+4.8 to +27 dBm) RF power output in 800 MHz band and 10 mW to 1 Watt (+10 to +30 dBm) in 900 MHz band.

**Network Types** Point to Point, Point to Multipoint, and CSMA Peer to Peer.

**MultiSpeed Multipoint** Access Point communicates with Endpoints operating at different RF data rates.

# Xeta89x Specifications

## 800 MHz Transmitter

Frequency Range	864.9 to 870 MHz
RF Output Power	0.003 to 0.5 Watts
Modulation	MSK, QPSK, 8PSK, 16QAM, 32QAM
RF Data Rate	10 kbps to 736 kbps
Occupied Bandwidth	50, 100, & 250 kHz
Frequency Stability	1.0 ppm

## 900 MHz Transmitter

Frequency Range	902 to 928 MHz
RF Output Power	0.01 to 1 Watt
Modulation	MSK, BPSK, QPSK, 8PSK
RF Data Rate	57 kbps to 2.6 Mbps
Occupied Bandwidth	76 kHz to 1.2 MHz
Frequency Stability	1.0 ppm

## Data Transmission

Data Interface	Ethernet & RS232/422/485 Serial
Data Connector	RJ45 (2)
Data Interface Rate	10/100 Mbps (Ethernet) Up to 230.4 kbps (Serial)
Data Encryption	128 & 256-bit AES
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Goley, Small Block, Reed-Solomon

## Environmental / Physical

Operating Temp	-40°C to +75°C
Humidity	95% @ +40°C non-condensing
Dimensions	5.0" x 2.4" x 1.0" (L x W x H)
Weight	170 grams

## Ordering (other variants available)

XETA89X-11INLFC	Board Level, 1 Ethernet & 1 Serial interfaces, Linux
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## 800 MHz Receiver

Channel Size	Sensitivity	Data Rate	Modulation
50 kHz	-110 dBm	38 kbps	MSK
	-107 dBm	76 kbps	QPSK
100 kHz	-108 dBm	74 kbps	MSK
	-104 dBm	120 kbps	QPSK
250 kHz	-103 dBm	177 kbps	MSK
	-100 dBm	280 kbps	QPSK
	-94 dBm	420 kbps	8PSK
	-86 dBm	736 kbps	32QAM

## 900 MHz Receiver

Channel Size	Sensitivity	Data Rate	Modulation
76 kHz	-111 dBm	57 kbps	MSK
154 kHz	-109 dBm	115 kbps	MSK
207 kHz	-108 dBm	153 kbps	MSK
1.2 MHz	-100 dBm	883 kbps	BPSK
	-97 dBm	1.76 Mbps	QPSK
	-92 dBm	2.65 Mbps	8PSK

## Interfaces

Power Connector	2-pin Phoenix
Input Voltage	+10 to +32 Vdc
Transmit	900 mA @ +12 Vdc (900 MHz) 650 mA @ +12 Vdc (800 MHz)
RF Connector	SMA / 50 Ohms

