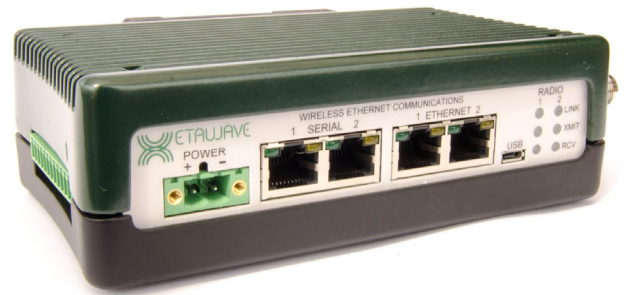


## *900 MHz Ethernet Software Defined Industrial Radio*

The **Xeta9 Ethernet radio** 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 **Xeta9** 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 10 kbps to 4.4 Mbps.

**Dual Band** 902 to 928 MHz ISM and 928 to 960 MHz MAS 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** Power output up to 1 Watt (+17 to +30 dBm) for ISM and 3 Watts (+34.89 dBm) for MAS.

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

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

**Diagnostics** monitoring of TX and RX statistics (noise, RSSI, more), voltage, and temperature over SNMP and Modbus.

# Xeta9 Specifications

## MAS Transmitter

Frequency Range	928 to 960 MHz
RF Output Power	50 mW to 3 Watts
Modulation	MSK, 4FSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM
RF Data Rate	10 kbps to 210 kbps
Occupied Bandwidth	12.5, 25, & 50 kHz
Frequency Stability	1.0 ppm

## MAS Receiver

Channel Size	Sensitivity	Data Rate	Modulation
12.5 kHz	-115 dBm	10 kbps	MSK
	-102 dBm	19 kbps	4FSK
	-103 dBm	23 kbps	QPSK
	-97 dBm	34 kbps	8PSK
	-93 dBm	45 kbps	16QAM
	-89 dBm	57 kbps	32QAM
	-83 dBm	70 kbps	64QAM
25 kHz	-112 dBm	19 kbps	MSK
	-106 dBm	36 kbps	QPSK
	-100 dBm	52 kbps	8PSK
	-93 dBm	87 kbps	32QAM
	-86 dBm	105 kbps	64QAM
50 kHz	-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)		

## ISM Transmitter

Frequency Range*	902 to 928 MHz
RF Output Power	50 mW to 1 Watt
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

## ISM Receiver

Channel Size	Sensitivity	Data Rate	Modulation
76 kHz	-110 dBm	57 kbps	MSK
154 kHz	-107 dBm	114 kbps	MSK
207 kHz	-106 dBm	154 kbps	MSK
310 kHz	-103 dBm	229 kbps	MSK
600 kHz	-99 dBm	530 kbps	BPSK
	-91 dBm	1.59 Mbps	8PSK
900 kHz	-87 dBm	2.12 Mbps	16QAM
	-81 dBm	2.65 Mbps	32QAM
1.2 MHz	-98 dBm	663 kbps	2FSK
	-98 dBm	884 kbps	BPSK
	-95 dBm	1.76 Mbps	QPSK
	-90 dBm	2.65 Mbps	8PSK
	-83 dBm	3.53 Mbps	16PSK
1.2 MHz	-86 dBm	3.53 Mbps	16QAM
	-81 dBm	4.41 Mbps	32QAM
RF Selectivity	50 dB		

\* *Frequency Range may vary by Country, for example*

Australia, Peru	916-928 MHz
Brazil	902-907 & 916-928 MHz



# Xeta9 Specifications

## Data Transmission

Data Interface	Ethernet & RS232/422/485 Serial
Data Connector	RJ45 (4)
Data Interface Rate	10/100 Mbps Base-T (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

## Networking

Protocols	IEEE 802.3, TCP, UDP, ARP, DHCP, NTP, FTP, ICMP, HTTP, HTTPS, Multicast SNMP
Management	Web GUI, SNMP v1, v2, & v3
Serial	TCP/UDP Server, TCP Client, Modbus RTU Server
VLAN	802.1q VLANs and trunks
Features	IP Routing, Net Filter, NAT, Port Forwarding, Modbus TCP/RTU Bridging, Data Concentrator, PLC, Wire Replacement, XetaMESH, XetaEMP

## Interfaces

Power Connector	2-pin Phoenix
Input Voltage	+10 to +32 Vdc
RF Connector	TNC / 50 Ohms

## ISM Power

Transmit	335 mA @ +12 Vdc
Receive	290 mA @ +12 Vdc
Idle	270 mA @ +12 Vdc

## MAS Power

Transmit	495 mA @ +12 Vdc
Receive	380 mA @ +12 Vdc
Idle	210 mA @ +12 Vdc

## Environmental / Physical

Operating Temperature	-40°C to +75°C (ISM) -40°C to +60°C (MAS)
Humidity	95% @ +40°C non-condensing
Safety	UL Class 1 Div 2
Dimensions	6.62" x 3.45" x 1.83" (L x W x H)
Weight	700 grams

## Ordering (other variants available)

XETA9-22DMLFC	Metal Enclosed, 2 Ethernet & 2 Serial, Linux
XETA9-22DMLFC-IO	Metal Enclosed, 2 Ethernet & 2 Serial, 8 IO, Linux
XETA9-12IMLFC	Metal Enclosed, 2 Ethernet & 1 Serial, Linux, ISM Only
XETA9-22IMLFC	Metal Enclosed, 2 Ethernet & 2 Serial, Linux, ISM Only
XETA9-22IPLFC	Plastic Enclosed, 2 Ethernet & 2 Serial, Linux, ISM Only

