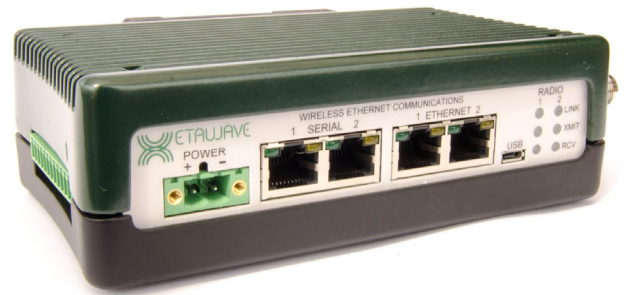


900 MHz Ethernet Software Defined Industrial Radio

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

Compatible With

XETA9X-10INNFC	Board Level, 1 Serial interfaces
XETA9X-11INLFC	Board Level, 2 Ethernet & 2 Serial interfaces, Linux

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
XETA9-22IPLFC	Plastic Enclosed, 2 Ethernet & 2 Serial, Linux, ISM Only

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