

## 700 MHz FCC/IC Ethernet Software Defined Industrial Radio

The **Xeta7 Ethernet radio** is an extremely capable and flexible industrial software defined radio. The **Xeta7** Ethernet radio is offered with an option to include 8 programmable inputs and outputs. The **Xeta7** is based on the XetaWave patent pending **Dual Decode Digital Architecture™** that offers significant receiver performance.

The **Xeta7** supports multiple modulation schemes and features that can selectively switch to achieve optimal data throughput given the available channel size and environmental noise.



**MultiSpeed MultiPoint™** mode enables Endpoints operating at different over-the-air data transfer rates to communicate with an Access Point over the same network. The new **Enhanced MultiPoint, XetaEMP**, mode provides an increase in throughput and decreased in latency over our standard modes and against competitive products.

## Key Features

**High Speed** Over-the-air data transfer rates from 10 kbps to 91 kbps and increased throughput with the **XetaEMP** mode.

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

**Dual Mode** Duplex and single channel operations.

**Network Types** Point to Point, Point to MultiPoint, CSMA peer to peer, and Enhanced MultiPoint.

**Adjustable RF Output** 50 mW to 8 Watts (+17 to +39 dBm) RF output.

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

**MultiSpeed Multipoint** Access Points communicate with Endpoints operating at different RF Data Rates.

**XetaEMP** Additional new protocol with increased throughput and decreased latency.

# Xeta7 Specifications

## Transmitter

Frequency Range	757 to 758 / 787 to 788 MHz
RF Output Power	0.50 to 10 Watts
Modulation	MSK, QPSK, 8PSK, 16QAM 32QAM
RF Data Rate	10 kbps to 1 Mbps
Occupied Bandwidth	12.5 to 250 kHz
Frequency Stability	1.0 ppm

## Receiver

Channel Size	Sensitivity	Data Rate	Modulation	Channel Size	Sensitivity	Data Rate	Modulation
12.5 kHz	-113 dBm	10 kbps	MSK	100 kHz	-108 dBm	76 kbps	MSK
	-109 dBm	23 kbps	QPSK		-103 dBm	160 kbps	QPSK
	-104 dBm	34 kbps	8PSK		-97 dBm	240 kbps	8PSK
	-100 dBm	45 kbps	16QAM		-91 dBm	320 kbps	16QAM
	-94 dBm	57 kbps	32QAM		-87 dBm	400 kbps	32QAM
25 kHz	-113 dBm	19 kbps	MSK	200 kHz	-105 dBm	153 kbps	MSK
	-107 dBm	36 kbps	QPSK		-102 dBm	320 kbps	QPSK
	-102 dBm	52 kbps	8PSK		-94 dBm	480 kbps	8PSK
	-98 dBm	70 kbps	16QAM		-91 dBm	640 kbps	16QAM
	-93 dBm	87 kbps	32QAM		-87 dBm	800 kbps	32QAM
50 kHz	-110 dBm	39 kbps	MSK	250 kHz	-104 dBm	194 kbps	MSK
	-105 dBm	71 kbps	QPSK		-101 dBm	403 kbps	QPSK
	-99 dBm	101 kbps	8PSK		-95 dBm	605 kbps	8PSK
	-93 dBm	137 kbps	16QAM		-91 dBm	806 kbps	16QAM
	-89 dBm	175 kbps	32QAM		-87 dBm	1 Mbps	32QAM



# Xeta7 Specifications

## Data Transmission

Data Interface	Ethernet & RS232/422/485 Serial
Data Connector	RJ45 (2 Ethernet & 2 Serial)
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
RF Connector	TNC / 50 Ohms

## Networking

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

## Power

Input Voltage	+12 to +32 Vdc
Transmit Current	2.6 A @ +12 Vdc
Receive Current	300 mA @ +12 Vdc
Power Connector	2-pin Phoenix

## Environmental / Physical

Op. Temperature	-40°C to +75°C
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)

XETA7-22MMLFB	Metal Enclosed, 2 Ethernet & 2 Serial, Linux
XETA7-22MMLFB-IO	Metal Enclosed, 2 Ethernet & 2 Serial, 8 IO, Linux
XETA7X7-22MMLFB	Metal Enclosed Dual Radio, 2 Ethernet & 2 Serial, Linux

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