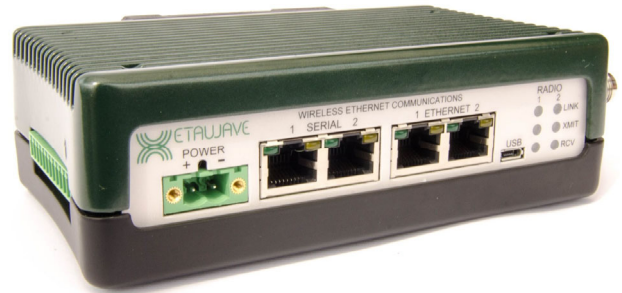


## 700 MHz FCC/IC Ethernet Software Defined Industrial Radio

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<br>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)<br>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,<br>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<br>Forwarding, Modbus TCP/RTU<br>Bridging, Data Concentrator, PLC,<br>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 |

