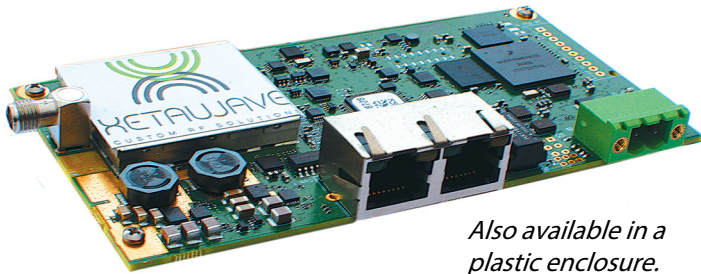


# Xeta9x Emancipator

900 MHz ISM

## Software Defined Industrial Radio



*Also available in a plastic enclosure.*

The **Xeta9x Emancipator** is an extremely capable, flexible, low cost industrial Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System (DTS) 900 MHz software defined radio (SDR). The **Xeta9x Emancipator** is available in a board level version or a plastic enclosure as a serial only radio or an Ethernet/Serial radio.

The **Xeta9x Emancipator** utilizes XetaWave's patent pending **Dual Decode Digital Architecture™** that offers superior receiver performance, supports multiple modulation schemes, and selectively switches modulation to achieve optimal data throughput given the available channel size and environmental noise. XetaWave's **MultiSpeed MultiPoint™** mode enables Endpoints operating at different over-the-air data transfer rates to communicate with an Access Point over the same network. To eliminate self-interference, transmission timing within networks with multiple Access Points is precisely control using **Multi-Master Synchronization**.

## Key Features

**High Speed** Over-the-air data transfer rates from 57 kbps to 2.6 Mbps.

**Selectable Modulation** Multiple MSK, FSK, and PSK modulations.

**Adjustable RF Output** RF power output from 50 mW to 1 Watts (+17 dBm to +30 dBm).

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

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

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

**Serial/Ethernet; Ethernet or Serial** In addition to the Ethernet/Serial version, the Xeta9x is available as either a serial only or Ethernet. The Ethernet version is available with three digital input signals.

**Multiple Form Factors** Board level and plastic enclosure versions available.

**Compatibility** The 9710 mode offers the ability to communicate with MDS 9710 TransNET repeaters and master radios operating in the MAS licensed band.

# Xeta9x Emancipator Specifications

## Transmitter

Frequency Range	902 to 928 MHz
RF Output Power	50 mW to 1 Watt
Modulation	MSK, 2FSK, 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

## Receiver (subset)

Channel Size	Sensitivity	Data Rate	Modulation
76 kHz	-110 dBm	57 kbps	MSK
154 kHz	-107 dBm	114 kbps	MSK
207 kHz	-106 dBm	153 kbps	MSK
310 kHz	-103 dBm	229 kbps	MSK
600 kHz	-99 dBm	530 kbps	BPSK
	-91 dBm	1.59 Mbps	8PSK
900 kHz	-98 dBm	663 kbps	2FSK
1.2 MHz	-98 dBm	884 kbps	BPSK
	-95 dBm	1.76 Mbps	QPSK
	-90 dBm	2.65 Mbps	8PSK
RF Selectivity	50 dB	50 dB	50 dB

## Data Transmission

Data Interface	Serial RS232/422/485 or RS232/422/485 & Ethernet
Data Interface Rate	10/100 Mbps (Ethernet) Up to 230.4 kbps
Data Connector	10-pin Header or 2 RJ45
Error Detection	32-bit CRC, Retransmit on error
Data Encryption	128 & 256-bit AES
RF Connector	SMA / 50 Ohms

## Power

Input Voltage	+10 to +32 Vdc
Transmit Current	< 204 mA @ +12 Vdc
Receive Current	< 141 mA @ +12 Vdc
Idle Current	< 103 mA @ +12 Vdc

## Environmental / Physical

Operating Temperature	-40°C to +85°C
Humidity	95% @ +40°C non-condensing
Safety	UL Class 1 Div 2
Dimensions (board level)	5.1" x 3.7" x 1.0" (L x W x H)
Weight (board level)	170 grams

*Specifications subject to change without notice.*

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## Ordering

Contact XetaWave for other available models.

XETA9X-11INLFC	Board level, 1 Ethernet & 1 Serial, Linux
XETA9X-11INUFC	Board level, 1 Ethernet & 1 Serial, uTasker
XETA9X-10INNFC	Board level, 1 Serial & 1 Diagnostic
XETA9X-10DNNFC	Board level, 1 Serial & Diagnostic, ISM/MAS, 9710 A/B
XETA9X-11IPLFC	Plastic Enclosed, 1 Ethernet & 1 Serial, Linux
XETA9X-11IPLFC	Plastic Enclosed, 1 Ethernet & 1 Serial, uTasker

