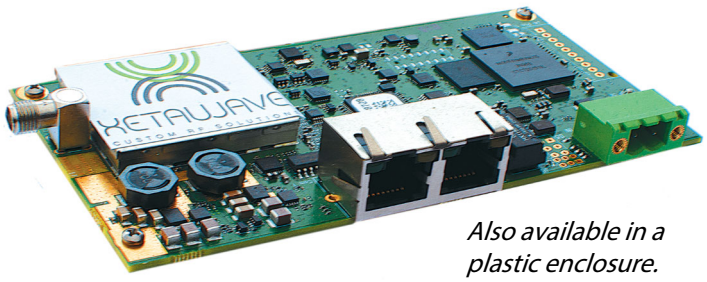
Xeta9x Emancipator

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, PSK, and QAM 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.

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Xeta9x Emancipator Specifications

Transmitter

Frequency Range	902 to 928 MHz
RF Output Power	50 mW to 1 Watt
Modulation	MSK, 2FSK, BPSK, QPSK, 8PSK, 16QAM, 32QAM
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
	-87 dBm	2.12 Mbps	16QAM
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		

Data Transmission

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

4.2020

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

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