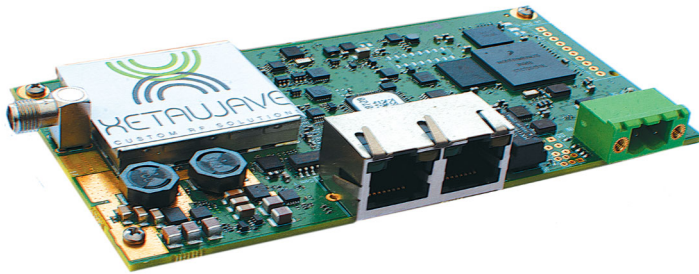


Xeta9 Emancipator

900 MHz ISM

Software Defined Industrial Radio



The **Xeta9 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 module utilizes a XetaWave patent pending **Dual Decode Digital Architecture™** that offers superior receiver performance.

The **Xeta9 Emancipator** supports multiple modulation schemes and features and selectively switches modulation schemes to achieve the 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.

To eliminate self-interference, transmission timing within networks with multiple Access Points is precisely control using **Multi-Master Synchronization**. The **Xeta9 Emancipator** is available as a serial only radio or an Ethernet radio with one Ethernet and one Serial port.

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

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

OPTIONS Available as a serial only or Ethernet with the Ethernet version available with three digital input signals.

Compatibility the 9710 options the mas licensed frequency band with the ability to communicate with MDS 9710 TransNET repeaters and master radios.

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		

Specifications subject to change without notice.

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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	5.1" x 3.7" x 1.0" (L x W x H)
Weight	170 grams

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-SE	Board level, 1 Serial & Diagnostic, ISM/MAS, 9710 A/B

ELEVATE
WIRELESS

10680 S. De Anza Blvd. Ste. D
Cupertino, CA 95014
Ph.: 408-642-5458
info@elevatewireless.com
www.elevatewireless.com