

## *Linux Edge Computer Software Defined Industrial Radio*



The **XetaEdge9** combines the **XetaEdge** and **Xeta9** to provide an extremely capable and flexible industrial Edge Computing application device with built-in 900 MHz Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System (DTS) software defined radio. The **XetaEdge9** is compatible with the Xeta9 family of radios in the ISM band and is Class 1 Div 2 certified.

The **XetaEdge9** is 100% open source allowing quick and simple hosting of many existing or new applications like the **AUTOSOL eACM** and the **Inductive Automation Ignition Edge** to offer multiple protocols to interact with exiting devices like flow meters, ROCs, and PLCs while reducing bandwidth needs with the use of the **MQTT** protocol.

The **XetaEdge9** supports multiple modulation schemes with auto configuration, **MultiSpeed MultiPoint™** mode, and simultaneous peer to peer transmission within a network using **XetaMESH**.

## Key Features

**High Speed** Over-the-air data rates from 10 kbps to 4.4 Mbps.

**Dual Mode** Frequency hopping and single channel operations in the 902 to 928 MHz unlicensed ISM band.

**Networks** Point to Point, Point to MultiPoint, CSMA Peer to Peer, and XetaMESH.

**Industrial Safe** C1D2 certified and operating temperature of  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ .

**Memory capacity** Host applications with 1 GB RAM and 4 GB Flash plus a micro SD slot.

**Apps** AUTOSOL eACM and Ignition Automation Ignition Edge installations available.

**Open Source** Utilize existing Linux applications or host new ones developed in Java, Python, Node-RED, Ruby, Perl, and many more.

## Processing

CPU	1 GHz ARM Cortex-A8
OS	Linux Debian, Ubuntu Server, Open Embedded
RAM / Flash / Expansion	1 GB / 4 GB / micro SD slot
Software	Ignition Edge, eACM, Node-RED, Java, Python, many more

## Data Transmission

Data Interface	Ethernet & RS232/485 Serial
Data Connector	RJ45 (2 Ethernet & 2 Serial)
Data Interface Rate	10/100 Mbps (Ethernet) Up to 1Mbps (Serial)
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Goley, Small Block, Reed-Solomon
Operating Modes	Point to Point, Point to MultiPoint, CSMA Peer to Peer, XetaMESH
RF Connector	TNC / 50 Ohms

## Power

Connector	2-pin Phoenix
Input Voltage	+10 to +32 Vdc
Transmit	225 mA @ +12 Vdc
Receive	190 mA @ +12 Vdc
Idle	176 mA @ +12 Vdc

## Environmental / Physical

Op Temperature	-40°C to +75°C	Dimensions	5.5" x 3.5" x 1.5" (L x W x H)
Humidity	95% @ +40°C non-condensing	Weight	182 grams
Safety	UL Class 1 Div 2		

## Ordering

XETAEC9-22IPDFA	Plastic Enclosed, 2 Ethernet, 2 Serial, Debian
XETAEC9-22IPDFA-IO	Plastic Enclosed, 2 Ethernet, 2 Serial, 8 I/O, Debian

## Transmitter

Frequency Range	902 to 928 MHz
RF Output Power	50 mW to 1 Watt
Modulation	MSK, 2FSK, BPSK, QPSK, 8PSK 16PSK, 16QAM, 32QAM
RF Data Rate	57 kbps to 4.4 Mbps
Occupied Bandwidth	76 kHz to 1.2 MHz
Frequency Stability	1.0 ppm

## Receiver

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
	-81 dBm	2.65 Mbps	32QAM
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
	-83 dBm	3.53 Mbps	16PSK
	-86 dBm	3.53 Mbps	16QAM
	-81 dBm	4.41 Mbps	32QAM

