

XetaEdge24

Linux Edge Computer Software Defined Industrial Radio



Plastic & metal enclosures available

The **XetaEdge24** combines the **XetaEdge** and **Xeta24** to provide an extremely capable and flexible industrial Edge Computing application device with built-in 2.4 GHz Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System (DTS) software defined radio. The **XetaEdge24** is compatible with the **Xeta24** family of radios in the ISM band and is Class 1 Div 2 certified.

The **XetaEdge24** 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 **XetaEdge24** 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 57 kbps to 4.4 Mbps.

Dual Mode Frequency hopping and single channel operations in the 2.402 to 2.478 GHz unlicensed ISM band.

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

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

Memory capacity Host applications with 1 GB RAM and 4 GB Flash with options for 8 and 16 GB, plus a micro SD slot.

Apps AUTOSOL eACM and Ignition Automation Ignition Edge installations available.

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

XetaEdge24 Specifications

Processing

CPU	1 GHz ARM Cortex-A8
OS	Linux Debian
RAM / Flash	1 GB / 4 GB / micro SD slot 8GB & 16GB FLASH Options

Networking

Protocols	IEEE 802.3, TCP, UDP, ARP, DHCP, NTP, FTP, ICMP, HTTP, HTTPS
Management	Web GUI
Serial	TCP/UDP Server, TCP Client, Modbus RTU Server
VLAN	802.1q VLANs and trunks, QoS
Features	IP Routing, Net Filter, NAT, Port Forwarding, Modbus TCP/RTU Bridging

Data Transmission

Data Interface	Ethernet & RS232/422/485 Serial
Data Connector	RJ45 (4)
Data Interface Rate	10/100 Mbps Base-T (Ethernet) Up to 1 Mbps (Serial)
Data Encryption	128 & 256-bit AES
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Goley, Small Block, Reed-Solomon
Operating Modes	Point to Point, Point to MultiPoint, Enhanced MultiPoint, XetaMESH, CSMA Peer to Peer
Compression	Low, Medium, High

Transmitter

Frequency Range	2.402 to 2.478 GHz
RF Output Power	10 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	-98 dBm	530 kbps	BPSK
	-99 dBm	1.06 Mbps	QPSK
	-96 dBm	1.59 Mbps	8PSK
	-91 dBm	2.12 Mbps	16QAM
	-85 dBm	2.65 Mbps	32QAM
1.2 MHz	-100 dBm	884 kbps	BPSK
	-96 dBm	1.76 Mbps	QPSK
	-90 dBm	2.65 Mbps	8PSK
	-84 dBm	3.53 Mbps	16PSK
	-85 dBm	3.53 Mbps	16QAM
	-80 dBm	4.41 Mbps	32QAM

Specifications subject to change without notice.

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Interfaces

Power Connector	2-pin Phoenix
Input Voltage	+10 to +32 Vdc
RF Connector	TNC / 50 Ohms

Power

Transmit	225 mA @ +12 Vdc (ISM)
Receive	190 mA @ +12 Vdc (ISM)
Idle	176 mA @ +12 Vdc

Environmental / Physical

Op. Temperature	-40°C to +75°C
Humidity	95% @ +40°C non-condensing
Safety	UL Class 1 Div 2
Dimensions (LxWxH)	6.62" x 3.45" x 1.83" (metal) 5.5" x 3.5" x 1.5" (plastic)
Weight	700 grams (metal) 182 grams (plastic)

Ordering (other variants available)

XETAEC24-22IMDFC	Metal Enclosed, 2 Ethernet & 2 Serial, ISM Only
XETAEC24-22IMDFC-IO	Metal Enclosed, 2 Ethernet & 2 Serial, 8 IO, ISM Only
XETAEC24-22IPDFC	Plastic Enclosed, 1 Ethernet & 1 Serial, ISM Only
XETAEC24-22IPDFC-IO	Plastic Enclosed, 2 Ethernet & 2 Serial, 8 IO, ISM Only

