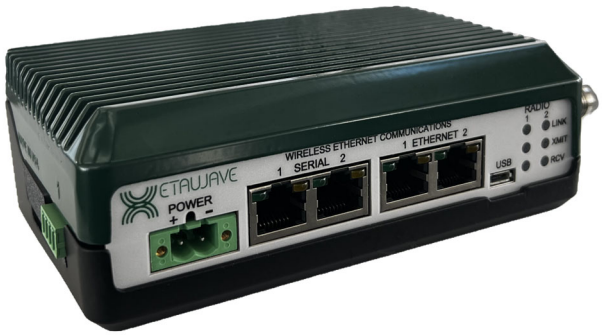
XetaEdge4

Industrial Edge Computer w/400 MHz Radio

The **XetaEdge4** combines the **XetaEdge** and **Xeta4** radio to provide an extremely capable and flexible industrial Edge Computing application device with an integrated 400 MHz MAS licensed software defined radio (SDR). The **XetaEdge4** is an industrial grade device with a metal enclosure, is Class 1 Div 2 certified, and compatible with the Xeta4 family of radios.

The **XetaEdge4** is 100% open source allowing quick and simple hosting of many existing or new applications, including the **AUTOSOL eACM** and the **Inductive Automation Ignition Edge** for interacting with existing devices like flow meters, ROCs, and PLCs while reducing bandwidth needs with the use of the **MQTT** protocol.



The **XetaEdge4** also supports multiple modulation schemes and MultiSpeed MultiPoint™ that allows End Points to selectively switch transfer rates with an Access Point to achieve optimal data throughput given the available channel size and RF environment. All Xeta4 radios from the uTasker, Linux, XetaEdge, and Debian series are over-the-air compatible and the Xeta4 also **supports compatibility with MDS**

Key Features

High Speed Over-the-air data transfer rates from 5 to 216 kbps plus higher throughput with payload compression and in the **XetaEMP** mode.

Dual Mode Duplex and single channel operations.

Networks Point to Point, Point to MultiPoint, Enhanced MultiPoint (**XetaEMP**), and CSMA Peer to Peer.

Memory Capacity Host and run applications with 1 GB RAM and 4 GB Flash with an option for 8GB or 16GB plus a micro SD slot.

Apps AUTOSOL eACM, Node-RED, Inductive Automation Ignition Edge, AVEVA IoT View, and more are supported.

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

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XetaEdge4 Specifications

Transmitter	FCC	IC/FCC	ETSI/RED
Frequency Range	450 to 470 MHz	406 to 430 & 450 to 470 MHz	406 to 470 MHz
Output Power	10 to 8000/10000 mW (10 to 39/40 dBm)		
Modulation	MSK, QSPK, 8PSK, 16QAM, 32QAM, 64QAM		
Data Rate	5 to 216 kbps		5 to 61 kbps
Channel Bandwidth	6.25, 12.5, 25 & 50 kHz		6.25 & 12.5 kHz
Frequency Stability	1.0 ppm		
Range	70+ miles		

Receive sensitivity numbers below are with FEC disabled. With FEC enabled, these typically improve by 3 dBm.

Receiver	6.25 kHz Channel		12.5 kHz Channel		25 kHz Channel	
Modulation	Sensitivity	Data Rate	Sensitivity	Data Rate	Sensitivity	Data Rate
MSK	-112 dBm	5 kbps	-115 dBm	10 kbps	-114 dBm	18 kbps
QPSK			-104 dBm	20 kbps	-107 dBm	29 kbps
8PSK			-100 dBm	31 kbps	-101 dBm	44 kbps
16QAM			-95 dBm	41 kbps	-98 dBm	59 kbps
32QAM			-91 dBm	51 kbps	-95 dBm	76 kbps
64 QAM			-90 dBm	61 kbps	-89 dBm	91 kbps

Receiver	50 kHz Channel	
Modulation	Sensitivity	Data Rate
MSK		43 kbps
QPSK		72 kbps
8PSK		105 kbps
16QAM		144 kbps
32QAM		180 kbps
64 QAM		216 kbps

XetaEdge4 Specifications

Processing

CPU	1 GHz ARM Cortex-A8
OS	Debian
RAM / Flash	1 GB / 4 GB
	8 GB & 16 GB Flash Options

Interfaces

Power Connector	2-pin Phoenix / +12 to +32 Vdc
Ethernet	2 x RJ45 / 10/100 Mbps Base-T
Serial	2 x RJ45 / up to 1Mbps / RS232/422/485
Micro USB	On-the-Go; +5 Vdc @ 500 mA
RF Connector	TNC / 50 Ohms

Power

Transmit	2.5 A @ +12 Vdc
Receive	190 mA @ +12 Vdc
Idle	176 mA @ +12 Vdc

Environmental/Physical

Op. Temperature	-40°C to +60°C
Humidity	95% @ +40°C non-condensing
Safety	UL Class 1 Div 2
Dimensions (LxWxH)	6.62" x 3.45" x 1.83" (metal)
Weight	700 grams (metal)

Functionality

Operating Modes	Point to Point, Point to MultiPoint, Enhanced MultiPoint, Peer to Peer
Roles	Access Point, Endpoint, Repeater
Compatibility Modes	As an Endpoint compatible with MDS 4710/4790 and SD4
Networking	Static IP Routing, Net Filtering, Port Forwarding, Network Address Translation, Modbus Bridging
Protocols	IEEE 802.3, TCP, UDP, ARP, DHCP, NTP, FTP, ICMP, HTTP, HTTPS, SSH, Telnet, Multicast SNMP
Management	Web GUI, SNMP v1, v2, & v3
VLANs	802.1q VLANs and Trunks, QoS
Quality of Service	Four Levels of VLAN QoS
Serial Services	TCP/UDP Terminal Server, TCP Terminal Client, Modbus RTU Server
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Golay, Reed-Solomon
Data Encryption	128 & 256-bit AES Payload Data Encryption
RF Encryption	128-bit AES RF Overhead Encryption
Compression	Decompress Only, Low, High
Repeater	Store-and-forward
MultiMaster	Synchronization of Collocated Access Points or Multiple Access Points within a Network
MultiSpeed	Up to 4 Data Rates within the Same Channel Bandwidth
Diagnostics	Neighbor List, RF Ping, RF Throughput, RF Statistics, IP Ping, Traceroute, IPERF, TCP Dump, DNS Lookup, Serial Statistics, Modbus Bridging Statistics
Programmable I/O	Option for 8 programmable input/output signals (4 independently programmed analog inputs, analog outputs, or digital inputs and 4 independently programed digital inputs or digital outputs)
Dual Radio	Option for dual radio that has the same or different frequency band

XetaEdge4 Specifications

Ordering

IC/FCC 406-430 & 450-470 MHz	
XETAEC4-22MMDFB	Metal Enclosed, 2 Ethernet & 2 Serial
XETAEC4-22MMDFB-IO	Metal Enclosed, 2 Ethernet & 2 Serial with 8 Programmable I/O
XETAEC4X4-22MMDFB	Metal Enclosed, Dual Radio, 2 Ethernet & 2 Serial
XETAEC4X4-22MMDFB-IO	Metal Enclosed, Dual Radio, 2 Ethernet & 2 Serial with 8 Programmable I/O
FCC 450-470 MHz	
XETAEC4B-22MMDFB	Metal Enclosed, 2 Ethernet & 2 Serial
XETAEC4B-22MMDFB-IO	Metal Enclosed, 2 Ethernet & 2 Serial with 8 Programmable I/O
XETAEC4BX4B-22MMDFB	Metal Enclosed, Dual Radio, 2 Ethernet & 2 Serial
XETAEC4BX4B-22MMDFB-IO	Metal Enclosed, Dual Radio, 2 Ethernet & 2 Serial with 8 Programmable I/O
Mixed Band Dual Radios	
XETAEC9X4-22DMDFC	902-928 MHz & 406-430/450-470 MHz Dual Radio, Metal Enclosed, 2 Ethernet & 2 Serial
XETAEC9X4B-22DMDFC	902-928 MHz & 450-470 MHz Dual Radio, Metal Enclosed, 2 Ethernet & 2 Serial

Specifications subject to change without notice.

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XETAWAVE
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