XETAWAVE
CUSTOM RF SOLUTIONS

XETAEDGE2

200 MHz Ethernet Radio

Industrial edge computer with SDR · licensed 217 to 220 MHz



960kbps
Max over-the-air rate

5W
RF output (+37 dBm)

70+mi
Range

Compatible
MDS 2710 and SD2

The **XetaEdge2** combines the power of the **XetaEdge** platform with the **Xeta2** radio to create a highly capable and flexible industrial Edge Computing solution. Featuring an integrated Software Defined Radio (SDR) operating in the licensed 217 to 220 MHz frequency band and running the Debian operating system, the **XetaEdge2** is part of XetaWave's latest generation of industrial radios.

Built on a 100% open-source architecture, the **XetaEdge2** enables rapid deployment of both existing and custom applications. Supported software includes eACM, Ignition Edge, CODESYS, PLC Shift, Node-RED, and many others, allowing seamless integration with field devices such as **meters**, **ROCs**, and **PLCs**.

All **Xeta2** radios across the uTasker, Linux, Debian, and XetaEdge product families are fully over-the-air compatible. The **XetaEdge2** also supports interoperability with **MDS 2710** and **SD2** master radios. For applications requiring simultaneous transmit and receive capability, the **XetaEdge2x2** model provides full-duplex operation.

KEY FEATURES

High Speed
9 kbps to 960 kbps over the air; higher throughput with payload compression and Enhanced MultiPoint.

Multiple Modes
Duplex and simplex operation supported including full-duplex Access Point with half-duplex End Points.

Adjustable RF Output
Transmit output power from 10 mW (+10 dBm) up to 5 W (+37 dBm).

Network Types
Point-to-Point, Point-to-Multipoint, CSMA Peer-to-Peer, Enhanced MultiPoint, and Mesh.

Secure
Over-the-air payload and overhead encryption using 128-bit or 256-bit AES.

Selective Modulation
Multiple MSK, PSK, and QAM modulations.

MultiSpeed
Endpoints communicate at different RF data rates with the Access Point.

Diagnostics
Monitoring TX/RX statistics (noise, RSSI and more), voltage, and temperature over SNMP and Modbus.

Apps
AUTOSOL eACM, Node-RED, Inductive Automation Ignition Edge, PLC Shift, and more apps supported.

Programmable I/O
I/O consisting of 4 analog inputs, outputs, or digital inputs and 4 digital inputs or outputs is available.

Dual Channel
Dual channel radios covering the same or different frequency bands are available.

GPS
Models with an integrated GPS are available.

258 South Taylor Avenue | Louisville, CO 80027 | 303-447-2745 | sales@xetawave.com www.xetawave.com

Hardware & Transmitter Specifications

PROCESSING

CPU	ARM Cortex-A8 @ 1 GHz
OS	Debian
RAM / Flash	1 GB / 16 GB

POWER @ +12 VDC

Transmit	620 mA
Receive	190 mA
Idle	176 mA

INTERFACES

Power	2-pin Phoenix · +12 to +32 Vdc
Ethernet	2× RJ45 · 10/100 Mbps Base-T
Serial	2× RJ45 · up to 1 Mbps · RS-232/422/485
Micro-USB	On-the-Go · +5 Vdc @ 500 mA
RF	TNC · 50 Ω
GPS	TNC · 50 Ω
Standard I/O	1× MMS · 2× DI

ENVIRONMENTAL & MECHANICAL

Op. Temp.	-40 °C to +60 °C
Humidity	95% @ +40 °C, non-condensing
Dimensions	6.62 × 3.45 × 1.83 in
Weight	700 g
Safety	UL Class I, Div 2

TRANSMITTER

	Part 90	Part 90 Subpart T	Part 80
Frequency Range	217 to 220 MHz	220 to 222 MHz	217 to 218 / 219 to 220 MHz
Output Power	10 to 5000 mW (+10 to +37 dBm)		
Modulation	MSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM		
Data Rate	10 to 216 kbps	9 to 480 kbps	153 to 960 kbps
Channel Bandwidth	12.5, 25, 50 kHz	15, 50, 100 kHz	200, 250 kHz
Frequency Stability	1.0 ppm		
Range	70+ miles		

Receiver Specifications

PART 90 · 217–220 MHz

Modulation	Sensitivity	Data Rate
12.5 kHz channel		
MSK	-115 dBm	10 kbps
QPSK	-113 dBm	17 kbps
8PSK	-107 dBm	26 kbps
16QAM	-104 dBm	36 kbps
32QAM	-102 dBm	45 kbps
64QAM	-92 dBm	54 kbps
25 kHz channel		
MSK	-114 dBm	18 kbps
QPSK	-112 dBm	29 kbps
8PSK	-106 dBm	44 kbps
16QAM	-103 dBm	59 kbps
32QAM	-100 dBm	76 kbps
64QAM	-89 dBm	91 kbps
50 kHz channel		
MSK	-109 dBm	43 kbps
QPSK	-106 dBm	72 kbps
8PSK	-103 dBm	105 kbps
16QAM	-100 dBm	144 kbps
32QAM	-97 dBm	180 kbps
64QAM	-85 dBm	216 kbps

PART 90 SUBPART T · 220–222 MHz

Modulation	Sensitivity	Data Rate
15 kHz channel		
MSK	-115 dBm	9 kbps
QPSK	-110 dBm	19 kbps
8PSK	-95 dBm	28 kbps
16QAM	-90 dBm	37 kbps
32QAM	-88 dBm	47 kbps
64QAM	-84 dBm	56 kbps
50 kHz channel		
MSK	-105 dBm	36 kbps
QPSK	-101 dBm	59 kbps
8PSK	-95 dBm	88 kbps
16QAM	-88 dBm	117 kbps
32QAM	-85 dBm	146 kbps
64QAM	-78 dBm	176 kbps
100 kHz channel		
MSK	-105 dBm	76 kbps
QPSK	-99 dBm	160 kbps
8PSK	-93 dBm	240 kbps
16QAM	-89 dBm	320 kbps
32QAM	-86 dBm	400 kbps
64QAM	-80 dBm	480 kbps

PART 80 · 217–218 / 219–220 MHz

Modulation	Sensitivity	Data Rate
200 kHz channel		
MSK	-102 dBm	153 kbps
QPSK	-100 dBm	320 kbps
8PSK	-89 dBm	480 kbps
16QAM	-88 dBm	640 kbps
32QAM	-86 dBm	800 kbps
64QAM	-76 dBm	960 kbps

Modulation	Sensitivity	Data Rate
250 kHz channel		
MSK	-102 dBm	194 kbps

Sensitivity shown with FEC disabled. Enabling FEC can improve sensitivity by 3 dB.

Functionality

Networking	
Operating Modes	Point-to-Point, Point-to-MultiPoint, Enhanced MultiPoint, Peer-to-Peer, Full Duplex, and Mesh
Roles	Access Point, Endpoint, Repeater (store-and-forward)
Compatibility	As an Endpoint, compatible with MDS 2710, SD2
Networking	Static IP Routing, Net Filtering, Port Forwarding, Masquerading, Network Address Translation, Modbus Bridging, BATMAN Mobile Ad-hoc Networking
Protocols	IEEE 802.3, TCP, UDP, ARP, DHCP, NTP, STP, FTP, ICMP, HTTP, HTTPS, SSH, Telnet, Multicast, SNMP
Management	Web GUI, SNMP v1, v2a, 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, up to 5 simultaneous connections
Reliability & Security	
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Golay, Reed-Solomon
Data/RF Encryption	128- & 256-bit AES, payload only or payload and RF
Compression	Low, High, Decompress Only
Network Performance & Diagnostics	
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, Spectrum Analyzer, IP Ping, Traceroute, IPERF, TCP Dump, DNS Lookup, Network / VPN / Serial / Modbus Bridging Statistics, statistics graphing and CSV download
Options	
Programmable I/O	Optional 8 programmable input/output signals (4 independently programmed analog inputs/outputs or digital inputs, and 4 independently programmed digital inputs/outputs)
Dual Radio	Optional dual radio with the same or different frequency bands
Integrated GPS	Optional integrated GPS

Ordering Information

Part Number	Frequency	Enclosure	Eth / Serial	I/O	Band
Single-Channel Radios					
XETAEC2-22MMDFB	217–222 MHz	Metal	2 / 2	2 DI, 1 MMS	MAS
XETAEC2-22MMDFB-IO	217–222 MHz	Metal	2 / 2	8 I/O, 1 MMS	MAS
Dual-Channel Radios					
XETAEC2X2-22MMDFB	217–222 MHz	Metal	2 / 2	2 DI, 1 MMS	MAS
XETAEC2X2-22MMDFB-IO	217–222 MHz	Metal	2 / 2	8 I/O, 1 MMS	MAS
Radios with Integrated GPS					
XETAEC2XG-22MMDFA	217–222 MHz	Metal	2 / 2	2 DI, 1 MMS	MAS
XETAEC2XG-22MMDFA-IO	217–222 MHz	Metal	2 / 2	8 I/O, 1 MMS	MAS

Specifications subject to change without notice. **Rev. 11.2026**