XETAWAVE
CUSTOM RF SOLUTIONS

XETAEDGE9

900 MHz Ethernet Radio

Industrial edge computer with SDR · licensed & unlicensed 900 MHz



5.3Mbps
Max over-the-air rate

4W
MAS output (+36 dBm)

70mi
Range

Compatible
MDS x710, SDx, TransNet

The **XetaEdge9** combines the **XetaEdge** and **Xeta9** to offer an extremely capable and flexible industrial Edge Computing device with an integrated ISM Frequency Hopping Spread Spectrum (FHSS) and Digital Transmission System (DTS) and MAS software defined radio supporting the unlicensed, or both the licensed and unlicensed, 900 MHz frequency bands. Based on the Debian operating system, the **XetaEdge9** radios are part of XetaWave's latest generation of radios.

The **XetaEdge9** is 100% open source allowing quick and simple hosting of many existing or new applications including the eACM, Ignition Edge, Codesys, PLC Shift, Node-RED and others for interacting with existing devices like meters, ROCs, and PLCs.

All **Xeta9** radios from the uTasker, Linux, Debian, XetaEdge, and XetaCell families are over-the-air compatible. **XetaEdge9** radios support compatibility with the **MDS 9710/9790, SD9, TransNet**, and **TransNext™** master radios. The **XetaEdge9x9** radio also support full-duplex operation.

KEY FEATURES

High Speed
10 kbps to 5.3 Mbps over the air; higher throughput with payload compression and Enhanced MultiPoint.

Bands
902–928 MHz ISM and 928–960 MHz MAS or just 902–928 MHz ISM.

Adjustable RF Output
Transmit output power from 10 mW (+10 dBm) up to 1 W (+30 dBm) ISM and 4 W (+36 dBm) MAS.

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, FSK, 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.

Cellular
XetaCell9 models with LTE cellular and 900 MHz ISM capability are available.

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

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

GPS
Models with an integrated GPS are available.

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Hardware & Transmitter Specifications

PROCESSING

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

INTERFACES

Power	2-pin Phoenix · +10 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	SMA (plastic) · TNC (metal)
Standard I/O	1× MMS · 2× DI

POWER @ +12 VDC

Transmit	235 mA (ISM) · 325 mA (MAS)
Receive	190 mA (ISM) · 280 mA (MAS)
Idle	176 mA

ENVIRONMENTAL & MECHANICAL

Op. Temp.	-40 °C to +75 °C (ISM) -40 °C to +60 °C (MAS)
Humidity	95% @ +40 °C, non-condensing
Dimensions	6.62 × 3.45 × 1.83 in (metal) 5.5 × 3.5 × 1.5 in (plastic)
Weight	700 g (metal) · 182 g (plastic)
Safety	UL Class I, Div 2

TRANSMITTER

	ISM FHSS & DTS	MAS (licensed)
Frequency Range	902 to 928 MHz *	928 to 960 MHz
Output Power	10 to 1000 mW (+10 to +30 dBm)	10 to 4000 mW (+10 to +36 dBm)
Modulation	MSK, 2FSK, BPSK, QPSK, 8PSK, 16PSK, 16QAM, 32QAM, 64QAM	MSK, 4FSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM
Data Rate	57 to 5303 kbps	10 to 210 kbps
Channel Bandwidth	77, 154, 207, 310, 600, 900, 1200 kHz	12.5, 25, 50 kHz (100, 200, 250 kHz available upon request)
Frequency Stability	1.0 ppm	1.0 ppm
Range	70 miles	70 miles

*** Frequency range may vary by country, for example:**
Australia, Peru: 916 to 928 MHz
Brazil: 902 to 907 & 916 to 928 MHz

Receiver Specifications

ISM · 902–928 MHz

Modulation	Sensitivity	Data Rate
77 kHz channel		
MSK	-110 dBm	57 kbps
154 kHz channel		
MSK	-107 dBm	114 kbps
207 kHz channel		
MSK	-106 dBm	153 kbps
310 kHz channel		
MSK	-105 dBm	229 kbps
600 kHz channel		
BPSK	-100 dBm	530 kbps
QPSK	-98 dBm	1061 kbps
8PSK	-93 dBm	1591 kbps
16QAM	-89 dBm	2121 kbps
32QAM	-86 dBm	2651 kbps
64QAM	-76 dBm	3182 kbps
900 kHz channel		
2FSK	-100 dBm	663 kbps
1200 kHz channel		
BPSK	-99 dBm	884 kbps
QPSK	-97 dBm	1768 kbps
8PSK	-92 dBm	2651 kbps
16PSK	-85 dBm	3535 kbps
16QAM	-87 dBm	3535 kbps
32QAM	-83 dBm	4419 kbps
64QAM	-76 dBm	5303 kbps

MAS · 928–960 MHz

Modulation	Sensitivity	Data Rate
12.5 kHz channel		
MSK	-115 dBm	10 kbps
4FSK	-108 dBm	19 kbps
QPSK	-104 dBm	23 kbps
8PSK	-100 dBm	34 kbps
16QAM	-95 dBm	45 kbps
32QAM	-91 dBm	57 kbps
64QAM	-90 dBm	68 kbps
25 kHz channel		
MSK	-114 dBm	19 kbps
4FSK	-111 dBm	39 kbps
QPSK	-107 dBm	36 kbps
8PSK	-101 dBm	52 kbps
16QAM	-98 dBm	70 kbps
32QAM	-95 dBm	87 kbps
64QAM	-89 dBm	105 kbps
50 kHz channel		
MSK	-114 dBm	39 kbps
QPSK	-107 dBm	71 kbps
8PSK	-101 dBm	101 kbps
16QAM	-98 dBm	137 kbps
32QAM	-95 dBm	175 kbps
64QAM	-89 dBm	210 kbps

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

RF SELECTIVITY

	ISM (all channels)	MAS 12.5 kHz	MAS 25 kHz	MAS 50 kHz
RF Selectivity	50 dB	33 dB	30 dB	30 dB

Functionality

Networking	
Operating Modes	Point-to-Point, Point-to-MultiPoint, Enhanced MultiPoint, Peer-to-Peer, Full-Duplex, Mesh
Roles	Access Point, Endpoint, Repeater (store-and-forward)
Compatibility	As an Endpoint, compatible with MDS 9710/9790, SD9, TransNet and TransNext
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 with up to 5 simultaneous connections, TCP Terminal Client
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
Hop Patterns	10 pseudo-random, 1 pseudo-random based on Network ID, and 1 secure
Secure Hop Pattern	128- & 256-bit AES hop-pattern determination
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					
XETAEC9-22DMDFC	902–960 MHz	Metal	2 / 2	2 DI, 1 MMS	ISM/MAS
XETAEC9-22DMDFC-IO	902–960 MHz	Metal	2 / 2	8 I/O, 1 MMS	ISM/MAS
XETAEC9-22IMDFC	902–928 MHz	Metal	2 / 2	2 DI, 1 MMS	ISM
XETAEC9-22IMDFC-IO	902–928 MHz	Metal	2 / 2	8 I/O, 1 MMS	ISM
XETAEC9-22IPDFC	902–928 MHz	Plastic	2 / 2	2 DI, 1 MMS	ISM
XETAEC9-22IPDFC-IO	902–928 MHz	Plastic	2 / 2	8 I/O, 1 MMS	ISM
Dual-Channel Radios					
XETAEC9X9-22IMDFC	902–928 MHz	Metal	2 / 2	2 DI, 1 MMS	ISM
XETAEC9X9-22IMDFC-IO	902–928 MHz	Metal	2 / 2	8 I/O, 1 MMS	ISM
Mixed-Band Dual-Channel Radios					
XETAEC9X4-22DMDFC-IO	902–960 + 406–430/450–470 MHz	Metal	2 / 2	8 I/O, 1 MMS	ISM/MAS
XETAEC9X4B-22DMDFC	902–960 + 450–470 MHz	Metal	2 / 2	2 DI, 1 MMS	ISM/MAS
XETAEC9X24-22IMDFC	902–928 MHz + 2.4 GHz	Metal	2 / 2	2 DI, 1 MMS	ISM

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