XETAWAVE
CUSTOM RF SOLUTIONS

DEBIAN DUAL BAND

100 MHz to 2.4 GHz Radios

Industrial SDR with two radios · same or different frequency bands



2 channels
2 software defined radios

Compatible
MDS x710, SDx, TransNet

Independent
Separate networks

Repeater
Back-to-back repeater

The XetaWave **Debian Dual Band** is a powerful, flexible, and cost-effective industrial Software Defined Radio (SDR) platform that integrates two independent radio modules into a single device. Each radio can operate within the same frequency band or across entirely different frequency bands. Models are also available with optional programmable I/O.

Any combination of XetaWave RF modules, spanning frequencies from 100 MHz to 2.4 GHz, can be paired to create a dual band solution. Each radio module retains its full native functionality, specifications, and feature set.

The **Debian Dual Band** platform can be deployed as a back-to-back repeater, reducing system cost, weight, power consumption, and installation complexity by eliminating the need for external interconnecting equipment and cabling. It can also serve as a bridge between different frequency bands or to connect separate wireless networks.

For applications requiring simultaneous transmit and receive, a **Debian Dual Band** model configured with radios operating in the same frequency band provides full-duplex operation.

KEY FEATURES

Performance
All features and specifications of the single version radio are supported.

Wide Selection
Frequency selections in the 100, 200, 400, 700, 800, 900, 1400, and 2400 MHz bands.

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

Adjustable RF Output
Transmit output power for each radio module is user controlled.

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

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

Repeater
Configurable as a back-to-back repeater eliminating bandwidth reduction, extra boxes, and cables.

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

Compatibility
Supports compatibility with MDS x710, SD Series, TransNET, and TransNext™ master and repeater radios.

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

Ordering Information & Environmental

XetaWave has the ability to put any combination of RF modules together to create dual band radios with and without programmable input/output signals. The list below identifies existing Debian Linux models. Please contact us for the availability of other models and combinations.

Model	Channel 1	Channel 2
Same-Band Dual Radios		
XETA1X1-22MMDFA	150–174 MHz	150–174 MHz
XETA2X2-22MMDFB	217–222 MHz	217–222 MHz
XETA2X2-22MMDFB-IO	217–222 MHz	217–222 MHz
XETA4X4-22MMDFB	406–430 / 450–470 MHz	406–430 / 450–470 MHz
XETA4X4-22MMDFB-IO	406–430 / 450–470 MHz	406–430 / 450–470 MHz
XETA4BX4B-22MMDFB	450–470 MHz	450–470 MHz
XETA4BX4B-22MMDFB-IO	450–470 MHz	450–470 MHz
XETA7X7-22MMDFB	757–758 / 787–788 MHz	757–758 / 787–788 MHz
XETA7X7-22MMDFB-IO	757–758 / 787–788 MHz	757–758 / 787–788 MHz
XETA9X9-22DMDFC	902–928 / 928–960 MHz	902–928 / 928–960 MHz
XETA9X9-22DMDFC-IO	902–928 / 928–960 MHz	902–928 / 928–960 MHz
XETA9X9-22IMDFC	902–928 MHz	902–928 MHz
XETA9X9-22IMDFC-IO	902–928 MHz	902–928 MHz
XETA14X14-22MMDFA	1.427–1.432 GHz	1.427–1.432 GHz
XETA14X14-22MMDFA-IO	1.427–1.432 GHz	1.427–1.432 GHz
XETA24X24-22IMDFB	2.402–2.478 GHz	2.402–2.478 GHz
XETA24X24-22IMDFB-IO	2.402–2.478 GHz	2.402–2.478 GHz
Mixed-Band Dual Radios		
XETA9X1-22DMDFC	902–928 / 928–960 MHz	150–174 MHz
XETA9X4-22DMDFC	902–928 / 928–960 MHz	406–430 / 450–470 MHz
XETA9X4-22DMDFC-IO	902–928 / 928–960 MHz	406–430 / 450–470 MHz
XETA9X4B-22DMDFC	902–928 / 928–960 MHz	450–470 MHz
XETA9X24-22DMDFC	902–928 / 928–960 MHz	2.402–2.478 GHz
XETA9X24-22DMDFC-IO	902–928 / 928–960 MHz	2.402–2.478 GHz

ENVIRONMENTAL & MECHANICAL

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

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