

MM2 Series

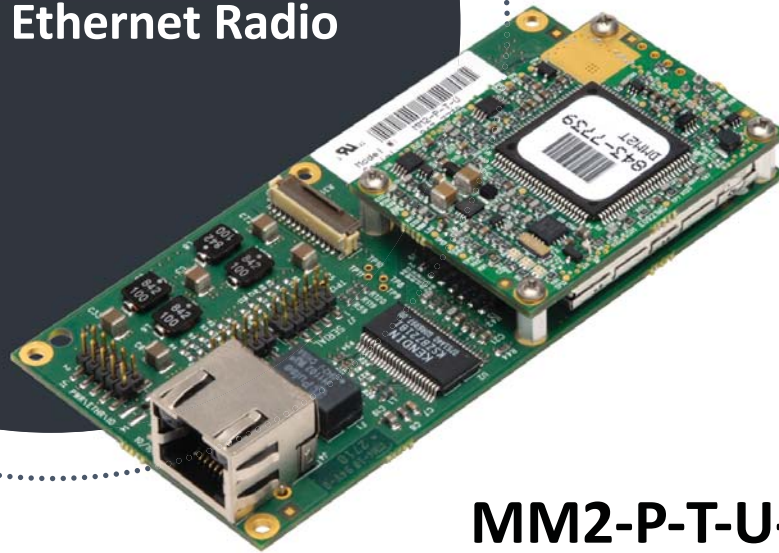
900MHz OEM Ethernet Radio

FREEWAVE

Contact us for product details and pricing

NavtechGPS

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MM2-P-T-U-SR001

KEY FEATURES

Versatility: Gateway, Endpoint, Repeater or simultaneous Endpoint and Repeater function in a single radio.

Long Range: 60 miles with clear line of sight with the ability to extend through Repeaters.

Noise Immunity: Superior performance in noise congested environments.

Secure: Frequency Hopping Spread Spectrum technology prevents detection and unauthorized access. 128-bit AES encryption standard.

Error Free Communications: 32-bit CRC with automatic retransmissions.

Industrial Grade: 100% tested for RF performance from -40°C to +85°C.

OVERVIEW

Combining the FreeWave MM2 OEM Radio with an interface module running and IP stack allows FreeWave to offer a MM2 OEM Ethernet Radio. The MM2 OEM Ethernet Radio has been designed to provide the performance, reliability, and quality that our customers have come to know and expect.

The MM2 OEM Ethernet Radio provides all of the same functionality that can be found in the FGR2 Ethernet Radio but in a smaller footprint with a wider operating temperature. The smaller footprint makes it attractive for embedded applications where space is at a premium.

All radios are designed, manufactured and tested in Boulder, CO.



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TECHNICAL SPECIFICATIONS

TRANSMITTER

Frequency Range	902 to 928 MHz
Output Power	Up to 1 W
Range	Up to 97 km (60 mi.), clear line of sight
Channel Spacing	230.4 kHz
RF Data Rate	115.2 or 153.6 kbps, user-selectable

RECEIVER

Sensitivity	-108 dBm @ 115.2 kbps for BER 10 ⁻⁴ -103 dBm @ 153.6 kbps for BER 10 ⁻⁴
IF Selectivity	-40 dB at fc +/- 230 kHz
RF Selectivity	50 dB at 896 MHz, 935 MHz
Dynamic Range	+10 dBm 3rd order intercept point

DATA TRANSMISSION

Type	Frequency Hopping Spread Spectrum
Modulation	2 level GFSK
Data Throughput	80 or 115.2 kbps, user selectable
Error Detection	32-bit CRC, retransmit on error
Data Encryption	AES 128-bit encryption standard
Hopping Zones	16 zones, user-selectable
Hopping Bands	7, user-selectable
Hopping Channels	50 to 112, user-selectable
Hopping Patterns	15 per band, 105 total, user-selectable
Protocol	Ethernet: IEEE 802.3 CPIP, DHCP, ICMP, UDP, ARP multicast TFTP
Authentication	RADIUS

POWER REQUIREMENTS

Operating Voltage	+5 VDC (+/- 5%)		
Current Consumption			
Voltage	Transmit	Receive	Idle
+5 VDC	850 A	205 mA	125 mA

INTERFACES

Data Interface	1 straight 10-pin dual row header for power and Ethernet 2 serial straight 10-pin dual row headers 2mm pin spacing RS232 or TTL Options: 1 RJ45 Ethernet connector
Diagnostics Interface	Ethernet
RF Connector	MMCX

GENERAL INFORMATION

Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Humidity	0 to 95%, non-condensing
Dimensions	
MM2-P-T	101 L x 51 W 13 H (mm) 3.98 L x 2.00 W x 0.51 H (in.)
MM2-P-T-U	101 L x 51 W 13 H (mm) 3.98 L x 2.00 W x 0.51 H (in.)
MM2-P-T-SR001	101 L x 51 W x 16.8 H (mm) 3.98 L x 2.00 W x 0.66 H (in.)
MM2-P-T-U-SR001	101 L x 51 W 13 H (mm) 3.98 L x 2.00 W x 0.51 H (in.)
Weight	42g (0.9 lbs.)

INFORMATION TO ORDER

Model Number	Description
MM2-P-T	Board level, Ethernet, RS232
MM2-P-T-SR007	Board level, Ethernet, TTL
MM2-P-T-U	Board level, Ethernet, RS232, UL Class 1 Div 2
MM2-P-T-U-SR001	Board level, Ethernet, RS232 with RJ45, UL Class 1 Div 2



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