



1880 S. Flatiron Court, Suite F
Boulder, CO 80301

tf 866.923.6168
p 303.381.9200
f 303.786.9948

www.freewave.com
sales@freewave.com

MM2 Series**

MM2-Ethernet 900 MHz Series

Overview:

The FreeWave MM2 Ethernet radio has been designed to provide the performance, reliability, and quality that our customers have come to know and expect in our products in a MM2 "Mega Mini" form factor for applications where space is at a premium. The MM2 Ethernet has all of the functionality of the larger footprint FGR Plus Series of radios.

All Radios are designed and manufactured in Boulder, CO.

The MM2 is a "Mega-Mini" radio with BIG FreeWave performance and reliability.

Features:

- Improved Low Signal Performance - RISC-based signal demodulation with matched filter.
- Versatile - A single radio can operate as a master, slave, repeater, or slave/repeater.
- Unparalleled Signal Performance - GaAs FET RF front end with multistage SAW filtering has unmatched combination of overload immunity and sensitivity.
- High Noise Immunity - Superior performance in noise congested environments.
- Selectable Speeds - 115.2 kbps-153.6 Kbps
- Secure - Proprietary spread spectrum technology prevents detection and unauthorized access; 128 & 256 bit AES encryption available*.
- Reliability - Every radio 100% tested for RF performance from -40°C to +85°C.
- Size & Performance - Smallest data radio with the highest performance available.
- Low power consumption.
- UL Approved**

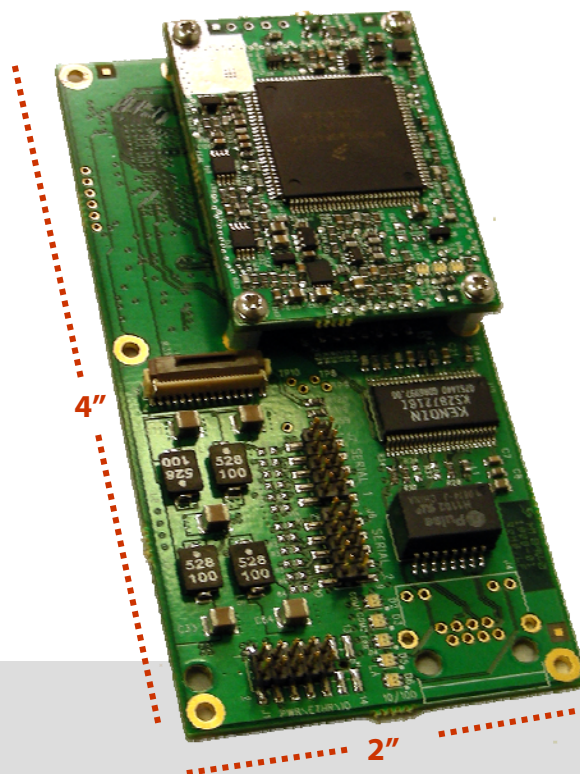
**Contact FreeWave for implementation details.*

***Certain Models.*

All specifications are tested and guaranteed.



0.5"



4"

2"

MM2 Series**

MM2-Ethernet 900 MHz Series Technical Specifications

Transmitter			
Frequency Range	902-928 MHz (FHSS) (DTS)		
Output Power	10 mW to 1 W, 1.5 W* *Military & export versions only.		
Range - Line of Sight	60 miles		
Modulation	2 level GFSK		
RF Data Rate	Selectable speeds 115.2 to 153.6 Kbps		
Occupied Bandwidth	230 kHz		
Hopping Patterns	15 per Band, 105 total, user selectable		
Hopping Channels	50 to 112, user selectable		
Hopping Bands	7, user selectable		
Frequency Zones	16 Zones		
RF Connector	MMCX (Straight)		
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 at Input Connector		
Data Transmission			
Error Detection	32 bit CRC, Retransmit on error		
Data Encryption	128 & 256 bit AES Encryption available (Contact FreeWave for implementation details.)		
Data Interface	Ethernet, 2x RS232		
Data Connector	Ethernet 10/100 Base T Auto-crossover and 2 Serial		
Data Throughput (Q check)	90 Kbps		
Protocol	Ethernet: IEEE 802.3 CPIP, DHCP, ICMP, UDP, ARP multicast TFTP		
Authentication	RADIUS		
Power Requirements			
Operating Voltage	3.3 or 5.0 VDC		
Current [mA]	Mode	3.3 VDC	5 VDC
	Transmit	750 mA	850 mA
	Receive	250 mA	205 mA
	Idle	135 mA	125 mA
General Information			
Operating Temperature Range	-40° C to +85° C (-40° F to +185° F). Every radio is 100% factory tested over this range.		
Dimensions	101mm L x 51mm W x 13mm H (4"n L x 2" W x 0.5" H)		
Weight	42 g (1.48oz)		
Humidity	0 to 95% non-condensing		

**Some of these products are regulated under the U.S. International Traffic in Arms Regulations (ITAR). These regulations control the export and Import of defense articles. These products may only be sold or transferred to a non-U.S. person (in the U.S. or abroad) after authorization is obtained from the U.S. Department of State. Customer (a) agrees to comply with ITAR regulations and (b) shall be responsible for obtaining all necessary U.S. Government authorizations required to ensure compliance with these and other applicable laws.

Please contact FreeWave for export control information for specific products.

FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2011 FreeWave® Technologies, Inc.

2.10.11



1880 S. Flatiron Court, Suite F
Boulder, CO 80301

tf 866.923.6168
p 303.381.9200
f 303.786.9948

www.freewave.com
sales@freewave.com