

MM2 Series

MM2-Ethernet 900 MHz Series



MM2-P-T

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, manufactured and tested in Boulder, CO.

MODEL	DIMENSIONS	OPTIONS
MM2-P-T-U	101mm L x 51mm W x 13mm H	Class 1 Div 2
MM2-P-T	101mm L x 51mm W x 13mm H	TTL

APPLICATIONS



Government & Defense

KEY FEATURES

- **Improved Low Signal Performance:** RISC-based signal demodulation with matched filter.
- **Versatile:** A single radios can perate 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.
- **Selectable Speeds:** 115.2 kbps to 153.6 kbps
- **Secure:** FHSS Technology prevents detection and unauthorized access; 128 bit AES encryption standard.
- **Size & Performance:** Smallest data radio with the highest performance available.
- **Reliable:** 100% tested for performance from -40° C to +85° C

MM2-Ethernet 900 MHz Series Radio Specifications

Preliminary

TRANSMITTER	Frequency Range	902 to 928 MHz (FHSS) (DTS)	
	RF Data Rate	153 kbps or 115 kbps, User Selectable	
	Output Power	10 mW to 1 W, 1.5 W* <i>*Military & export versions only.</i>	
	Data Link Range	60 miles	
	Modulation	2-level GFSK	
	Occupied Bandwidth	230 kHz	
	Hopping Channels	50 to 112, User Selectable	
	Hopping Bands	7, User Selectable	
	Hopping Patterns	15 per Band, 105 Total, 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 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 Throughput (Q check)	90 kbps	
	Data Encryption	128 bit AES encryption standard	
	Data Interface	Ethernet, 2 x RS232	
	Protocol	Ethernet: IEEE 802.3 CPIP, DHCP, ICMP, UDP, ARP multicast TFTP	
DIAGNOSTICS	Authentication	RADIUS	
	Connector	Ethernet 10/100 Base T Auto-crossover and 2 Serial	
POWER REQUIREMENTS	Operating Voltage	+5 VDC (+/- 5%)	
	Typical Current	Mode	+5 VDC
		Transmit	850 mA
		Receive	205 mA
	Idle	125 mA	
GENERAL INFORMATION	Operating Temperature	-40° C to +85° C (-40° F to +185° F)	
	Humidity	0 to 95% non-condensing	
	Dimensions	101mm L x 51mm W x 13mm H (4"n L x 2"W x 0.5" H)	
	Weight	42 g (1.48 oz)	

* These devices are regulated under the U.S. International Traffic in Arms Regulation (ITAR). These regulations control the Export and Import of the defense articles. These devices may only be sold or transferred to a non-U.S. party (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 U.S. Laws. Please contact FreeWave for export control information for specific products.

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