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MM2 Series

MM2-9X5W 900 MHz Series

Overview:

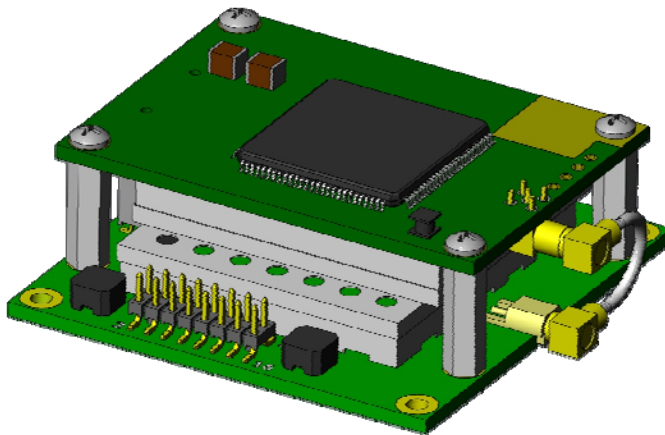
FreeWave's MM2-9X5W 5 Watt radio has been designed to provide the performance, reliability, and quality that our customers have come to know and expect in our MM2 products in a small form factor for applications where space is at a premium. The MM2 has all of the functionality of the larger footprint FGR Series of radios.

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

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

Features:

- 5 Watt maximum output power
- Improved Low Signal Performance: RISC-based signal demodulation with matched filter.
- Versatility: A single radio can operate as a master, slave, repeater, or slave/repeater.
- Unparalleled Signal Performance: RF front end with multistage SAW filtering has unmatched combination of overload immunity and sensitivity.
- High Noise Immunity: Superior performance in noise congested environments.
- TDMA: Time Divisible Multiple Access available.
- 115.2-153.6 kbps
- Secure: Proprietary spread spectrum technology prevents detection and unauthorized access; 128 bit & 256 bit AES encryption available.
- Reliability: Tested for RF performance from -40°C to $+70^{\circ}\text{C}$.
- Size & Performance: Smallest data radio with the highest performance available.



MM2 Series

MM2-9X5W TTL 900 MHz Series Technical Specifications

Transmitter	
Frequency Range	902-928 MHz (FHSS) (DTS)
Output Power	5 Watt
Range - Line of Sight	90+ miles Limited by delay, EC Y LB
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	20 dB at fc +/- 230 kHz 40 dBc @ +/- 460 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	Proprietary Spread Spectrum Technology
Data Interface	1200 bps - 230.4 Kbps
Data Connector	Straight 16-pin dual row header 2.0mm spacing
Data Throughput	115.2 Kbps
Power Requirements	
Operating Voltage	Input 1: 12 to 15 VDC Input 2: 4.9 to 5.5 VDC
General Information	
Operating Temperature Range	-40° C to +70° C (-40° F to +158° F) Need H/S for full DC
Dimensions	50.8mm L x 36mm W x 9.6mm H (2" L x 2" W x 0.75" H)
Weight	34 g (1.2 oz)
Humidity	0 to 95% non-condensing

5.20.11



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