

MM2 Series

1.3 GHz 5 Watt Radio



KEY FEATURES

Output: 5 Watt RF output power

Improved Low Signal Performance:
RISC based signal demodulation with matched filter

Versatility: A single radio can operate as a Gateway, Endpoint, Repeater, or Endpoint/ Repeater.

Unparalleled Signal Performance:
RF front end with multistage SAW filtering has unmatched combination of overload immunity and sensitivity

Selectable Speeds: 115.2 kbps and 153.6 kbps

Secure: Proprietary Spread Spectrum Technology prevents detection and unauthorized access

Size & Performance: Small data radio with high performance

Reliable: 100% tested for performance from -40°C to +85°C

Options: TDMA, Super Epoch TDMA, AES Encryption

OVERVIEW

The MM2-13X5W 1.3 GHz 5 Watt radio has been designed to provide the performance, reliability, and quality that our customers have come to know and expect. The small form factor MM2-13X5W is ideal for applications where space is a premium.

The small form factor MM2-13X5W has all of the functionality of the M13 and P Series radios of radios including: TDMA, Super Epoch TDMA, and AES encryption.

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

TECHNICAL SPECIFICATIONS

TRANSMITTER

Frequency Range	1.35 to 1.39 GHz
RF Data Rate	153 kbps and 115 kbps, user-selectable
Output Power	5 W (37 dBm; -1/+2 dB)
Data Link Range	90 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

RECEIVER

Sensitivity	-106 dBm @ 115.2 for BER 10^{-4} -102 dBm @ 153.6 kbps BER 10^{-4}
IF Selectivity	20 dB at fc +/- 230 kHz 40 dB at fc +/- 460 kHz
Dynamic Range	+10 dBm 3rd order intercept point at input connector

DATA TRANSMISSION

Error Detection	32 bit CRC, retransmit on error
Data Throughput	115.2 kbps and 153.6 kbps
Data Encryption	FHSS technology
Options	AES 128/192/256-bit encryption TDMA Supper Epoch TDMA
Data Interface	1200 bps to 230.4 kbps

POWER REQUIREMENTS

Operating Voltage	+5 VDC and +12 VDC
+5 VDC Typical Current	Transmit: 635 mA Receive: 135 mA Idle: 19 mA
+12 VDC Typical Current	Transmit: 1.6 A Receive: 4.5 mA Idle: 4.5 mA

GENERAL INFORMATION

Operating Temperature	-40°C to +85°C
Humidity	0 to 95%, non-condensing
Dimensions	2.06 L x 2 W x 1.05 H (in)
Weight	50 g

INFORMATION TO ORDER

Model Number	Description
MM2-13X5W	Board Level, 5W

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