

MM2 Series

MM2-13X5W 5 Watt Radio



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.

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 Frequency Hopping Spread Spectrum (FHSS) 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

Transmitter

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|---------------------------|--|
| 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) |
| Range | Up to 145 km (90 miles) with clear line of sight |
| 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

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|-----------------------|---|
| 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

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|------------------------|---|
| 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

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|----------------------------|--------------------|-----------------|----------------|-------------|
| Operating Voltage | +5 VDC and +12 VDC | | | |
| Current Consumption | Voltage | Transmit | Receive | Idle |
| | +5 VDC | 635 mA | 135 mA | 19 mA |
| | +12 VDC | 1.6 A | 4.5 mA | 4.5 mA |

General Information

| | |
|------------------------------|----------------------------------|
| Operating Temperature | -40°C to +85°C (-40°F to +185°F) |
| 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 |