

MM2 Series

MM2-LV, 3.5 V, 900 MHz ISM



MM2-LV-T

Key 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

TDMA: Time Divisible Multiple Access available

Selectable Speeds: 115.2 kbps or 153.6 kbps

Secure: Proprietary Spread Spectrum technology prevents detection and unauthorized access; 128-bit or 256-bit AES encryption available*

Size & Performance: Smallest data radio with the highest performance available

Noise Immunity: Superior performance in noise congested environments

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

Overview

The FreeWave MM2 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 form factor for applications where space is at a premium. The MM2 has all of the functionality of the larger footprint FGR2 Series of radios

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

Specifications

| MODEL | DESCRIPTION | DIMENSIONS | OPTIONS |
|-------------|----------------|---------------------------|-----------------------|
| MM2-LV-T | Base Version | 2 L x 1.4 W x 0.38 H (in) | AES 128 or 256*, TDMA |
| MM2-LV-T-U | Class 1, Div 2 | 2 L x 1.4 W x 0.38 H (in) | AES 128 or 256*, TDMA |
| MM2-LV-T-LF | RoHS | 2 L x 1.4 W x 0.38 H (in) | AES 128 or 256*, TDMA |



MM2-LV 900 MHz Series Radio: Technical Specifications

TRANSMITTER

| | |
|------------------|---|
| Frequency Range | 902 to 928 MHz (FHSS) (DTS) |
| RF Data Rate | 153.6 kbps or 115.2 kbps, user-selectable |
| Output Power | 10 mW to 1 W |
| Data Link Range | 20 to 25 miles |
| Modulation | 2 level GFSK |
| Hopping Channels | 50 to 111, user-selectable |
| Hopping Bands | 7, user-selectable |
| Hopping Patterns | 15 per band, 105 total, user-selectable |
| Frequency Zones | 16 zones, user-selectable |
| 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 Rate | 115.2 kbps |
| Data Encryption | AES 128/192/256* |
| Data Interface | 1200 bps to 230.4 kbps |

*See Integration Manual for more detailed information

INTERFACE

| | |
|-----------|--|
| Connector | Straight 14-pin dual row header 2.0 mm spacing |
| Type | TTL serial |

POWER REQUIREMENTS

| | |
|-------------------|-------------------|
| Operating Voltage | +3.5 VDC (+/- 5%) |
|-------------------|-------------------|

+3.5 VDC Typical Current†

| | | | |
|------------------|-----------------|-------------|-------------|
| Transmit: 760 mA | Receive: 125 mA | Idle: 38 mA | Sleep: 8 mA |
|------------------|-----------------|-------------|-------------|

GENERAL INFORMATION

| | |
|-----------------------|---------------------------|
| Operating Temperature | -40°C to +85°C |
| Humidity | 0 to 95%, non-condensing |
| Dimensions | 2 L x 1.4 W x 0.38 H (in) |
| Weight | 14 g |

MM2-LV 900 MHz Series Radio: Applications



Defense

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For more information, visit www.freewave.com

Specifications are subject to change without notice.

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