

MM2-MU Series

MM2-MU & MM2-MU-LV

340-400 MHz Radio



KEY FEATURES

Versatility: Gateway, Endpoint, Repeater or simultaneous Endpoint and Repeater function in a single radio.

Long Range: 60 miles with clear line of sight with the ability to extend through Repeaters.

Noise Immunity: Superior performance in noise congested environments.

Secure: Frequency Hopping Spread Spectrum technology prevents detection and unauthorized access.

Error Free Communications: 32-bit CRC with automatic retransmissions.

Input Voltage: +8 to +30 VDC wide input voltage range or +5 VDC (-LV models).

Industrial Grade: 100% tested for RF performance from -40°C to +75°C.

Available Options: TDMA, Super Epoch TDMA, and 128, 192, and 256-bit AES encryption.

OVERVIEW

The FreeWave Technologies' products are designed to meet the rigorous demands of military, government, and international users worldwide. This user-configurable 340-400 MHz product is available as an OEM board level radio. It is used in applications ranging from UAVs to UGVs and more.

The MM2-MU products share the same features as our other radios that assure accurate data transmission, such as 32 bit CRC error detection with automatic retransmission and more.

The FreeWave MM2-MU Series of radios have been designed to provide the performance, reliability, and quality that our customers have come to know and expect in our products. The MM2-MU combines high performance with a small size making it ideal for applications where space is at a premium.

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

TECHNICAL SPECIFICATIONS

TRANSMITTER

Frequency Range	340 to 400 MHz
RF Data Rate	115.2 or 153.6 kbps, user selectable
Output Power	Adjustable up to 2 W
Data Link Range	60 miles, clear line of sight
Modulation	2 level GFSK
Channel Spacing	230.4 kHz

RECEIVER

Sensitivity	-107 dBm @ BER 10^{-4} (115.2 kbps) -102 dBm @ BER 10^{-4} (153.6 kbps)
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DATA TRANSMISSION

Error Detection	32 bit CRC, retransmit on error
Maximum Throughput	115.2 kbps
Data Encryption	FHSS technology
Data Interface	Serial
Protocol	RS232 / RS485 or TTL

INTERFACES

Connector	Straight 14-pin dual row header, 2.0 mm spacing
RF Connector	MMCX

POWER REQUIREMENTS

Operating Voltage	+5 VDC (+/- 5%) (MM2-MU-LV models) +8 to +30 VDC (MM2-MU models)
+5 VDC Typical Current (LV models only)	Transmit: 1.5 A Receive: 190 mA Idle: 30 mA
+8 VDC Typical Current	Transmit: 1.2 A Receive: 126 mA Idle: 22 mA
+12 VDC Typical Current	Transmit: 700 mA Receive: 80 mA Idle: 14 mA
+30 VDC Typical Current	Transmit: 315 mA Receive: 37 mA Idle: 6.5 mA

GENERAL INFORMATION

Operating Temperature	-40°C to +75°C
Humidity	0 to 95%, non-condensing
Dimensions	2 L x 2 W x 0.3 H (in)
Weight	21g

INFORMATION TO ORDER

Model Number	Description
MM2-MU-C	Board Level, RS232, MMCX, 8-30 VDC
MM2-MU-T	Board Level, TTL, MMCX, 8-30 VDC
MM2-MU-LV-C	Board Level, RS232, MMCX, 5 VDC
MM2-MU-LV-T	Board Level, TTL, MMCX, 5 VDC

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