

RV-M3-M

MURS Band 1-Watt Data Radio Modem

This License-free MURS Data Radio modem is a ½ - 1 watt VHF data modem in module form, designed to easily integrate into OEM products. Perfect for remote control and telemetry applications, it contains a high-performance transceiver with an integrated radio modem.



Product Overview

Unlicensed MURS Channels

The RV-M3-M utilizes the channels designated by the FCC as “Multiple-Used Radio Service” (MURS). The FCC allows unlicensed operation on the 5 MURS channels, with up to 2 watts of RF power output. Products using this module must obtain FCC parts 15 and 95j certification. Raveon can assist you with this.

Very Long Range

With +27dBm transmit power, -117dBm receiver sensitivity, and the superb propagation characteristics of VHF radios, this radio modem will over a ¼ mile in a cluttered environment, and 5+ miles in open areas. It has 6-10X the range of ISM band radio modules.

High-Performance

This product is designed to work reliably in even the harshest environments. Over extreme temperatures, with extraordinary communication range, this data radio modem operates reliably with very little power consumption.

Packet or Streaming

It operates in either a user-configurable “Packet Mode”, with error detection and ARQ error correction, or in a “Streaming Data” mode for low latency. It features user-selectable over the air baud rates of 1200, 2400, or 4800 bps.

Serial Interface

A versatile asynchronous serial interface is utilized for both the user’s data and to configure the data radio modem. Standard AT commands are used to configure it, and user data passes transparently from one modem to another.

Low Power

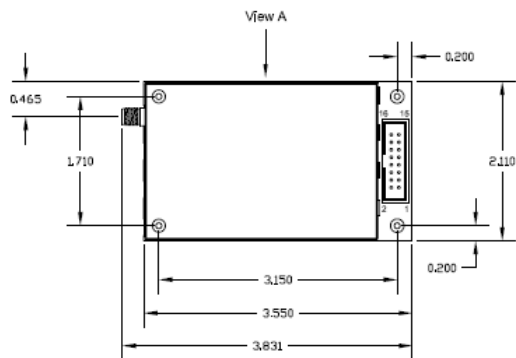
The RV-M3-M is designed to operate off of any DC power source from 5-8 volts. Current consumption is less than most narrow-band or spread-spectrum radio modems, and power-savings modes allow even lower current consumption.

For More Information

For more information about this or any other Raveon product, call in the U.S.A. 1-760-727-8004 or send an email to sales@raveontech.com.

General Specifications

Input Voltage:	5-8V DC
Size:	3.55" X 2.1" X .66"
Frequency Stability:	Better than ± 5 ppm
User selectable channels:	
1	151.820 MHz
2	151.880 MHz
3	151.940 MHz
4	154.570 MHz
5	154.600 MHz
Serial Port Baud Rates	300, 1200, 2400, 4800, 9600, 19200, 38800, or 57600
Over-the-air baud rates (programmable)	800, 2400, 4800
Full Spec Operating Temperature range	-30°C to +60°C
TX-RX and RX-TX turn-around time	<30mS
Wake-up time from Standby	<500mS
Current Draw:	
Standby:	<.02mA
Normal Mode:	
Idling:	<60mA
Receiving data:	<60mA
Transmitting data:	<.6A



Transmitter Specifications

RF Power Output	.5W at 5VDC
	1.0W at 8VDC
Maximum Duty Cycle	50% at 5VDC
Maximum Frequency Deviation	± 2.25 kHz
Occupied bandwidth	11 kHz
TX Spurious outputs	< -65dBc
Occupied Bandwidth	Per FCC

Receiver Specifications

RX sensitivity (1% BER)	
4800bps	-113dBm
2400bps	-117dBm
RX selectivity, adjacent channel	-60dB
RX selectivity, alternate channel	-65dB
RX intermodulation rejection	-60dB at 2400bps
Image and spurious response	-70dB

Interface Specifications

User Interface Port

Connector Type	20-pin 0.100" header
Voltage Levels	3.3V CMOS
RX and TX data	Async data
Modem handshake signals	RTS, CTS, CD

RF I/O

Connector:	SMA (F)
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AT Commands

AT commands are available for the following functions:

- Channel Number
- TX timing
- TX packet
- Carrier Detect Operation
- Over-the-air data rate
- Modem Statistics
- Remote Diagnostics
- Address & Address Mask
- Serial port baud rate, parity, stop bits
- Operating Mode: Packets or Streaming

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