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.

www.raveontech.com
### General Specifications

- **Input Voltage:** 5-8V DC
- **Size:** 3.55” X 2.1” X .66”
- **Frequency Stability:** Better than ±5ppm
- **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**
  - -30ºC to +60ºC
- **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**
  - ± 2.25kHz
- **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)
- **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