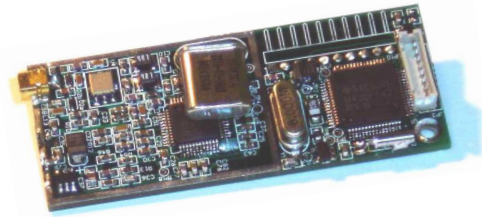


*This ISM Band Data Radio modem is a long-range data modem in module form, designed to easily integrate into OEM products. Perfect for low-power remote control and telemetry applications, it contains a high-performance transceiver with an integrated modem.*



## Product Overview

The RV-M1 is designed for telemetry, wireless data, and remote control applications. It offers very low power consumption, with outstanding communication range.

### Unlicensed ISM Channels

The RV-M1 utilizes the 902-928MHz ISM band. The FCC allows unlicensed operation within this band, with up to 2 watts of RF power output.

### 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.

### Serial Interface

A versatile serial interface is utilized for both the user's data and to configure the data radio modem. User data passes transparently from one modem to another. An internal Real Time Clock is available to the user, or to periodically wake the radio up.

### Low Power and Low Cost

The RV-M1 operates off of any DC source of 3.3 - 6 volts. Current draw is much less than narrow-band or spread-spectrum radio modems, and power-savings modes allow even lower current consumption. At < \$20 in OEM quantities, the RV-M1 offers more performance at lower cost than any other radio modem.

### Plug and Play Design

Its powerful 16-bit microprocessor simplifies the user interface, making the data radio modem truly transparent. Data In. Data Out. It also incorporates sophisticated DSP and FEC routines, allowing the modem to receive data buried in noise and interference that other modems cannot tolerate.

### Superior Range

The RV-M1 has a receiver sensitivity that is unprecedented in its class, have it a communication range (even in the presence of interference) that is 2-10 time further than similar products. It covers not only a whole house, but a whole neighborhood.

### For More Information

For more information about this or any other Raveon product, call in the U.S.A. 1-760-931-8001.

## General Specifications

Input Voltage:  
3.3 – 6 V DC

Module Size:  
.9" X 1.5" X .4"

Frequency Stability:  
Better than  $\pm 20$ ppm

User selectable channels:  
4

Serial Port Baud Rates  
300, 1200, 2400, 4800, 9600, or 19200

Over-the-air baud rates (programmable)  
1200, 4800

Operating Temperature range  
-30°C to +60°C

TX-RX and RX-TX turn-around time  
<50mS

Wake-up time from Standby  
<60mS

Over-the-air protocol  
Raveon's WiCon

Communication Range:  
500ft obstructed  
1+ miles line-of-site

## Current Draw

Standby: <.02mA

Normal Mode:  
Idling: <35mA  
Receiving data: <35mA  
Transmitting data: <45mA

## Options

The RV-M1 is a software-driven radio modem, with substantial additional capability and processing power. It is able to run custom and OEM software applications. Contact Raveon for custom version of this product for irrigation, timing, lighting, or any other wireless data communication application you have.

## Transmitter Specifications

Peak RF Power Output	+3dbm
Occupied Bandwidth	<20kHz
Encoding	NRZ NRZ w/ FEC

## Receiver Specifications

RX sensitivity (1% BER) 1200bps	-112dBm
RX selectivity (+/- 100kHz)	-30dB
RX Selectivity (+/- 1MHz)	-50dB
Out-of-band rejection (+/- 20MHz)	-70dB
RX intermodulation rejection	-50dB

## Interface Specifications

### User Interface Connector

Connector Type	10-pin 2mm
Voltage Levels	3.3V CMOS (5-volt tolerant)
RX and TX data	Async data
Modem handshake signals	RTS, CTS, CD

### RF I/O

Connector:	MMCX
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### Programmable Parameters

Commands are available for the following functions:

- Channel Number
- TX timing
- TX packet
- Carrier detect operation
- Reading modem statistics
- Device Address
- Network ID
- Number of retries
- Serial port baud rate, parity, stop bits
- RTC read and set

## Certification

FCC:  
Part 15

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