RV-S2

The S2 data transceiver is a rugged single-board ½ - 5 watt VHF data radio modem with 12-channel GPS receiver and 2-Axis +/- 5 g accelerometer ideal for creating telemetry, surveying and tracking solutions.

Product Overview

Long-Range Operation

Operating in the VHF 136-154MHz frequency band, the RV-S2 radio modem works over 50 miles point-to-point and many miles with omni-directional antennas. All RV-S2 modems support store-and-forward repeating for wide-area coverage.

Fast Polling

The 2 transceiver has a 3mS PLL in it, making it one of the fastest telemetry radios available, especially well suited for polled, DNP and MODBUS applications.

High Speed and High Efficiency

The *RV-S2* operates with user-selectable over-the air data rates of 1200 to 19200bps. Faster rates for higher efficiency or lower-speed for increased communication range. Its fast-switching radio enables it to send up to 50 transmissions per second.

Very Low Power Consumption

The advanced VHF transceiver is integrated with a powerful 16-bit microprocessor-based modem in one easy-to mount package. It has very low power consumption, and sleep modes that allow it to be active and consume almost no power at all.

Fully Programmable

It is configured with a serial connection using industry-standard AT commands. Parameters such as network IDs, unit ID and transmission rate are easily configured. Raveon also provides a PC program called "*Radio Manager*" that makes configuring the 2 fast and easy.

OTA Configuration

The ID of a particular transponder and certain system parameters such as report rate may be configured Over-The-Air, without having to physically connect to the unit.

Real-time diagnostics and statistics

Channel performance, RSSI, RF power, packet counters, and radio configuration are easily accessed via the serial port or remotely over-the-air. An *Auto-Status* feature enables the RV-S2 to periodically report its status and DC voltage.

Flexible Addressing and Error Correction

The RV-S2 uses a 16 bit address with a 16 bit network mask, allowing for many devices to be co-located without receiving each other, as well as the creation of sophisticated network topologies.

GPS

The on-board Trimble 12-channel GPS chip allows the RV-S2 to enable powerful tracking solutions or Time Space Position Information (TSPI) reporting device.

Accelerometer / Tilt Sensor

The 2-axis (X/Y) measures acceleration with a minimum full-scale range of ±5 g. It can measure the static acceleration of gravity in tilt-sensing applications, as well as dynamic acceleration, resulting from motion, shock, or vibration.

For More Information

For more information about this or any other Raveon product, call in the U.S.A. 1-760-444-5995 or visit.

Raveon

General Specifications

Size:	102mm X 60mm Xqqmm
Weight:	82 grams (2.9 oz)
Input Voltage:	6-12 DC

VHF Frequency Bands

A	136-155MHz	(for export)
B	*150-174*MHz	
C	215-235MHz	

Upon Request (MOQ: 25+):
UHF Frequency Bands

A	*403-434*MHz	(for export)
B	*419-440*MHz	(for export)
C	450-480MHz	(for US channels)
D	470-512MHz	(for export)

Serial Port Baud Rates (programmable)
1.2k, 2.4k, 4.8k, 9.6k, 19.2k, 38.4k, 57.6k, 115.2k
Over-the-air baud rates (programmable)
- -N 4.8k, 5142, 8K,9.6k (1200 optional)
- -W 4.8k, 8k, 9.6k, 14.4k, 19.2k

Operating Mode
- Simplex or Half-duplex

Operating Temperature range
- -30°C to +60°C Operational
- 0°C - 45°C for charging

RF I/O Connector
- SSMT (Male)

Addressing
- Individual address: 65,536

Transmitter Specifications

RF Power Output, fully charged	*500mW – 5.0 W*
Maximum Duty Cycle	*25% @ 2W to 40C, 10% @5W*
TX Spurious outputs	*< -70dBc*
Occupied Bandwidth	*Per FCC*
FCC Emissions Designator	*11K0F1D (-N) 15K0F1d (-W)*
Frequency Stability	*Better than ±1.5ppm*

Receiver Specifications

RX sensitivity (1% PER)	*9600bps < -104dBm 4800bps < -113dB*
RF No-tune bandwidth	*20MHz*
Alternate Channel Selectivity	*-65dB*
Blocking and spurious rejection	*-75dB*

Email: sales@raveon.com

Interface Specifications

Serial Interface Port

Connector Type	20 pin header
Serial IO Voltage Levels	3V digital logic
Format	Programmable
Modem handshake signals	RTS, CTS, CD
NMEA messages:	TTL, GLL, WPL, RMC

User Configurable Parameters (overview)

Channel Number and Operating Frequency	
Baud Rate, parity, stop bits	
GPS Update Rate:	*1 – 9999 Seconds*
GPS report on movement:	*0 – 9999 Meters*
GPS report on digital in	*Enable/disable*
GPS Report on motion	Yes
GPS Report on man-down	Yes
Store-and-forward Repeating configuration	
Encryption:	*128 bit AES*
LEDs operation or disabled	
Read DC voltage, current, and statistics	
Event triggers (Speed, proximity, I/O, Motion)	
Alert Button operation	

Accelerometer Specifications

Model: ADXL325
# of Axes 2 (X/Y)
Range: +/- 5g
Accuracy: +/- 3°
Output Type: Digital

For more information the please contact: