HRF-ROC09325XM

Honeywell

Advance Information

Radio Module
902-928 MHz
Frequency Agile
With SPI Bus Interface

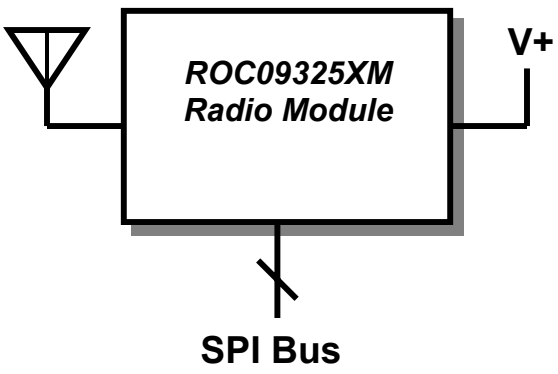
Features

- Up To +6 dBm Output Power Into 50 Ohms
- Hw Configurable Version For External PA & Antenna Switch
- 20mA Transmit Current At 1mW Output, 33mA Receive Current
- Direct Connection To Microprocessor Via SPI Bus
- Integrated Ant. Switch, LNA, Xtal Plus All RF Passives
- Receiver Has –85 dbm Sensitivity at 19.2 kbps
- Digital Encoding, Decoding And Correlator
- 23mm X 23mm X 4.5mm , Surface Mountable
- Prog. Power Levels, Freq. And Tx/Rx/Standby
- Operates From Single 2.8-3.3v Power Supply
- Drivers Available For Microchip 16F87X Series And Others

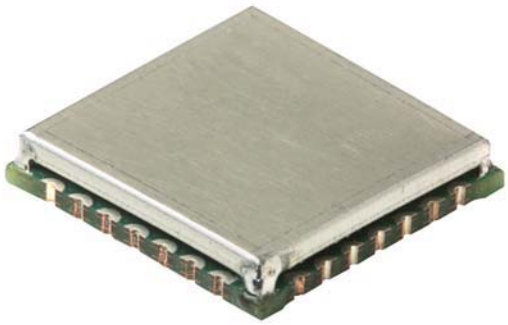
Description

The HRF-09325XM is a 23mm x 23mm shielded radio transceiver module for use in the 902-928 MHz ISM Band. Virtually no RF knowledge is required to use this module; only an antenna and a micro controller need be added to create a frequency agile wireless product. The module can be surface mounted/re-flowed or hand soldered as a means of attachment. Honeywell will provide basic firmware routines for controlling the module using standard serial peripheral interface (SPI) bus protocol.

Functional Schematic



Product Photo



HRF-ROC09325XM in Surface Mount Package

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12001 State Highway 55
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RF Electrical Specifications @ + 25°C

Parameter	Test Condition	Frequency		Typical		Units
Rx Sensitivity		902– 928 MHz		-85		dBm
Tx Output Power	Vdd = 3V	902– 928 MHz		+6		dBm
Data Rate, Tx / Rx	Continuous Data			19.2		Kbps
Channel Rejection	Adjacent Channels	Fc +/- 300KHz		60		dB
Dynamic Range				60		dB
Baseband Filter Fc				100		KHz

DC Electrical Specifications @ + 25°C

Parameter	Minimum	Typical	Maximum	Units
V_{DD} Power Supply Voltage	3.0		3.3	V
Power Supply Current During Tx, Output Power Dependant (915 MHz, 3dBm/ 50 ohm load)		20		mA
Power Supply Current (I_{DD}) During Rx (915MHz)		33		mA
Standby Power Consumption		<5		uA
CMOS Logic Level (0)	0		0.7	V
CMOS Logic Level (1)	1.7		V_{DD}	V

Absolute Maximum Ratings[1]

Parameter	Absolute Maximum	Units
Maximum Input Power	-	-
V_{DD}	+ 3.6	V
Operating Temperature	- 40 to + 85	Degrees C
Storage Temperature	- 40 to + 150	Degrees C

(Note 1) Operation Of The HRF-ROC09325XM Beyond Any Of These Parameters May Cause Permanent Damage.

ESD Protection: Precautions Should Be Taken During Handling / Assembly Until Protected By External Circuitry or Housings

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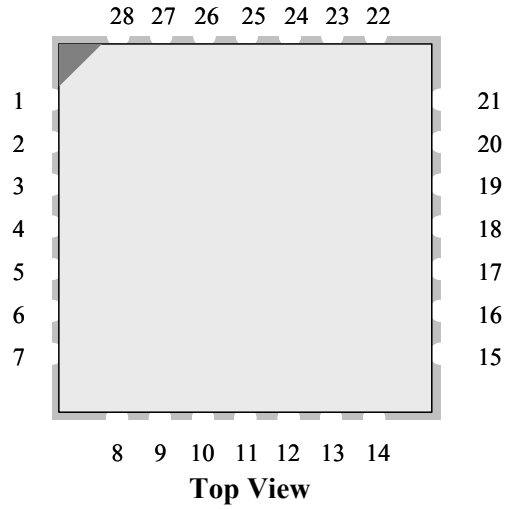
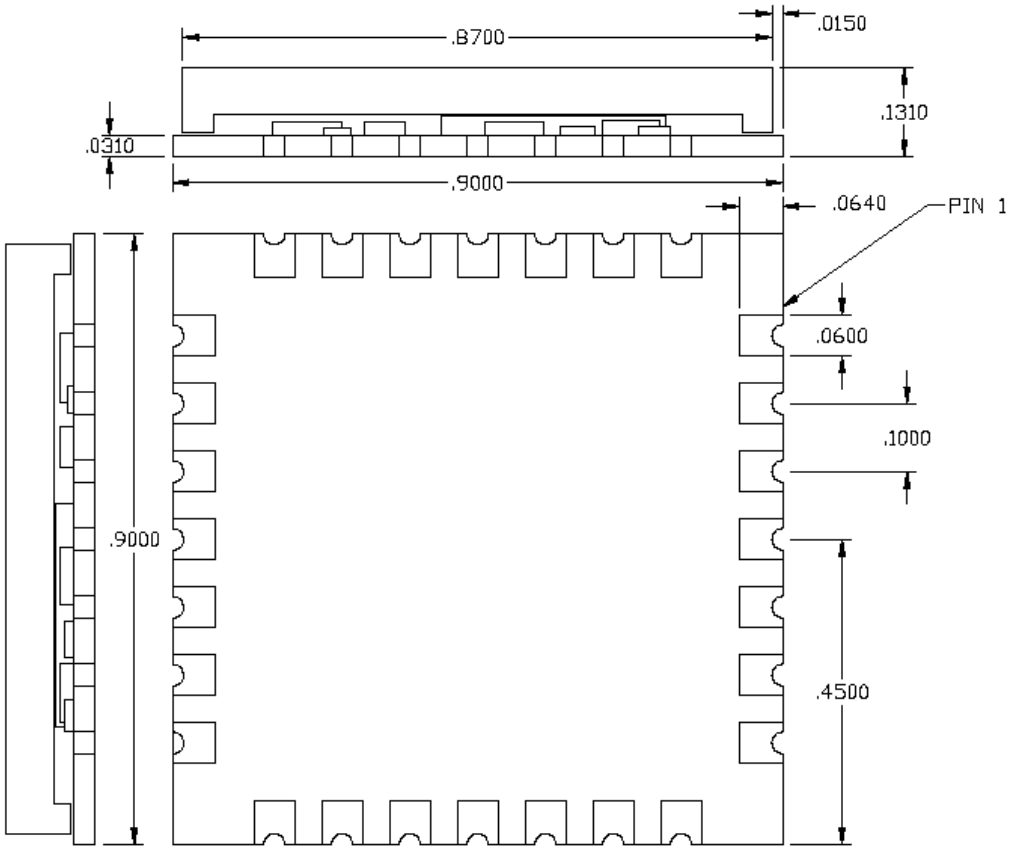
Pin Configuration

Pin	Name		Pin	Name
1	RX Enable Out		15	Ground
2	No Connection		16	VDD
3	RF I/O to Antenna		17	Crystal/2
4	Not Used		18	Tx Data V
5	No Connection		19	SPI Data Out
6	VDD		20	SPI SSN
7	Ground		21	SPI Data In
8	No Connection		22	Reset
9	No Connection		23	VDD
10	Ground		24	Ground
11	VDD		25	SPI Clock
12	No Connection		26	SPI Interrupt
13	VCO Control Voltage		27	Tx Enable
14	No Connection		28	RSSI Out



Package Outline – Bottom View



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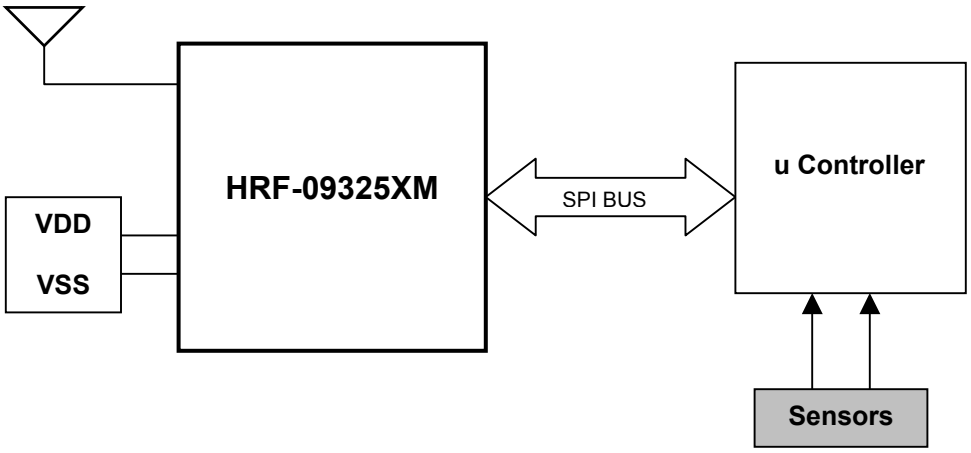
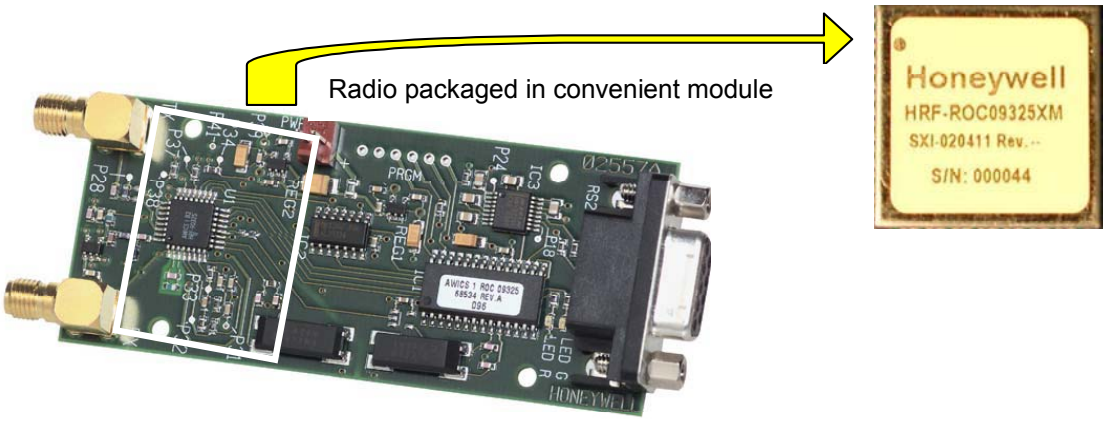
Typical Application



Customer Demonstration Board

If more information is needed to learn about the operation of the ROC09325 radio, there is an evaluation kit that includes the same radio as the module but it is in a different form factor. One evaluation board includes the ROC09325 radios and a PIC microcontroller with RS-232. The kit includes two boards, antennas, cables, documentation and software. The evaluation kit allows the user to work with two communicating boards.



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Ordering Information

Ordering Number	Product
HRF-ROC09325XM–P	Delivered In Waffle Packs
HRF-ROC09325 - K	Evaluation Kit

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