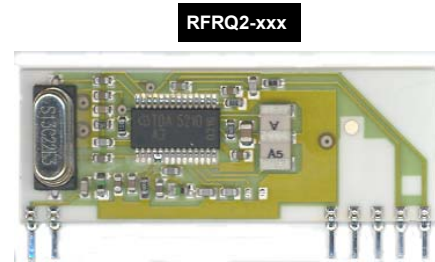




RFRQ2 Crystal controlled PLL FM Receiver Module

Features

- PLL XTAL Design
- CMOS/TTL Output
- RSSI Output
- **Standby Mode (max 100nA)**
- 5V Operation
- High stability over
- Compatible with FM RF transmitter modules such as RFTQ1, RFTQ2, FM-RTF, TXM-433 etc.
- SIL pinout for vertical or horizontal placement
- Data rates up to 9.6Kbps



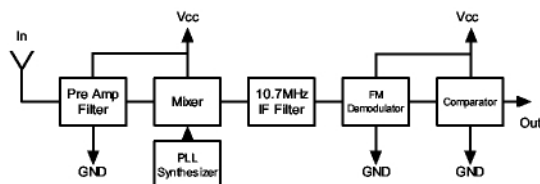
A Single in Line Package for vertical or horizontal placement. Form factor and pin-out compatible with a variety of other RF receiver modules making the RFRQ2 ideal for comparative evaluation against other RF receiver modules.

Description

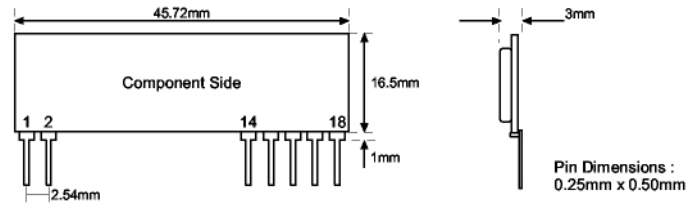
These miniature RF receiver modules provide a cost effective high performance FM Radio data link, at either 315, 433.92 or 868MHz. Manufactured using laser trimmed Thick Film Ceramic Hybrid the modules exhibits extremely stable electronic characteristics over an Industrial Temperature range. The hybrid technology uses no adjustable components and ensures very reliable operation. Together with a suitable RF transmitter module such as the RFTQ1 or RFTQ2 the simple implementation of a data link at distances up to 200ft in-building and 700ft open ground may be easily achieved.

These RF receiver modules will suit one-to-one and multi-node wireless links in applications including car and building security, EPOS and inventory tracking, remote industrial process monitoring and computer networking. Because of their small size and low power requirements, these modules are ideal for use in portable, battery powered applications such as hand-held terminals.

Receiver Block Diagram



RFRQ2 Mechanical Details



Pin Description

Pin	Description
16	+Vcc
2,15	GND
1	Data In (Antenna)
	NC
14	Received Signal Strength Output
17	AF Output
18	Data Out
N/A	Power Down 0V = Standby 5V = Operating

RSSI Output

RF In (dBm)	RSSI (V)
-120	1.20
-110	1.32
-100	1.50
-90	1.78
-80	2.06
-70	2.35
-60	2.62
-50	2.72
-40	2.75

Technical Specifications

Electrical Characteristics	Min	Typical	Max	Dimension	Notes
Supply Voltage (Vcc)	4.5	5	5.5	V	
Supply Current (Operating)		5.7	6.8	mA	
Supply Current (Standby)			100	nA	
Receive Frequency		315.00 433.92 868.35		MHz	
R.F Sensitivity				dBm	
315 ,433MHZ versions		-103			
868MHz versions		-100			
3dB Bandwidth		+/-150		KHz	
Data Rate	300		9,600	Hz	
Turn on Time		8		mSecs	1
Level of Emitted Spectrum			-70	dBm	
Low Level Output Voltage			0.8	V	I = 200uA
High Level Output Voltage	Vcc-1			V	I = 200uA
Operating Temperature Range	-25		+80	oC	

Note 1: Time from applying power to stable data

Prototyping Hints:

It is essential when building any Low Power Radio System that you have a 'clean' DC power source. Typically the ripple voltage should be less than 10mV Peak to Peak. Normally a 470uF decoupling capacitor is sufficient de-coupling for an AC derived DC power source.

Never place a Transmitter or Receiver directly into plug-in type breadboard. This will severely restrict the range. Rather, use small lengths of wire from the prototyping board to the pins of the Transmitter or Receiver.

A useful antenna, for testing purposes, for both the Transmitter and Receiver on 433MHz is to use a piece of wire 16.5cm long for 433MHz soldered directly to the antenna pin.

Disclaimer:

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