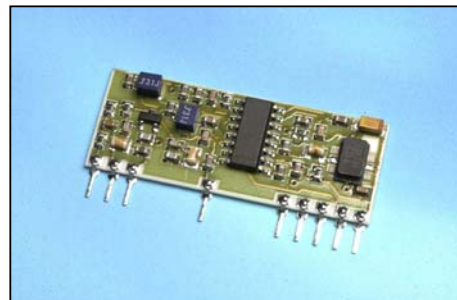




- Compact Hybrid Module.
- Ceramic Substrate
- 315 / 433 / 868MHz Available
- Very High Frequency Stability
- Receiving Range Up To 100 Metres.
- CMOS/TTL Compatible Output.
- Single Supply Voltage 5V.
- Operates from $-25 - +85^{\circ}\text{C}$
- Compatible With R.F. Solutions AM Transmitters.
- Compliant to ETS300-220
- Sensitivity Typ -107dbm
- PLL Synthesizer Front End
- Sleep Mode

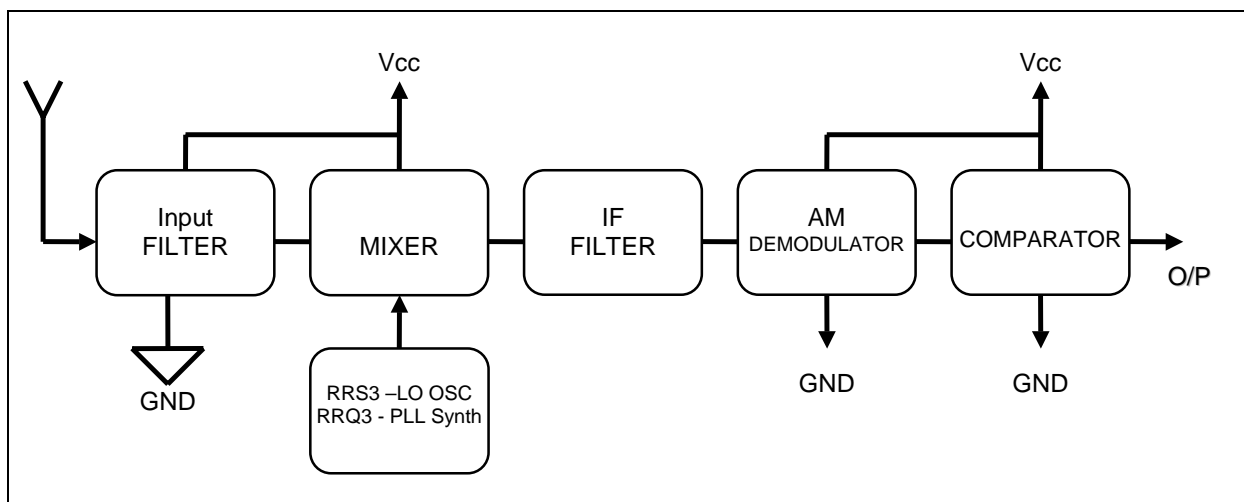


Description

The R.F. Solutions AM Superheterodyne Receivers are compact modules, which can be used to capture undecoded data from any equivalent AM Transmitter, such as R.F. Solutions AM-RT4 range of transmitters. (See AM Transmitter datasheet).

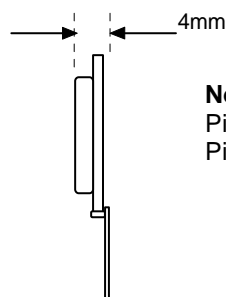
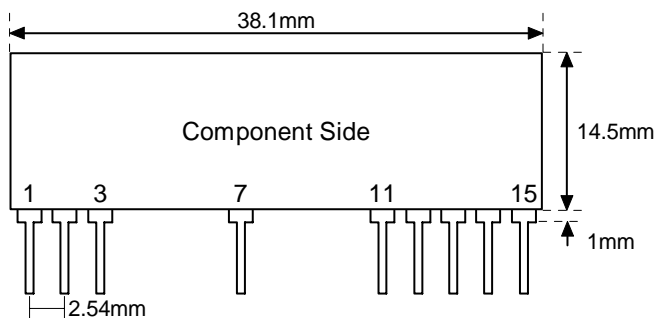
Receivers are manufactured on a ceramic substrate incorporates either a SAW Filter and pre amplifier front end or PLL Synthesizer for maximum sensitivity and reduced EMC emissions. These modules show a very high frequency stability over a wide operating temperature even when subjected to mechanical vibrations or manual handling offering a very cost effective solution.

Block diagram





Mechanical Dimensions



Notes
 Pins on 0.1" pitch
 Pin Dims :0.25 x 0.50mm

Pin Descriptions

RRQ3	
Pin No	Pin Name
1	+Vcc
2	GND
3	DATA IN (Antenna)
7	GND
11	GND
12	NC
13	RSSI (output)
14	DATA OUT
15	PD (Power Down input) 0 = Standby Mode (I _{standby} 100nA max) 5V = Normal Operation

RSSI Output

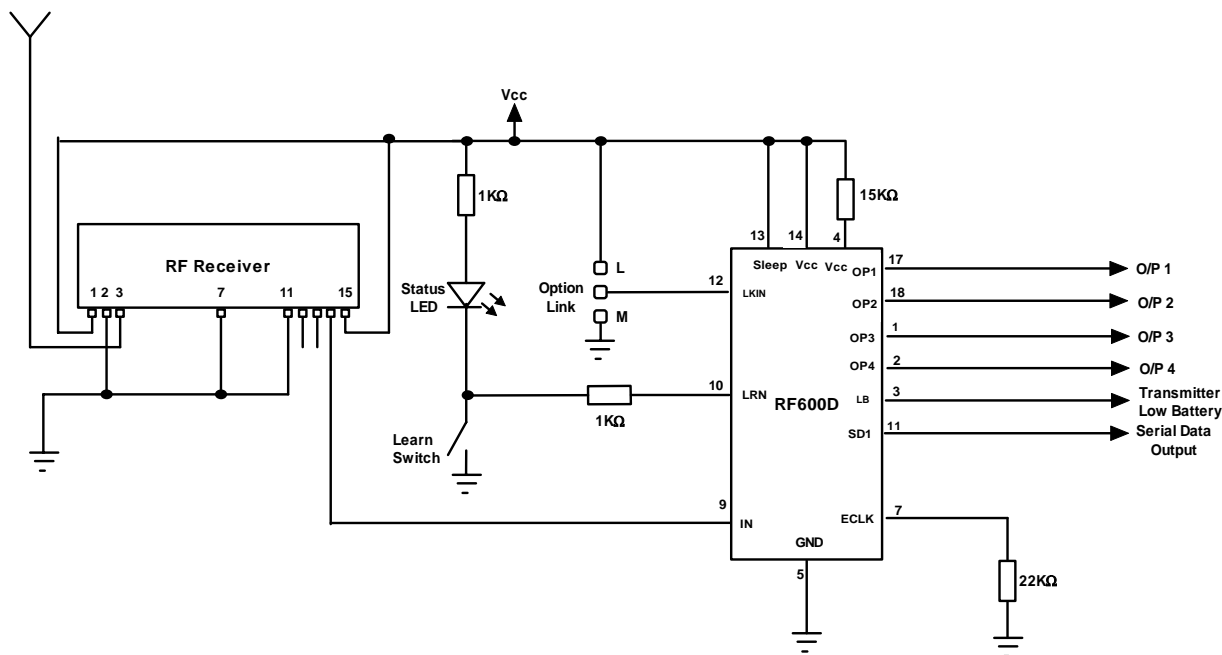
RF In (dBm)	RSSI (V)
-120	1.20
-110	1.32
-100	1.50
-90	1.78
-80	2.06
-70	2.35
-60	2.62
-50	2.72
-40	2.75

Electrical Characteristics

Ambient temperature = 25°C.

Electrical Characteristics	Min	Typical	Max	Dimension
Supply Voltage (Vcc)	4.5	5	5.5	V
Supply Current		5	6	mA
Receiver Frequency 315MHz variants		315		MHz
Receiver Frequency 433MHz variants		433.92		MHz
Receiver Frequency 868MHz variants		868.35		MHz
Low Level Output Voltage (I=10uA)			0.8	V
High Level Output Voltage (I=200uA)	Vcc-1			V
Operating Temperature Range	-25		+80	°C
R.F Sensitivity (100% AM) at 315 / 433MHz		-106		dBm
R.F Sensitivity (100% AM) at 868MHz		-101		dBm
3dB Bandwidth		+/-150		KHz
Max Data Rate			4.8	KHz
Level of Emitted Spectrum			-70	dBm

Application Circuit



Notes

- Do not use Veroboard or Stripboard to mount the module!
- Ensure the supply is stable (ideally <10mVpk ripple).
- Keep the module away from other EMF generating components.
- Mount the antenna as close to the module as possible.

Part numbering

AM-RRQ3-315	Receiver Module 315MHz
AM-RRQ3-433	Receiver Module 433MHz
AM-RRQ3-868	Receiver Module 868MHz

Should you require further assistance, please call;

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RF Solutions is a member of the Low Power Radio Association.

