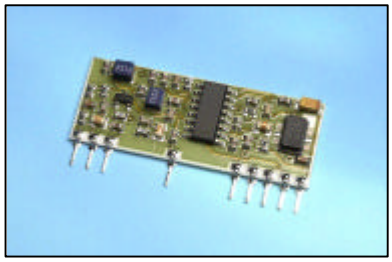
AM SUPERHETRODYNE RECEIVERS.

AM-RRS3-XXX
AM-RRQ3-XXX



- 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^{o} C
- Compatible With R.F. Solutions AM Transmitters.
- Compliant to ETS300-220

RRS3

- Sensitivity Typ -106dbm
- Saw Filter Front End.

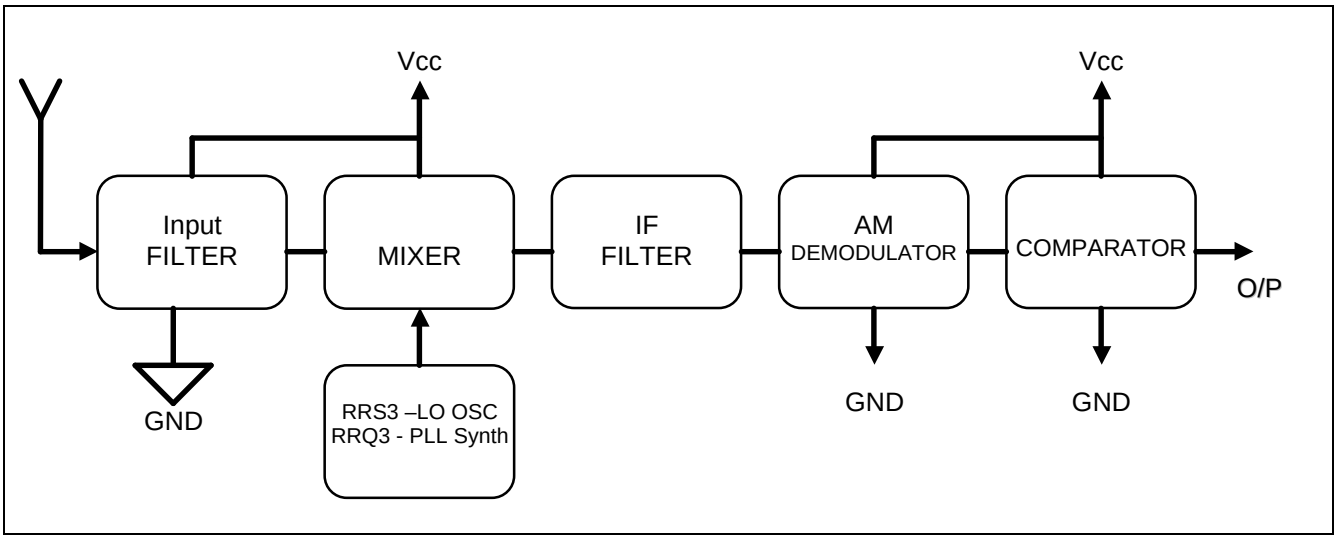
RRQ3

- Sensitivity Typ -107dbm
- PLL Synthesizer Front End
- Sleep Mode

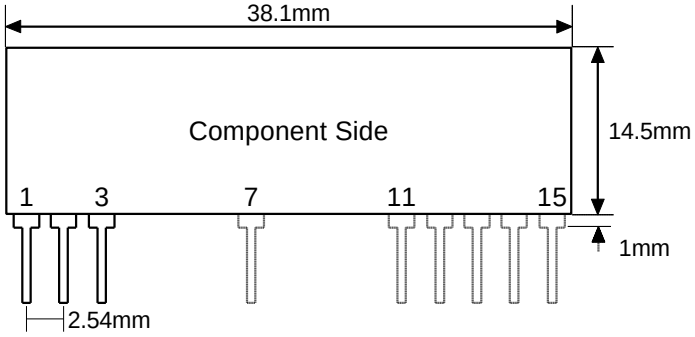
The R.F. Solutions AM Superheterodyne Receivers are compact modules, which can be used to capture undecoded data from any equivalent AM Transmitter, such as R.F. Solutions AM-RT4 range of transmitters. (See AM Transmitter datasheet).

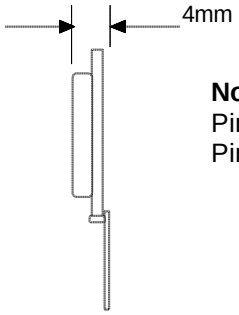
Receivers are manufactured on a ceramic substrate incorporates either a SAW Filter and pre amplifier front end or PLL Synthesizer for maximum sensitivity and reduced EMC emissions. These modules show a very high frequency stability over a wide operating temperature even when subjected to mechanical vibrations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

RRS3	
Pin No	**Pin Name**
1	+Vcc
2	GND
3	DATA IN (Antenna)
7	GND
11	GND
12	NC
13	NC
14	DATA OUT
15	+VCC

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

Electrical Characteristics (Applies to all variants below)

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			0.8	V
High Level Output Voltage	Vcc-1			V
Operating Temperature Range	-25		+80	°C

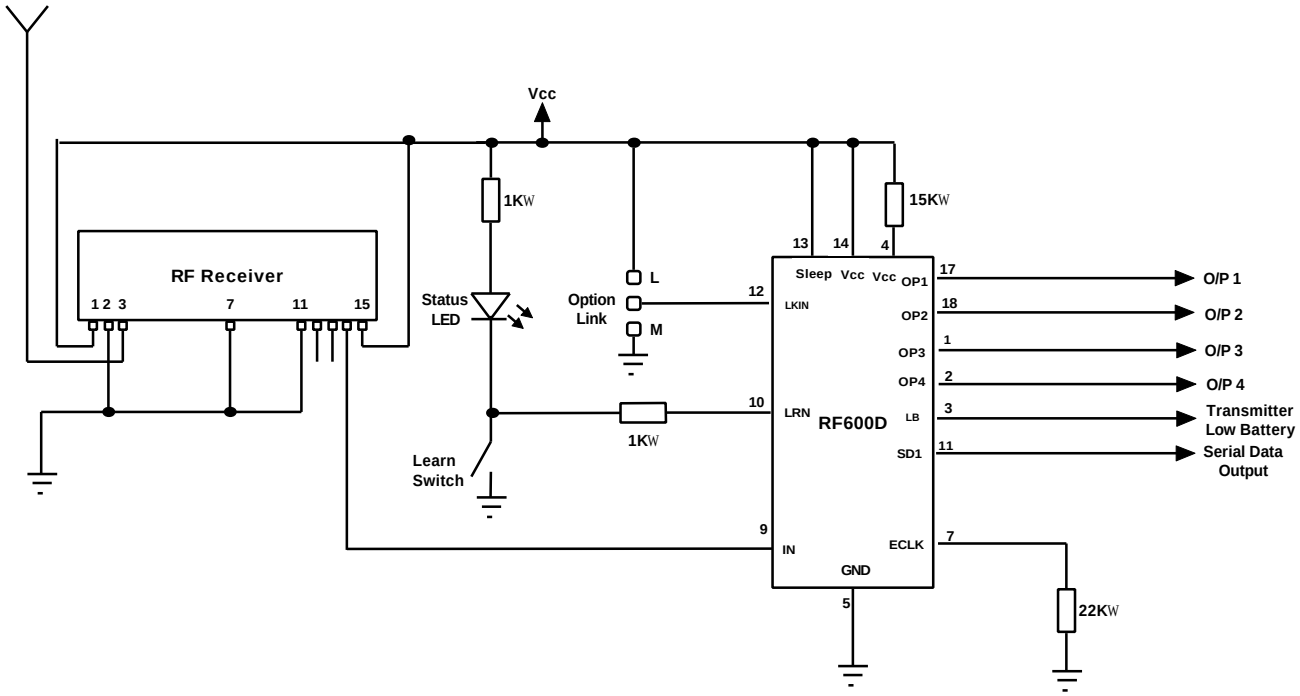
AM-RRS3 Electrical Characteristics

Electrical Characteristics	Min	Typical	Max	Dimension
R.F Sensitivity (100% AM)		-106		dBm
3dB Bandwidth		+/-400		KHz
Max Data Rate			4.8	KHz
Turn on Time (Power on to Data valid)			20	mSecs
Level of Emitted Spectrum		-70	-65	dBm

AM-RRQ3 Electrical Characteristics

Electrical Characteristics	Min	Typical	Max	Dimension
R.F Sensitivity (100% AM)		-107		dBm
3dB Bandwidth		+/-200		KHz
Max Data Rate			4.8	KHz
Level of Emitted Spectrum			-70	dBm

Application Circuit



Part numbering

AM-RRS3-315	Receiver Module 315MHz
AM-RRS3-418	Receiver Module 418MHz
AM-RRS3-433	Receiver Module 433MHz

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;

R. F. Solutions Ltd.,
Unit 21, Cliffe Industrial Estate,
South Street, Lewes,
E Sussex, BN8 6JL. England.
Tel +44 (0)1273 898 000. Fax +44 (0)1273 480 661.
Email sales@rfsolutions.co.uk
http://www.rfsolutions.co.uk

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