



R916AM

SMT Package



Designed for long-range (up to 1000 ft*) unlicensed wireless applications under Part 15 of the FCC Regulations. The receiver provides excellent sensitivity (-106 dBm typical), front-end selectivity and immunity from desensitization. The low power requirements make it ideal for battery operation. The L.O. is crystal controlled for excellent temperature stability. No production tuning and only two external components are necessary. The module is packaged in an RFI/EMI shielded enclosure. Use with T916AM transmitter or other AM transmitters operating at 916.5 MHz.

916.5 MHz On-Off Keyed Receiver Module

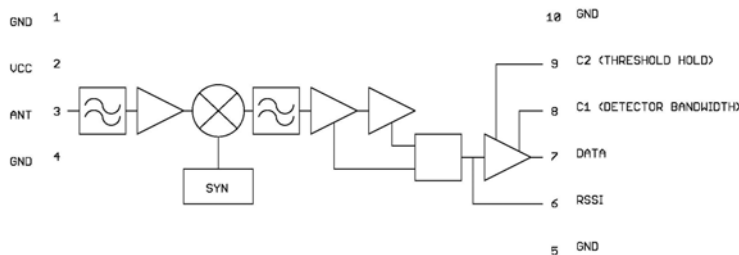
Features

- Compatible with T916 AM Transmitters
- Low Cost
- Simple Application
- Long Range-- exceeds 1000 ft*
- No RF Design Required
- Low Power Requirements
- Crystal Stability
- Conforms to FCC Requirements

Typical Applications

- Data Transmission
- Telemetry
- Remote Control
- Utility Meter Reading
- RFID

Block Diagram



Part Ordering Information

Frequency (MHz)	Model Number	Matching Transmitter
916.500	R916AM	T916AM

Maximum Ratings

SYM	PARAMETER	VALUE	UNIT
V _{cc}	DC Supply Voltage	-0.5 to +7.0	VDC
RF _{in}	RF Input Power	+10	dBm
T _{stg}	Storage Temperature	-50 to +150	C

¹ Line of sight range, when used with a 1/4-wave ground plane antenna.

Specifications subject to change without notice or obligation.

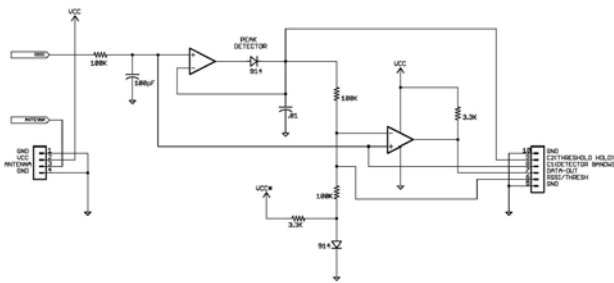
Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
VCC	Operating Voltage Range	2.8	3.0	3.3	Volts
Icc	Operating Current		12.5		mA
	Sensitivity (at 1kbps)		-106		dBm
f _{max}	Data Rate		10k		bps
f _c	Center Frequency	916.4	916.5	916.6	MHz
f _{IF}	IF Frequency		10.7		MHz
BW _{IF}	IF Bandwidth		330		kHz
	Image Rejection		50		dB
Z _{out}	Antenna Input Impedance		50		Ohms
T _{op}	Operating Temperature	-20		+70	C

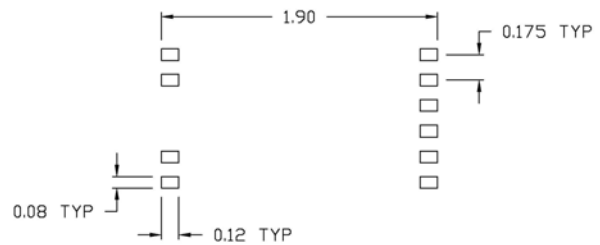
C1, C2 Selection

C1 sets peak detector bandwidth.
C2 sets "hold time" threshold.

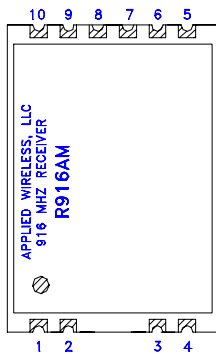
Application	C1	C2
Applications involving long intervals between data	Not used	4.7uF
Higher speed applications	.01uF	.001uF



Pad Layout



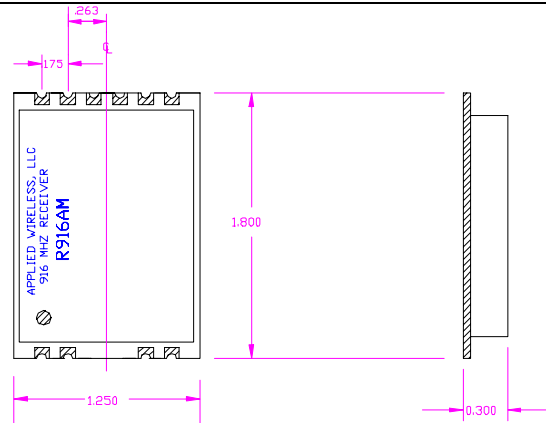
Pinout Assignment



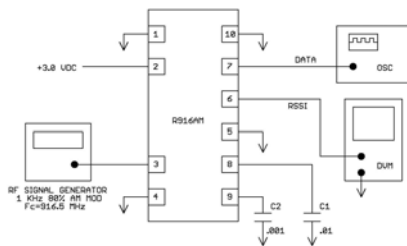
- PIN#1: GROUND
- PIN#2: +VCC
- PIN#3: RF-IN
- PIN#4: GROUND
- PIN#5: GROUND
- PIN#6: RSSI/THRESH
- PIN#7: DATA OUT
- PIN#8: C1
- PIN#9: C2
- PIN#10: GROUND

TOP VIEW

Mechanical Outline



Test Circuit



Notes

Values of C1 and C2 can be changed to optimize comparator for various data rates and formats.

RSSI: DC voltage output proportional to RF signal strength. Can be used for signal strength or squelch.

Note: All antennas should be 50 Ohm. A typical antenna would be a quarter wavelength wire or rod (at 303 MHz that would be 9.5 inches).

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