APPLIED WIRELESS©

Long Range Wireless Applications

R900FM

SMT Package

Designed for long-range (up to 1000 ft*) unlicensed wireless FSK data applications under Part 15 of the FCC Regulations. The low power requirements make it ideal for battery operation. The L.O. is crystal controlled for excellent temperature stability. No production tuning and no external parts are required. The module is packaged in an RFI/EMI shielded enclosure. Use with T900FM transmitter module. The R900FM is available in several standard frequencies.

902-928 MHz

FM/FSK Receiver Module

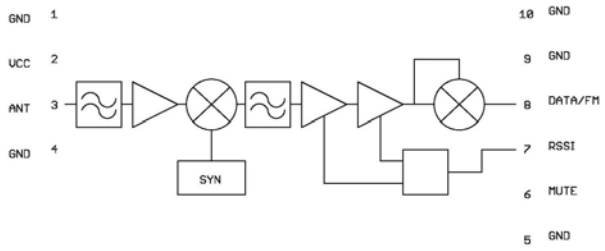
Features

- Compatible with T900FM Transmitter Module
- RSSI Output for Signal Strength Monitoring
- Low Cost
- Simple Application
- Long Range-- exceeds 1000 ft*
- No RF Design Required
- Low Power Requirements
- Crystal Stability
- Conforms to FCC Requirements

Typical Applications

- Remote Control
- Data Transmission

Block Diagram



Part Ordering Information

Frequency (MHz)	*Model Number*	*Matching Transmitter*
922.00	**R900FM-922**	T900FM-A
923.20	R900FM-923	T900FM-B
924.40	R900FM-924	T900FM-C
907.8	R900FM-908	T900FM-A
909.0	R900FM-909	T900FM-B
910.2	R900FM-910	T900FM-C

Other frequencies may be custom ordered

Maximum Ratings

SYM	PARAMETER	VALUE	UNIT
Vcc	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.

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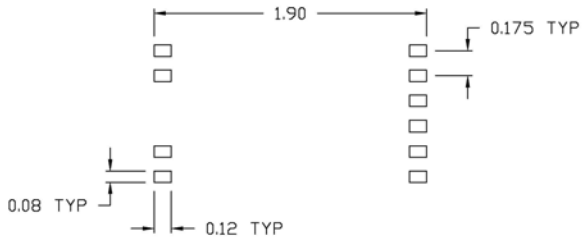
Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
VCC	Operating Voltage Range	4.5	5.0	5.5	Volts
Icc	Operating Current		12.5		mA
f_{max}	Data Rate	DC		200	kbps
	Sensitivity (at 20dB SNR)		-106		dBm
f_c	Center Frequency		See Chart		MHz
	FM Deviation		± 75		kHz
f_{if}	IF Frequency		10.7		MHz
BW_{IF}	IF Bandwidth		330		kHz
	Data Output Level	0.3		Vcc-0.3	V
	Data Output Impedance (1 meg load)		6k		Ohms
Z_{out}	Antenna Input Impedance		50		Ohms
	RSSI	0.7		2.9	VDC
T_{op}	Operating Temperature	-20		+70	C

Pad Layout



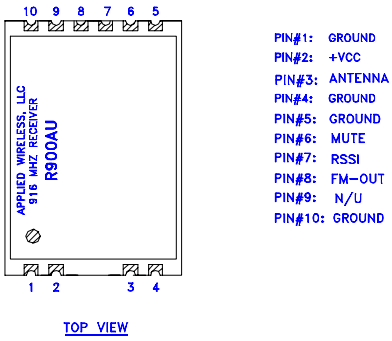
Notes

Antennas; All antennas should be 50 Ohms. A typical antenna would be a quarter wavelength wire or rod (3.25 inches at 915 MHz)

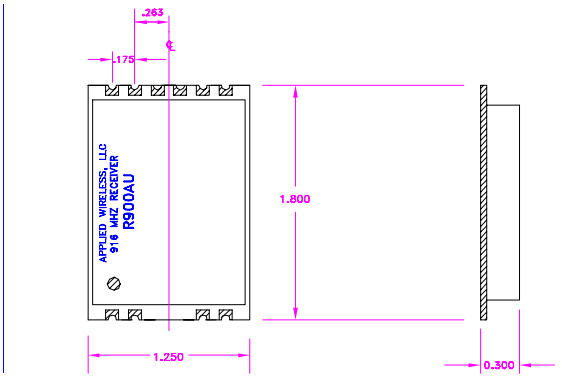
Mute (pin 6)

Mute Off	Open Circuit
Mute On	Vcc
FSK Mode	GND

Pinout Assignment



Mechanical Outline



Test Circuit