# SUMMITEK Technology Co., Ltd.

ST-TR1100+TR

SINGLE CHIP RF TRANSCEIVER MODULE

Description

ST-TR1100+TR is a supports various modulation formats and has a configurable data rate up to 500kbps Transceiver module. The ST-TR1100+TR is a true single-chip UHF transceiver, It base on SPI interface and an entire Phase-Locked Loop (PLL) for precise local oscillator generation .so the frequency could be setting.It can use in Manchester encoding / decoding. ST-TR1100+TR had a high performance and low cost. It could easily to design your product.

It can be used on wireless security system or specific remote-control function and others wireless system.

FSK 434 MHz Transceiver
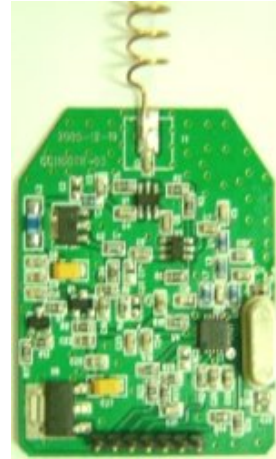
Features

- True single chip UHF RF transceiver
- Frequency bands: 400~464MHz
- High sensitivity (–110dBm at 1.2kbps, 1% packet error rate)
- Programmable data rate up to 500kbps
- Programmable output power up to +27dBm for all supported frequencies
- Excellent receiver selectivity and blocking performance
- Ideal for multi-channel operation
- Configurable packet handling hardware
- Suitable for frequency hopping systems due to a fast settling frequency synthesizer
- Optional Forward Error Correction with interleaving
- Separate 64-byte RX and TX data FIFOs
- Efficient SPI interface: All registers can be programmed with one "burst" transfer

Applications

- Car security system
- Remote keyless entry
- Garage door controller
- Home security
- Automation system

Pin Dimension
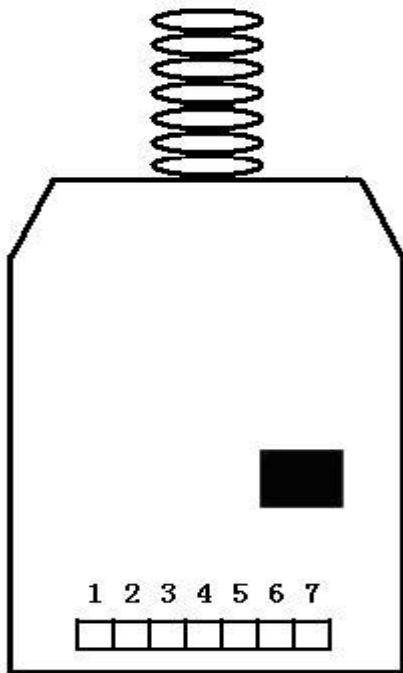
PIN#	Pin name	Pin type	Description
1	5V	VCC	5V power supply
2	SI	Digital input	Serial configuration interface, data input
3	SCLK	Digital input	Serial configuration interface, clock input
4	SO	Digital Output	Serial configuration interface, clock input Optional general output pin when CSN is hight
5	CSN	Digital input	Serial configuration interface ,chip select
6	GND	Ground	GND
7	PA-EN	PA_EN	PA power enable
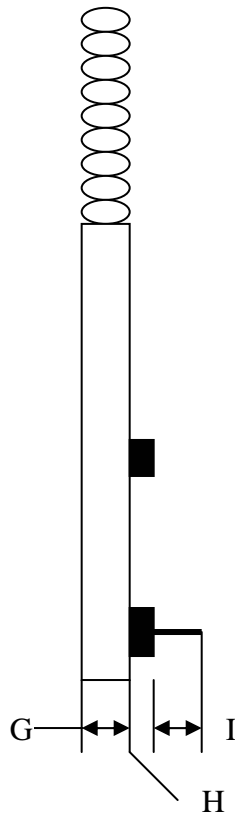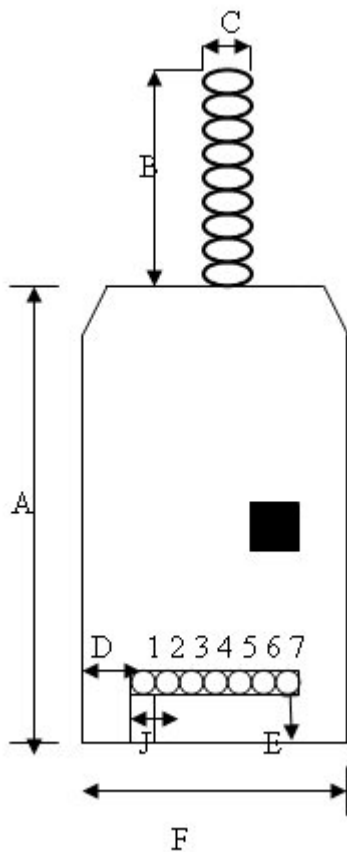
A	41.7mm	F	32.4mm
B	58.3mm	G	1.0mm
C	5.55mm	H	1.27mm
D	10mm	I	3.6mm
E	1.6mm	J	2.0 mm

Electrical Specifications

Tc = 25°C, VDD = 5.0V

Parameter	Min	Typ	Max	Unit	Condition
Current consumption,433MHz		250		mA	Transmit mode, +27dBm output power

General Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Frequency range	408		464	MHz	
Data rate	1.2		500	kbps	Modulation formats supported: (Shaped) MSK (also known as differential offset QPSK) up to 500kbps 2-FSK up to 500kbps GFSK and OOK/ASK (up to 250kbps) Optional Manchester encoding (halves the data rate).

RF Receive Section

Tc = 25°C, VDD = 5.0V

Parameter	Min	Typ	Max	Unit	Condition/Note
Differential input impedance		TBD			Follow CC1100EM reference design
Receiver sensitivity 433MHz		−110		dBm	2-FSK, 1.2kbps, 5.2kHz deviation, 1% packet error rate, 62 bytes packet length, 58kHz digital channel filter bandwidth
		−100		dBm	2-FSK, 38.4kbps, 20kHz deviation, 1% packet error rate, 62 bytes packet length, 100kHz digital channel filter bandwidth
		-88		dBm	2-FSK, 250kbps, 127kHz deviation, 1% packet error rate, 62 bytes packet length, 540kHz digital channel filter bandwidth
		-88		dBm	OOK, 250kbps OOK, 1% packet error rate, 62 bytes packet length, 540kHz digital channel filter bandwidth
Saturation		−15		dBm	
Digital channel filter bandwidth	58		650	kHz	User programmable. The bandwidth limits are proportional to crystal frequency (given values assume a 26.0MHz crystal).

RF Transmit Section

Tc = 25°C, VDD = 5.0V

Parameter	Min	Typ	Max	Unit	Condition/Note
Differential load impedance		TBD			
Output power, highest setting		27		dBm	Output power is programmable, and full range is available in all frequency bands. Delivered to a 50Ω single-ended load via Chipcon reference RF matching network.

Mark:

1. About Detail Specifications , Pls see CC1100 Data sheet .www.ti.com