CC1101SPI Module Datasheet V1.0

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Description

The CC1101SPI module is designed for CC1101 of TI company.

CC1101 is a low-cost sub-1 GHz transceiver designed for very low-power wireless applications. The circuit is mainly intended for the ISM (Industrial, Scientific and Medical) and SRD (Short Range Device) frequency bands at 315, 433, 868, and 915 MHz, but can easily be programmed for operation at other frequencies in the 300-348 MHz, 387-464 MHz and 779-928 MHz bands.
The RF transceiver is integrated with a highly configurable baseband modem. The modem supports various modulation formats and has a configurable data rate up to 600 kbps.

Applications

- *Ultra low-power wireless applications operating in the 315/433/868/915 MHz ISM/SRD bands*
- *Wireless alarm and security systems*
- *Industrial monitoring and control*

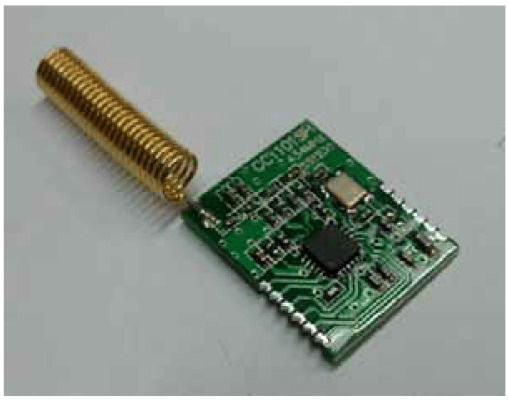
Key Features

RF Performance

- High sensitivity
- Low current consumption
- Programmable output power up to +12 dBm
- Excellent receiver selectivity and blocking performance
- Programmable data rate from 0.6 to 600 kbps
- Frequency bands: 300-348 MHz, 387-464 MHz and 779-928 MHz

Analog Features

- 2-FSK, 4-FSK, GFSK, and MSK supported as well as OOK and flexible ASK shaping
- Suitable for frequency hopping systems due to a fast settling frequency synthesizer; 75 µs settling time



- Automatic Frequency Compensation (AFC) can be used to align the frequency synthesizer to the received signal centre frequency
- Integrated analog temperature sensor

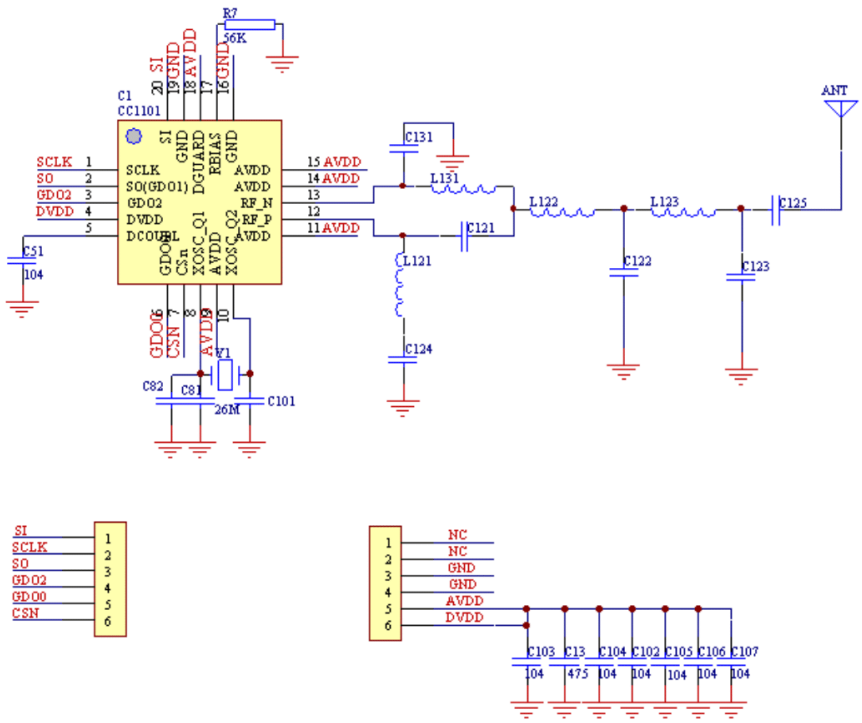
Digital Features

- Flexible support for packet oriented systems; On-chip support for sync word detection, address check, flexible packet length, and automatic CRC handling
- Efficient SPI interface; All registers can be programmed with one “burst” transfer
- Digital RSSI output
- Programmable channel filter bandwidth
- Programmable Carrier Sense (CS) indicator
- Programmable Preamble Quality Indicator (PQI) for improved protection against false sync word detection in random noise
- Support for automatic Clear Channel Assessment (CCA) before transmitting (for listen-before-talk systems)
- Support for per-package Link Quality Indication (LQI)
- Optional automatic whitening and dewhitening of data

More information

Please check www.ti.com to get more information.

Electrical Characteristics



Note: The RF value vary in different frequency.

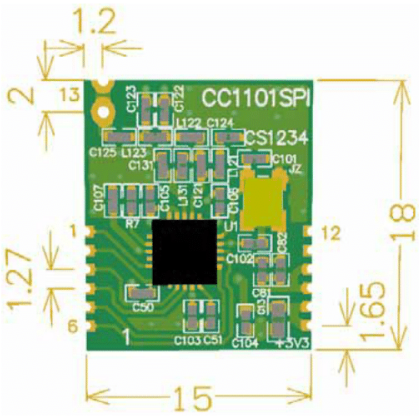
Radio Characteristics

Radio Characteristics Parameter	**Specifications**
Power Supply	1.8~3.6VDC
Frequency tolerance	± 10K ①
Current Consumption	Rx：22mA max Tx：40mA max @output power max
Rx Sensitivity	-110dBm
Output Power	12dBm max
Operating Temperature	-20℃~+70℃

Note: ①we can reduced to the smallest Frequency tolerance ±3K if necessary.

Dimension

Unit：mm



Note：The Dimension of Antenna vary in different frequency.

Pin Description

Pad Number	Pin Name	Description	Pin type
1	SI	Serial configuration interface, data input	Digital Input
2	SCLK	Serial configuration interface, clock input	Digital Input
3	SO (GDO1)	Serial configuration interface, data output Optional general output pin when CSn is high	Digital Output
4	GDO2	Digital output pin for general use: • Test signals • FIFO status signals • Clear channel indicator • Clock output, down-divided from XOSC • Serial output RX data	Digital Output
5	GDO0	Digital output pin for general use: • Test signals • FIFO status signals • Clear channel indicator • Clock output, down-divided from XOSC • Serial output RX data • Serial input TX data Also used as analog test I/O for prototype/production testing	Digital I/O
6	CSN	Serial configuration interface, chip select	Digital Input
7	VCC	1.8 - 3.6 V analog power supply connection	Power
8			
9	GND	Ground connection	Ground
10			
11	NC	Do not use	
12			
13	RFIN	Antenna	Antenna

Contact details

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