

2.4GHz Wireless RF Transceiver Module

General Description

The RFM99-S2 is a high cost-effective RF transceiver module with ultra-low power consumption, high sensitivity and long range communication.

The module working on frequency of 2400~2483,5MHz, and to provide efficient Bluetooth compatible modulation mode, which can greatly increase communication range, and also can be compatible with Bluetooth protocol.



Features

- Super strong capacity of resisting disturbance, which suitable for complex interference environment scenarios.
- RXSensitivity: -102dBm ; 2.4GHz
- Working Frequency: 2400MHZ-2483,5 MHz
- Working Voltage: 1.8V-3.7V
- TX Current: 30mA +10dbm 2.4GHz
- RX Current: 8.5mA 2.4GHz
- Sleeping Current: ≤1uA

Ordering Information

Module No.	Working Frequency
RFM99-S2	2.4GHz

Applications

- Smart Home
- Remote Control Toys
- Consumer products

● Pin Diagram

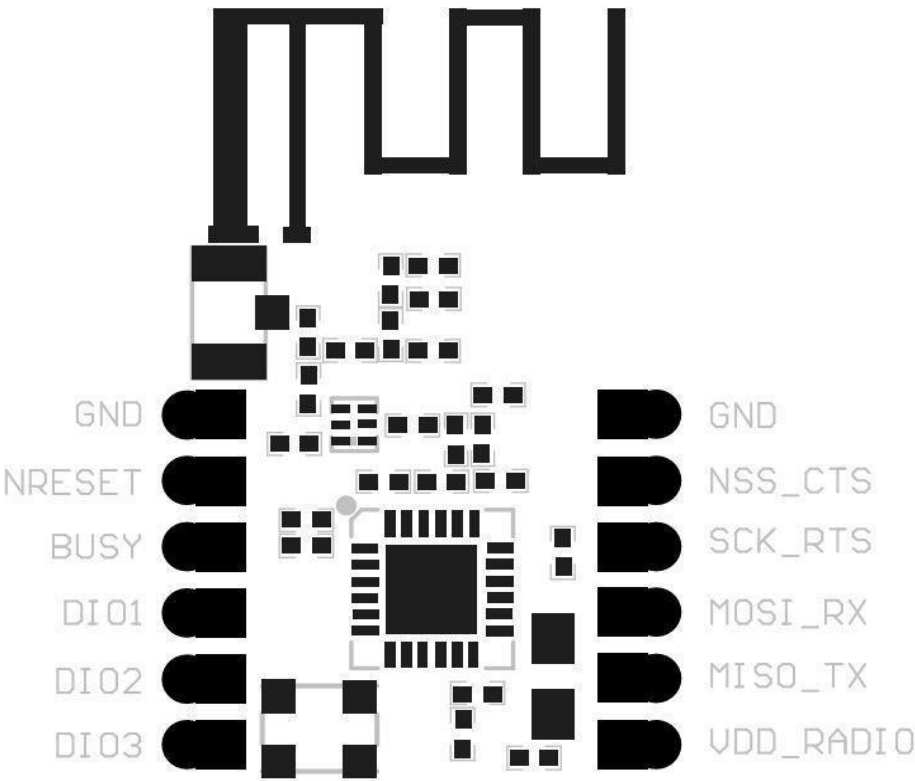


Figure 1. RFM99-S2 Pin Diagram (Top View)

Table 1. RFM99-S2 Pin Description

Pin No.	Pin Name	Description
1	GND	Ground
2	NRESET	Reset signal, active low
3	BUSY	Busy indicator
4	DIO1	Digital I/O 1, software configured
5	DIO2	Digital I/O 2, software configured
6	DIO3	Digital I/O 3, software configured
7	NSS-CTS	SPI Slave Select
8	SCK-RTS	SPI clock
9	MOSI-RX	SP slave input-RX
10	MISO-TX	SP slave output-TX
11	VDD-RADIO	voltage

● Electrical Characteristics

Testing Conditions: Power Supply Voltage 3.3V, Temperature 25°C

Table 2. Listing of Electrical Characteristics

Parameter	Symb ol	Conditions	Min	Typ	Max	Unit
Working Frequency	F _c	RFM99-S2	2400	2400	2483,5	MHz
Modulation	MOD		Bluetooth compatible			
RX Sensitivity	S	2400MHz 1 Kbps		-102		dBm
Data Rate	DR	FSK	0.125		2	Mbps
Working Voltage	V _{DD}		1.8	3.3	3.7	V
RX Current	I _{OP}	2400MHZ		8.2	10	mA
TX Current		2400MHZ +10dbm		30	40	mA
Sleep Current	I _{Sleep}			0.2	1	uA
Image Rejection	IMR			30		dB
Working Temperature	T _{OP}		-40		+85	°C

● Outline Dimension Diagram

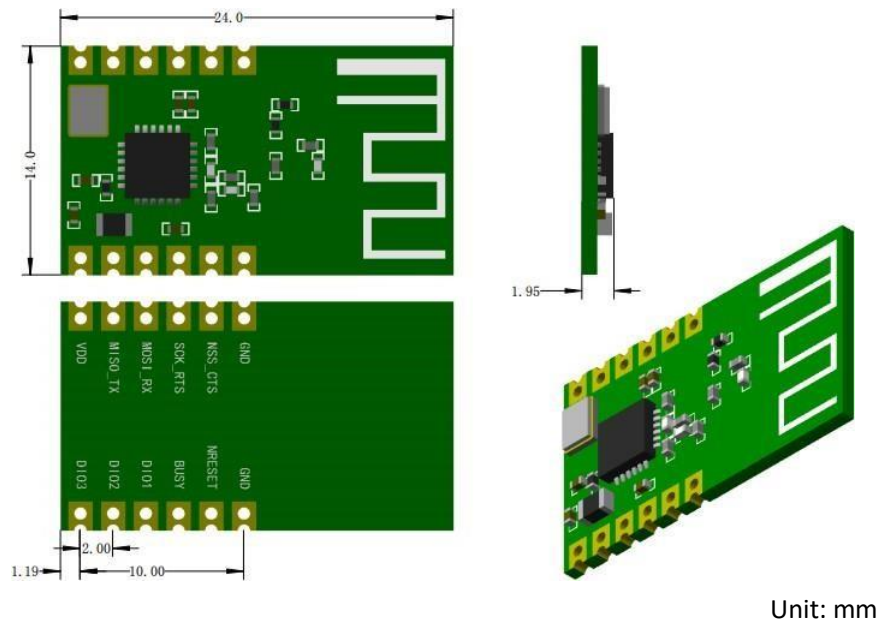


Figure 2. Outline Dimension Diagram

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