# RF-SMA Datasheet

● Introduce

RF-SMA is our latest 433MHz wireless communication module. Currently, it has a stable mass production. It is suitable for a variety of scenarios. The main chip of RF-SMA is SI4463-B1B, and it is imported from SILABS. The resistance and the capacitance are made of imported materials, especially crystals, we use a wide temperature range with high precision crystal, in order to ensure its industrial characteristic.

● Parametric Description

Num	Parametric Name	Detailed Description
1	Main chip	SI4463-B1B
2	Module size	18.5* 14.5mm
3	Interface	2*6*2.54mm, you can use the universal plate and DuPont line
4	Supply voltage	1.8-3.6V DC
5	Communication voltage	0.7VDD-5.2VDC, VDD is the supply voltage of module
6	Measured distance	2100m@1.2K
7	Maximum power	20dbm
8	Air Rate	0.123K-1MK. Due to the physical properties of the band 433M, Recommended no more than 20Kbps
9	Shutdown Current	About 0.6uA.
10	Power Level	Multi-adjustable
11	Transmitting current	About 80mA@433MHz
12	Receiving current	About 10.0mA
13	Antenna	SMA external antenna
14	Communication Interface	Standard SPI Mode 0, the maximum rate is 10Mbps
15	Transmitting length	Single data packet is 1-64 bytes
16	Receiving length	Single data packet is 1-64 bytes
17	RSSI Support	Support
18	Reception sensitivity	-117dbm@1.2Kbps
19	Work temperature	-30 - +85℃
20	Work humidity	Relative humidity :10% - 90%
21	Storage temperature	-40 - +125℃
22	Working frequency	425MHz – 525MHZ
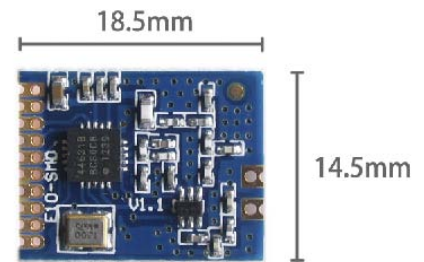
● Module pins and dimensions
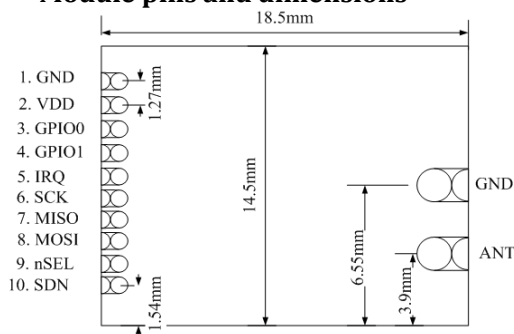
Pin Num	Pin Name	Pin Direction	Application
1	GND		Ground
2	VDD		Power provide, must be between 1.8 to 3.6(Unit: V)
3	GPIO1	Output	Module information output pin
4	GPIO0	Output	Module information output pin
5	IRQ	Output	Module interruption pin
6	SCK	Output	SPI bus clock
7	MISO	Output	Digital output pin
8	MOSI	Input	Digital input pin
9	nSEL	Input	Chip select pin, for starting an SPI communication
10	SND		Enable pin, low level effectively
11			
12			

● Connection description

SCM must connect SCK, MISO, MOSI and nSEL. GPIO0- GPIO1 can be used to output information. GPIO2-GPIO3 must be set to a specific mode. **Transmitting : GPIO2=0, GPIO3= 1. Receiving : GPIO2=1, GPIO3= 0.** GPIO2 and GPIO3 should be connected to the TX / RX high frequency switch. Then it can configured the register of the module and make it switch by itself. You can also use an external MCU switch.

● Notice:

1. Avoid body touch the electronic components.
2. Please ensure that the power supply has a smaller ripple , and must avoid frequent significant jitter.
3. Antenna mounting structure has a greater impact on module performance , please ensure the antenna exposed.
4. Avoid harmonic interference from other wireless devices bands.
5. Please make the RF module stay away from the crystal.

● Contact us

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