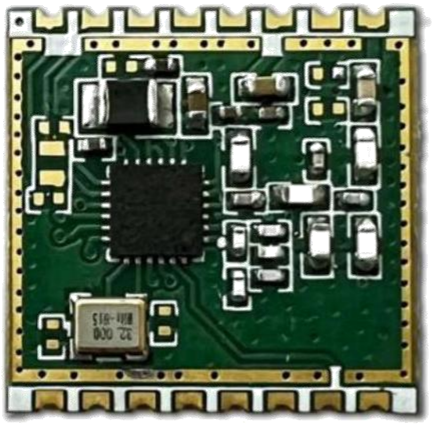
RFM310H / RFM310 Wireless Transceiver Module



product description

The RFM310H/RFM310 module is a low power consumption, high performance, OOK, (G)FSK, 4(G)FSK radio frequency transceiver module for wireless applications. It supports multiple data packet

formats and codec methods, which can flexibly meet various application requirements. Rich GPIO and interrupt configuration, Duty-Cycle operation mode, channel listening, high-precision RSSI, low-

voltage detection, power-on reset, low-frequency clock output, fast frequency hopping, squelch output and other functions make the application more flexible.

Product Features

Super strong anti-interference ability, suitable for scenarios with complex interference

environments Sensitivity -114dBm, DR=10kbps, DEV=5KHz @433.92MHz Operating

frequency: 433.92/868/915MHz Power supply voltage

input range: 1.8V-3.6V Output power: + 20dbm @

RFM310H, +13dbm @ RFM310 Transmitting operating current: 82mA @20dbm @433.92MHz,

28 mA @13dbm @433.92MHz Receiving operating current: 10mA (DCDC enabled) @433.92MHz Automatic frequency correction

(AFC) Fast and accurate effective signal Monitoring (PDJ, RSSI) Automatic ACK and

retransmission 4-wireSPI interface

supports straight-through and packet modes

Application range

Smart Meter

Reading Home Security and Building

Automation Industrial

Monitoring and Control

Wireless Sensor Node Tag Reader and Writer

ISM band data communication

Module pinout diagram

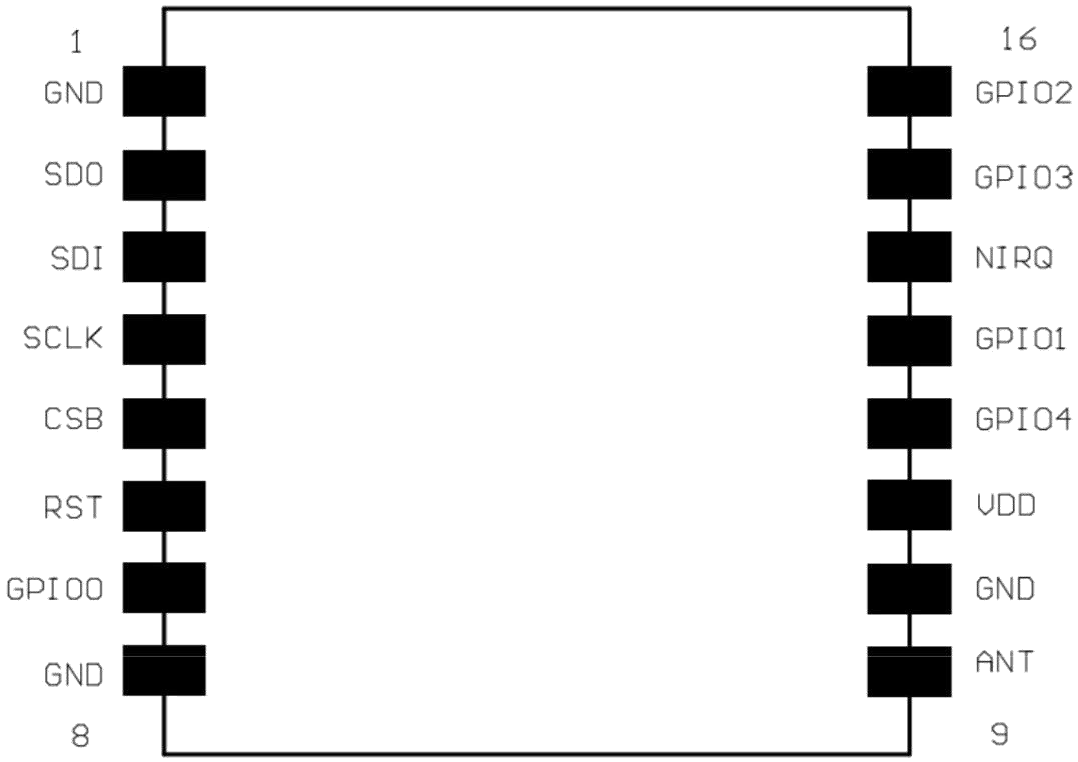


Figure 1. RFM310H/RFM310 module front view

Module pin definition

Table 1. RFM310H/RFM310 module pin definition

pin name		Function Description
1	GND	ground wire
2	SDO	SPI data output
3	SDI	Data input for SPI
4	SCLK	SPI data clock
5	CSB	Chip select input for SPI
6	GPIO5/ RST	I/O, configurable
7	GPIO0 IO,	configurable
8	GND	ground wire
9	ANT	antenna port
10	GND	ground wire
11,	VDD	power supply
12	GPIO4	IO, configurable
13	GPIO1	IO, configurable
14	NIRQ	IO, configurable
15	GPIO3	IO, configurable
16	GPIO2	IO, configurable

Module Electrical Parameters

Test conditions: power supply 3.3V, working temperature 25°C.

Table 2. Module Electrical Parameters

parameter	symbol	state	Min	Typ	Max	Unit
Working frequency	Fc	RFM310H/RFM310-433S2		433.92		MHz
		RFM310H/RFM310-868S2		868		
		RFM310H/RFM310-915S2		915		
Receiving sensitivity	S	FSK: DR=10kbps, DEV=5KHz, 433.92		-114		dBm
		FSK: DR=10kbps, DEV=5KHz, 868		-109		
		FSK: DR=10kbps, DEV=5KHz, 915		-109		
Working voltage	VDD		1.8	3.3	3.6	IN
Receive current	IRx	433.92MHZ enable DCDC		10		mA
		868MHZ enable DCDC		10.4		
		915MHZ enable DCDC		10.4		
Transmitting current	ITx	433.92MHZ enable DCDC 20dbm		82		mA
		868MHZ enable DCDC 20dbm		92		
		915MHZ enable DCDC 20dbm		93		
Transmitting current	ITx	433.92MHZ enable DCDC 13dbm		28		mA
		868MHZ enable DCDC13dbm		32		
		915MHZ enable DCDC 13dbm		33		
sleep current	Sleep	Duty Cycle =OFF		0.6		uA
Working temperature	TOP		-40		+85	ÿ

Note: The working frequency of the module needs to be configured and corrected through the RFPDKF software. The default value of the Xtal Cap Load option is 2.

When using 433.92, 868, and 915MHz frequencies, this value needs to be modified to 31.

Module Dimensions

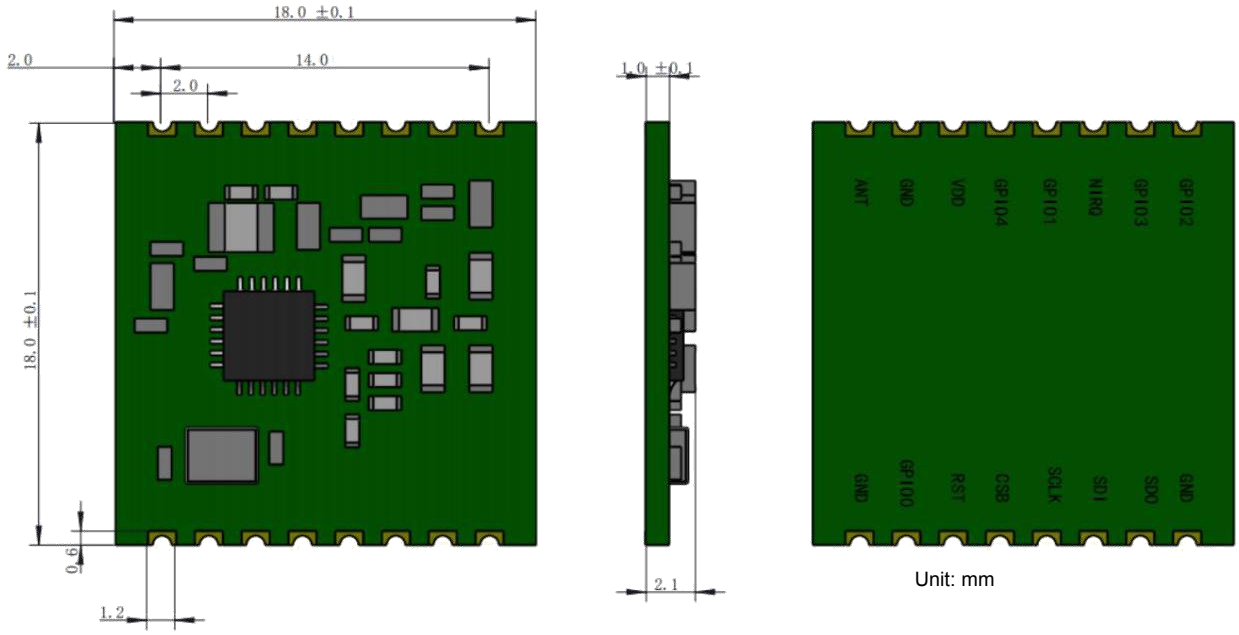


Figure 2. Module Dimensions

Ordering Information

Module model	working frequency
RFM310H/RFM310-433S2	433.92MHz
RFM310H/RFM310-868S2	868MHz
RFM310H/RFM310-915S2	915MHz

Contact information

Shenzhen Huapu Microelectronics Co., Ltd.

Address: Floor 30, Block A, Building 8, Phase III, Vanke Cloud City, Xili Street, Nanshan District, Shenzhen

Tel: +86-0755-82973805

Fax: +86-0755-82973550

E-mail: sales@hoperf.com

URL: http://www.hoperf.com