
433/470/868/915MHz SOC Transceiver Module

Product Description

The RFM6505 module is an SOC RF transceiver module that integrates an STM8L152 series low-power MCU and an ultra-low-power RF transceiver with ultra-low power consumption, high sensitivity, long-distance communication, and high cost performance. It integrates rich peripherals, provides multiple general-purpose IO, 32.768 kHz external crystal oscillator, channel listening, high-precision RSSI, and channel input 12-bit high-speed ADC and so on.



Product Features

- Super anti-interference ability, suitable for use in complex interference environment
- Receiving Sensitivity: -137dBm SF=12 BW=125KHz
- Working Frequency: 433.92MHz 、 470MHz 、 868MHz、 915MHz
- Power Supply Voltage Input Range: 2.4V-3.7V
- Transmitting Current: 105mA 22dBm 433.92MHz
- Receiving Current: 10mA 433.92MHz

Ordering Information

Model No.	Working Frequency
RFM6505-433S2	433.92MHz
RFM6505-470S2	470MHz
RFM6505-868S2	868MHz
RFM6505-915S2	915MHz

Application Range

- Smart Meter Reading
 - Building Automation
 - Remote Control Application
 - Security System
 - Smart Parking
 - Smart City
 - Environmental Monitoring
 - Environmental Monitoring
-

Product Pin



Pic 1. RFM6505 Module Front View

Table 1. RFM6505 Module Pin Definition

Pin No.	Pin Name	Definition
1	SPI1_NSS	SPI-CS
2	I2C1_SDA	I2C-SDA
3	I2C1_SCL	I2C-SCL
4	ADC_IN0	ADC sampling input pin, also used for general IO
5	SETA	Module working mode control pin
6	SETB	Module working mode control pin
7	AUX	Module status indication IO
8	GND	Ground
9	RF_ANT	Antenna interface
10	GND	Ground
11	VDD	Power supply
12	SWIM	Burn IO
13	NRST	Reset pin
14	UART0_RX	UART-RX
15	UART0_TX	UART-TX
16	SPI1_MISO	SPI-MISO
17	SPI1_MOSI	SPI-MOSI
18	SPI1_SCK	SPI-SCK

Remarks:

I2C1_SDA and I2C1_SCL need to add two pull-up resistors externally for I2C or ordinary IO port. Otherwise, the high level cannot be pulled high

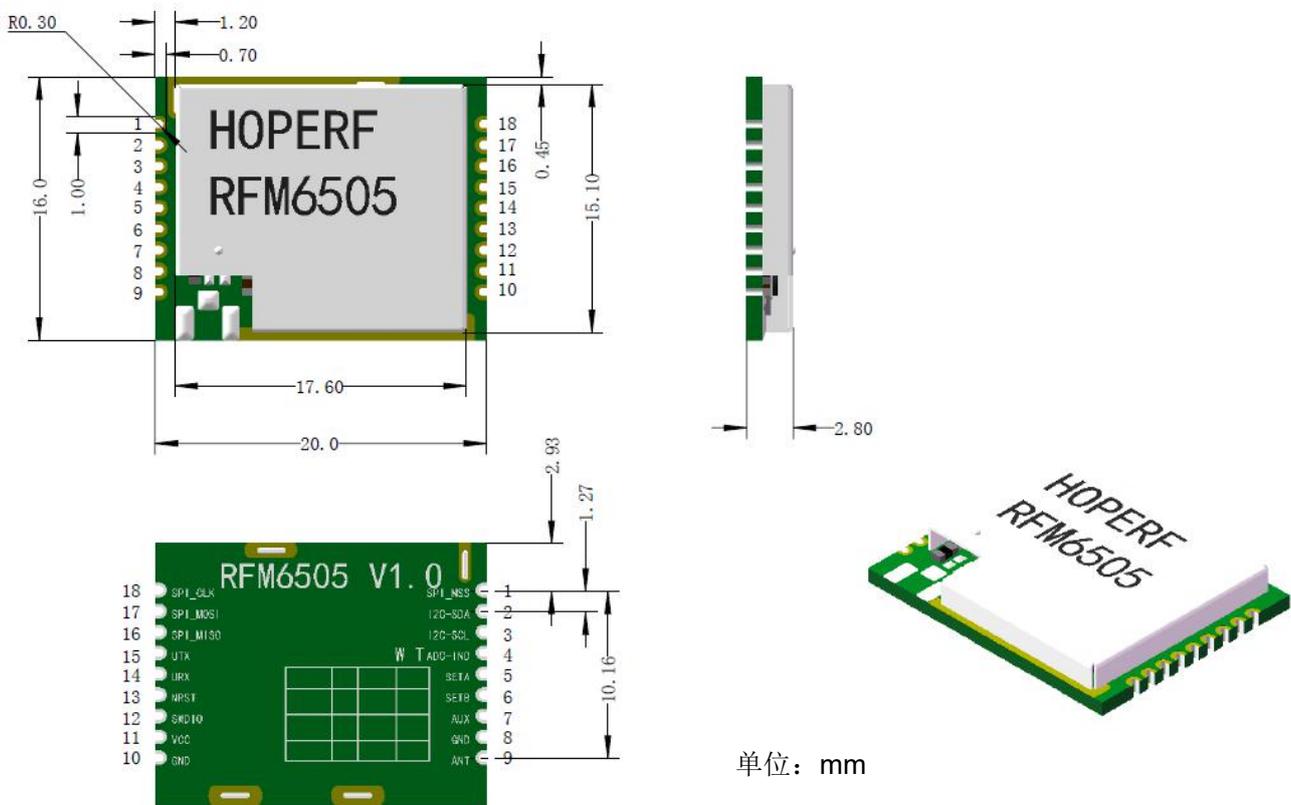
Electrical parameters

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

Table 2. List of electrical parameters

parameter	symbol	status	Min	Typical value	Max	Unit
working frequency	Fc	RFM6505-433S2		433.92		MHz
		RFM6505-470S2		470.30		MHz
		RFM6505-868S2		868		MHz
		RFM6505-915S2		915		MHz
Receiving sensitivity	S	LORA:SF=12 BW=125KHz		-137		dBm
		LORA:SF=12 BW=125KHz		-137		dBm
		LORA:SF=12 BW=125KHz		-137		dBm
Working Current	V _{DD}		1.8	3.3	3.7	V
Receiving Current	I _{RX}	433.92MHZ		10	11	mA
		470.30MHZ		10	11	mA
		868MHZ		10	11	mA
		915MHZ		10	11	mA
Transmitting Current	I _{TX}	433.92MHZ +22dbm		105	120	mA
		470.30MHZ +22dbm		108	120	mA
		868MHZ +22dbm		150	165	mA
		915MHZ +22dbm		130	150	mA
Sleep Current	I _{SLEEP}	RF and RTC are not configured		1.35	2.0	uA
Working temperature	T _{OP}		-40		+85	°C

Module Size



Pic2. Module Size

HOPEMICROELECTRONICS CO.,LTD Add:2/F,Building3,pingshan Private Enterprise science and Technology Park, Xili Town, Nanshan District,
 Tel: 86-755-82973805
 Fax: 86-755-82973550
 Email: sales@hoperf.com
 Website: <http://www.hoperf.com>
<http://www.hoperf.cn>

This document may contain preliminary information and is subject to change by Hope Microelectronics without notice. Hope Microelectronics assumes no responsibility or liability for any use of the information contained herein. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Hope Microelectronics or third parties. The products described in this document are not intended for use in implantation or other direct life support applications where malfunction may result in the direct physical harm or injury to persons. NO WARRANTIES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MECHANABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE OFFERED IN THIS DOCUMENT.

©2006, HOPE MICROELECTRONICS CO., LTD. All rights reserved.