

RM7203

- LoRa™ Module
- 868/902 MHz
- Long Range & Low Power Module

The RM7203 is low-power, long-range and low bit rate transmitting data module. It uses Semtech's high performance and spread spectrum chip SX1272. The RM7203 is used for ultra-long distance spread spectrum communication with strong anti-interference and high receive sensitivity over -142dBm. At the same time, the module is also embedded with low-power MCU STM32L0 to reduce current consumption in max.

The RM7203 has small volume and the size of this module is 22*28mm, which can be applied to a variety of design schemes. At the same time, long-distance transmission, ultra-low power consumption and high receiving sensitivity also solve many problems that cannot be solved in traditional design methods.

The RM7203 has multiple channels to choose, and the transmitting power can be set according to the requirements. The default is 20dBm.

1. Parameters

Table 1: Electrical Characteristics

MODEL: RM7203						
Item	Description	Parameters			Unit	Test Condition
		Min	Typ	Max		
Output	Frequency	860	868/902	1020	MHz	
	TX Power		20		dBm	Setting TX Power=20dBm
Power consumption	Supply voltage		3.3		V	
	Sleep Idle		2		uA	
	Receive Mode		12		mA	
	Transmit Mode		120		mA	Setting TX power=20dBm, with antenna
Input	Receive Sensitivity			-142	dBm	SF=12, BW=125KHz
Operational Condition	Operational Temperature	-40		85	℃	

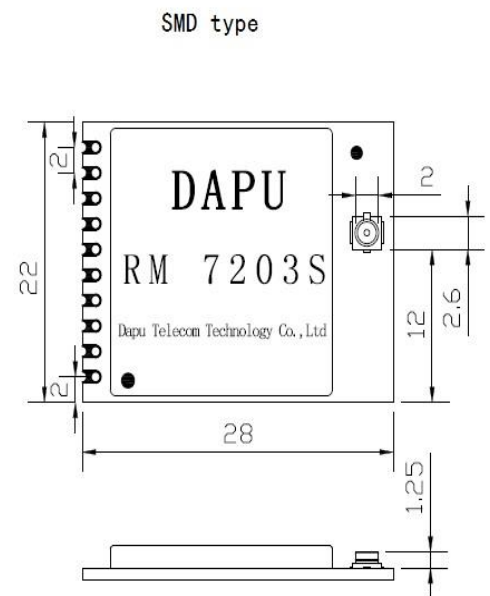
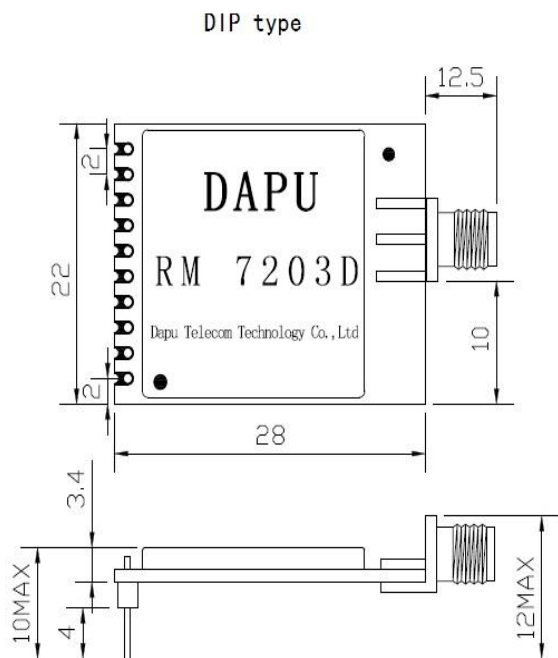
2. Pin Description

Table 2: Pin definition

Pin NO.	Name	Type	Description
1	VDD	—	Supply voltage 3.3V
2	GND	—	Ground
3	SWDIO	Input	STM32-SWD Download and debug port
4	SWCLK	Input	
5	RXD/PA10	Input	UARTI_RXD
6	TXD/PA9	Output	UARTI_TXD
7	SCL	—	I2C SCL
8	SDA	—	I2C SDA
9	PB0	—	ADC0
10	PB1	—	ADC1

3. Package Marking

RM7203 has two package type. DIP type (RM7203D) and SMD type (RM7203S).





4. Software Introduce

The RM7203 achieves serial port pass-through function, which is uses lorawan1.0.2 protocol. The RM7203 has two working mode, one is no sleep mode, can receive serial data directly. Another is sleep mode. Wake up via PB0 interrupt, the module will continue to sleep when the data transmission is completed .The communication configuration of MCU STM32L0 as shown in the table3.

table3: serial port communication configuration

Baud rate	9600 (default)
	115200 (customizable)
Awaken Pin	PB0
Awaken way	Low level trigger
Low level duration time	$\geq 30\text{ms}$
RX	RXD
TX	TXD
Data bits	8
Check bit	None
Parity bit	None
Stop bit	1
Flow control	None