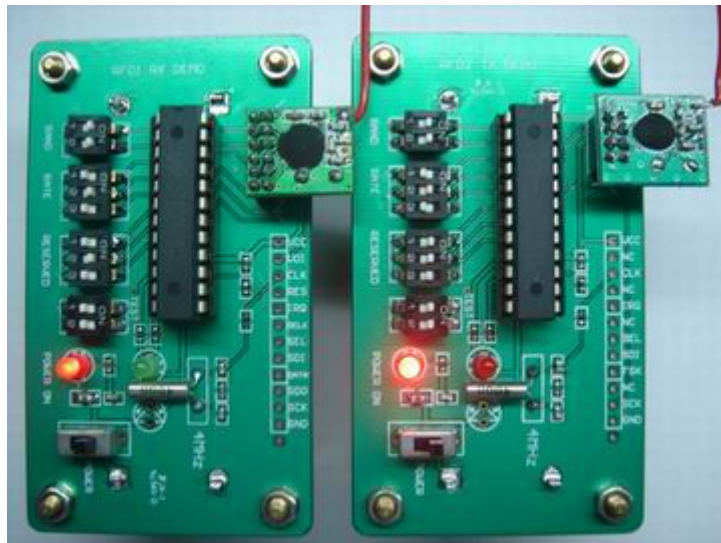


### RFM02, RFM01 Demo Kit User Manual



HOPE MICROELECTRONICS CO.,LTD

Add: 4/F, Block B3, East Industrial Area, Huaqiaocheng, Shenzhen, Guangdong, China

Tel: 86-755-82973805

Fax: 86-755-82973550

Email: [sales@hoperf.com](mailto:sales@hoperf.com)

[trade@hoperf.com](mailto:trade@hoperf.com)

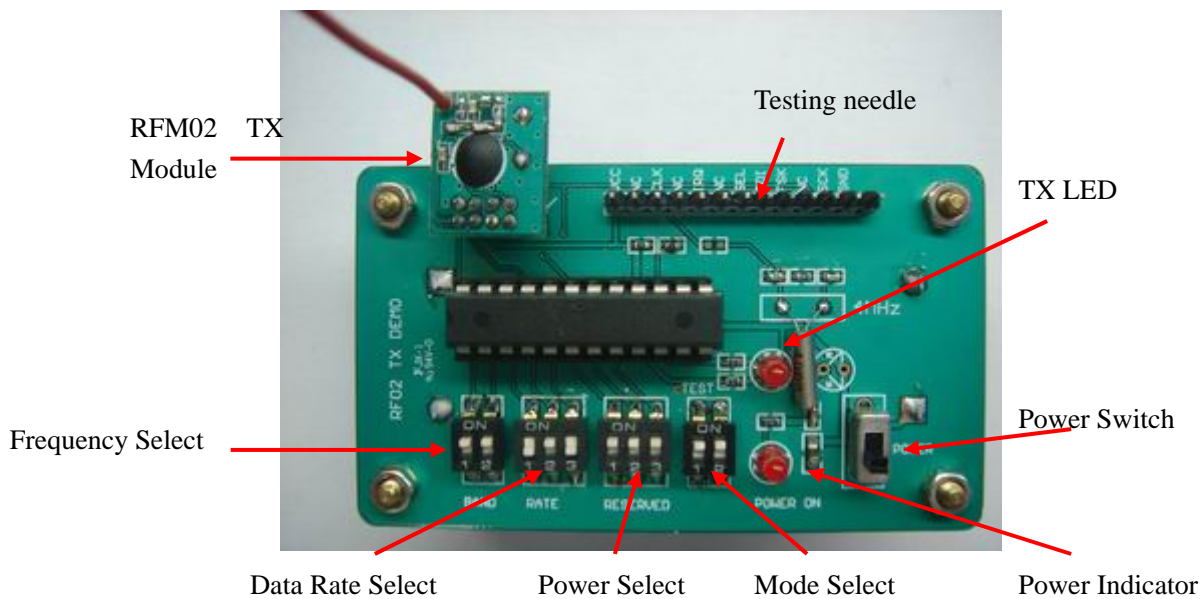
Website: <http://www.hoperf.com>

### General

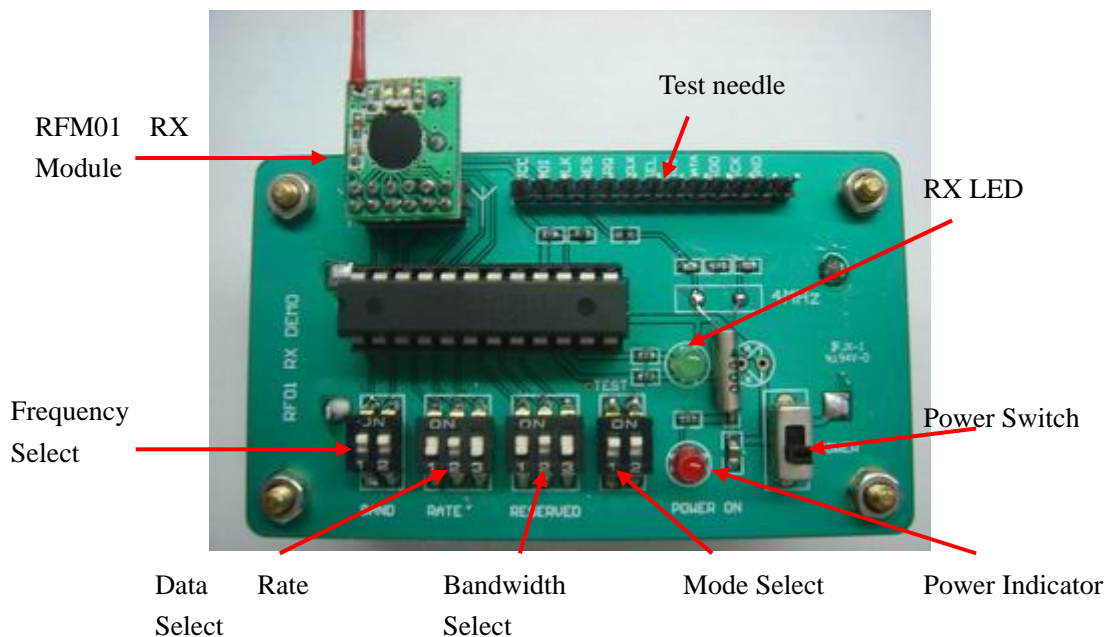
RFM02, RFM01 Demo Kit is used mainly to demonstrate the function of RFM02 and RFM01M FSK module, such as RF distance, and also useful for faster code development purpose. It consists of RFM02 TX DEMO and RFM01 RX DEMO.

### Products Introduction:

#### 1. RFM02 TX DEMO



#### 2. RFM01 RX DEMO



### Quick Start

#### Parameter Setting

Attention: RFM02 TX DEMO and RFM01 RX DEMO setting has to be matching with each other for frequency and data rate so that RF link can be established.

1、Band and frequency: with BAND select, ON=1, OFF=0

SW1	SW2	Frequency
1	1	915MHz
1	0	868.3MHz
0	1	433.92MHz
0	0	315MHz

Note: For RFM02B, the 315MHz band is not available

2、Data Rate: With Data RATE select, ON=1, OFF=0

SW1	SW2	SW3	Data Rate
1	1	1	Reserved
1	1	0	Reserved
1	0	1	Reserved
1	0	0	17.2kbps
0	1	1	9.6kbps
0	1	0	4.8kbps
0	0	1	2.4kbps
0	0	0	1.2kbps

3、Demo setting mode: ON=1, OFF=0

1. RFM02 TX DEMO

SW1	SW2	Description
1	X	Testing mode(1010... data modulated)
0	1	RFM02A demo (data rate fixed)
0	0	RFM02B demo (RFM02B bit synchronized)

2. RFM01 RX DEMO板

SW1	SW2	Description
1	X	Testing mode(receive 1010 data)
0	1	Bit synchronized mode with DATA and DCLK
0	0	FIFO mode

### 4、RESERVED select (ON=1, OFF=0)

1. RFM02 TX DEMO, RESERVED switch is used to select TX power:

SW1	SW2	SW3	Power
1	1	1	0dB
1	1	0	-3dB
1	0	1	-6dB
1	0	0	-9dB
0	1	1	-12dB
0	1	0	-15dB
0	0	1	-18dB
0	0	0	-21dB

2. RFM01 RX DEMO, RESERVED switch is used to select bandwidth:

SW1	SW2	SW3	Bandwidth
1	1	1	Reserved
1	1	0	400kHz
1	0	1	340kHz
1	0	0	270kHz
0	1	1	200kHz
0	1	0	134kHz
0	0	1	67kHz
0	0	0	Reserved

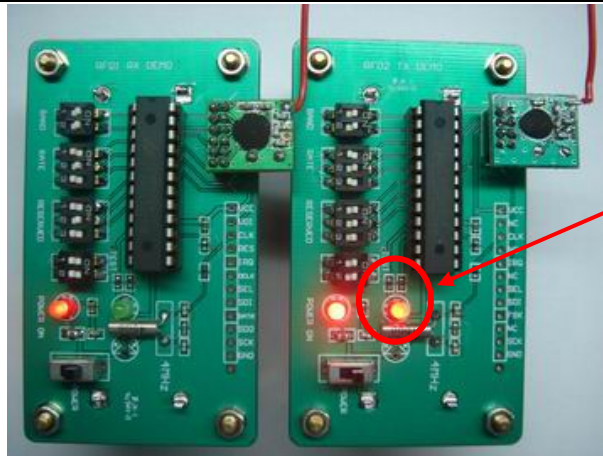
### How to operate

#### 1. RFM02 TX DEMO

1. Select frequency, data rate, RF tx power and working mode through dip switch.
2. Switch on power, the microcontroller will configure the RFM02A/B module according to selected parameter.
3. RFM02 TX DEMO start to send out data packets with one second interval. When there is transmission, the LED will blink once to indicate the transmission.

#### Data Protocol:

	Preamble	Sync word	Data	Checksum
	0xAA, 0xAA, 0xAA	0x2D, 0xD4	0x31, 0x32, ....., 0x3F	0x78

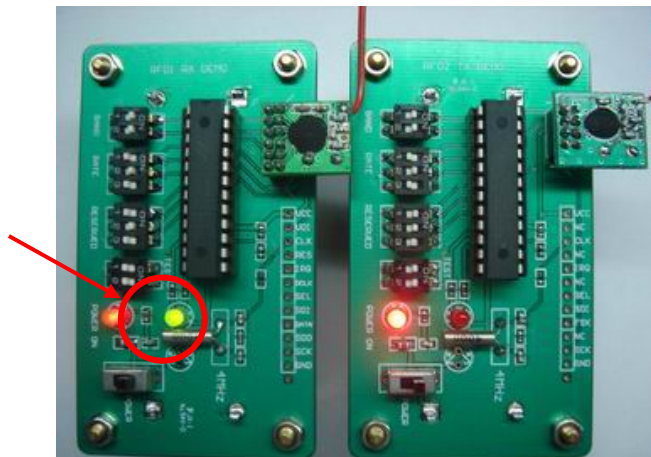


After each transmission, the led will blink

### 2. RFM01 RX DEMO

1. Select reception frequency, data rate, sensitivity and demo mode(synchronized or FIFO reception mode). Make sure reception frequency and data rate matches with the setting from RFM02 TX DEMO.
2. switch on power and then microcontroller will configure the RFM01 according to selected parameter.
2. If there is data packets received and verified to be correct, the led on receiver will blink once.

After each successful reception, the green led will blink once.



### Testing needle

RFM02 TX DEMO and RFM01 RX DEMO has all the RF module(RFM02、RFM01)pin connected externally for easier timing observation during their firmware development. If the MCU is removed, the RF module can be hooked to the target board to evaluate the RF module on end user's system.

### Precautions:

1. Power supply range from 2.2V—5.5V
2. Dip switch setting for TX and RX setting must be matching with each other.
3. Once a different setting is needed, make sure to re-power up the system again to make the setting valid.