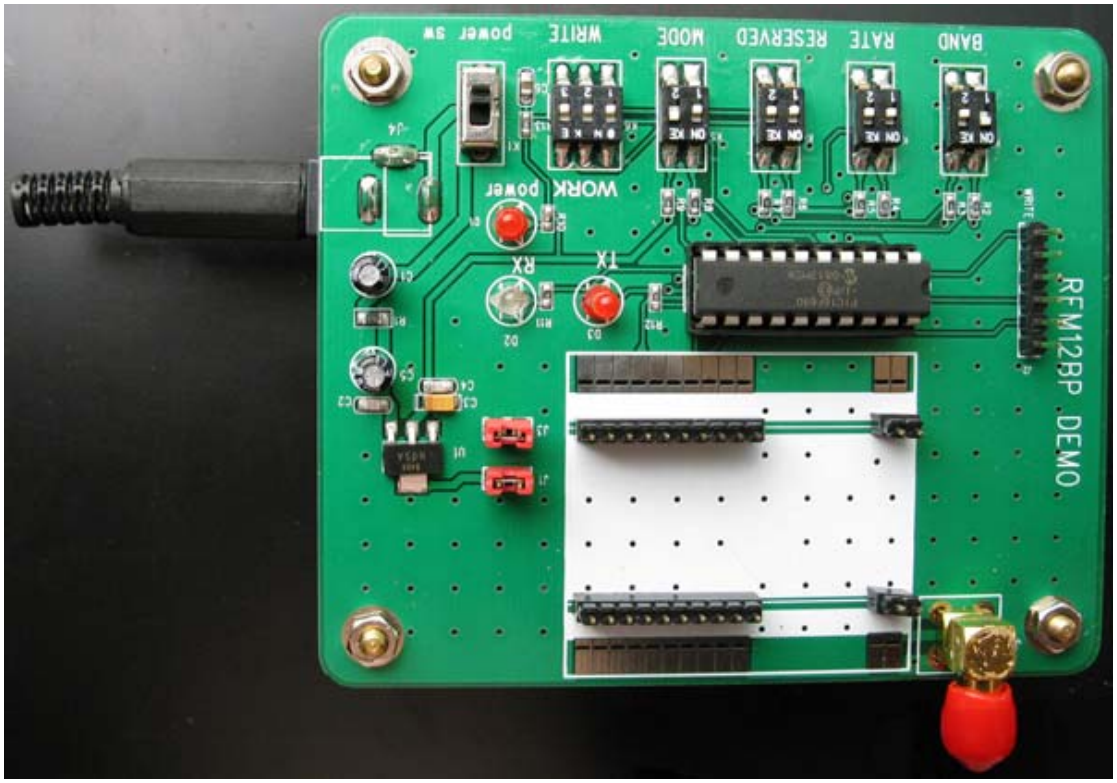
RFM12BP Demo Kit User Manual



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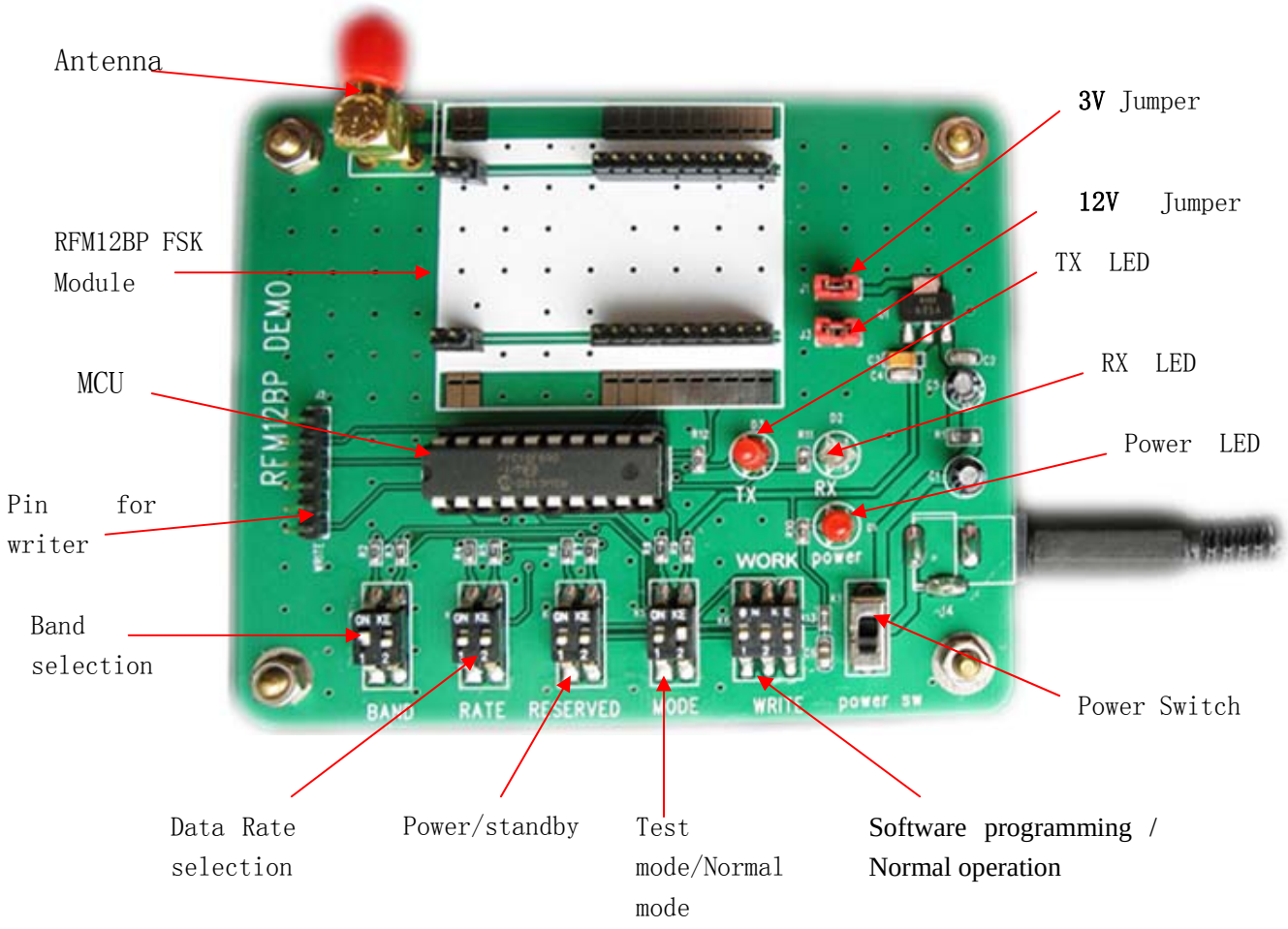
General Description：

RFM12BP Demo Kit is designed mainly for the purpose of testing the functions of RFM12BP modules and accelerating software development.

Construction Chart:



Settings Description：

1、 Band Selection：ON =1，OFF=0

SW1	SW2	
0	1：	434MHZ
1	0：	869MHZ
1	1：	915MHZ

2、 Data Rate：ON=1，OFF=0

SW1	SW2	
0	0	1.2kbps
0	1	2.4kbps
1	0	4.8kbps
1	1	9.6kbps

3、 Mode：ON=1，OFF=0

SW1	SW2	
0	0：	Slave FIFO RX mode（RF link can be established）
0	1：	Master FIFO TX mode（RF link can be established）
1	0	Testing RX mode（DATA, DCLK output，no RF link）
1	1	Testing TX mode（1010… data sent continuously）

4、 TX Power Selection：ON=1，OFF=0

SW1	SW2	
0	0	0db
0	1	-2.5db
1	0	-5db
1	1	Standby mode

Function Description：

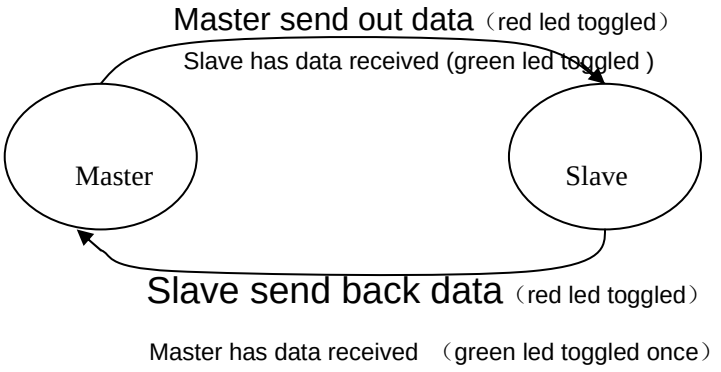
1. RF link mode

The settings of frequency band and data rate switches on the two demo boards must be kept on the same locations. One board is set in master mode and another in slave mode.

After being powered on, the Master sends out one packet of data in every second. The red LED for TX on the master board will toggle on/off after a successful transmission and then the Master will enter into RX mode automatically.

When the Slave receives and verifies the data successfully, the green LED for RX on the slave board will toggle on/off and then the Slave will enter into TX mode and send back one packet of data to the Master. The red LED for TX on the slave board will toggle on/off to indicate the successful transmission. After the Master receives the data from the Slave, the cycle will begin in the next second.

The change of the different LED's status indicates the different working mode of demo boards and shows the effective communication between two demo boards.



Data Packets：

	Pre-amble	Sync Word	Data	Check sum	
	0xAA，0xAA，0xAA,0xAA	0x2D，0XD4	0x31，0x32，……，0x3F	0x78	0xAA

2. De-bugging Mode

This function is very useful for software engineers to test and verify source codes in the development

1) Slave testing mode
Mode Switch：1 0(Rx led (green) on and Tx led (red) off)
Function: sensitivity test

This mode is used to check the sensitivity in factory, and it should work together with the master in Mode 11, The demo kit will work in non-FIFO receiving mode，DCLK pin together with DATA pin will output clock and data at the predetermined data rate. Square waves (Output Freq. =1/2 of predetermined Freq.) can be observed on the DATA pin of demo kit, which can be used as a standard signal source for verifying the receiving function of RFM12BP module.

2). Master testing mode
Mode Switch：1 1（TX led (red) on and Rx led (green)off）
Function: test mode for power.

This mode is used to measure the power of the transmitter, The fixed data 0xAA will be continuous sent out at the predetermined data rate.

Precautions:

1. The 3V/12V jumper holders are used to measure the current of the 3V/12V circuit of the RF module. Make sure the jumper holders ” 3v and 12V jumper” are shorted.
2. Make sure the Dip switch of” Software programming / Normal operation” are at “work” position
3. Power supply: [8:13]V, the best performance is at 12V. The output power varied with the voltage
4. Make sure the settings of frequency band and data rate on the two demo boards are the same, otherwise no RF link between the two transceiver modules could be established.
5. The changes of setting happened on the working progress can come into effect only after the boards are powered off and on.