RFM73 Replace RFM70 Precautions

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A. Bank1 SPI setting

	RFM70	RFM73
Reg0	E2014B40	E2014B40
Reg1	00004BC0	00004BC0
Reg2	028CFCD0	028CFCD0
Reg3	41390099	41390099
Reg4	0B869ED9	1B8296D9
Reg5	A67F0224	A67F0224
Reg12	00127300	00127300
Reg13	36B48000	46B48000
Reg14	412008048120CFF7FEFFFF	412008048120CFF7FEFFFF

Working in 1MHz, RFM73 does not need modify the settings, adopts RFM70's settings.

Working in 2MHz, RFM73 have to use the recommended Reg mentioned above.

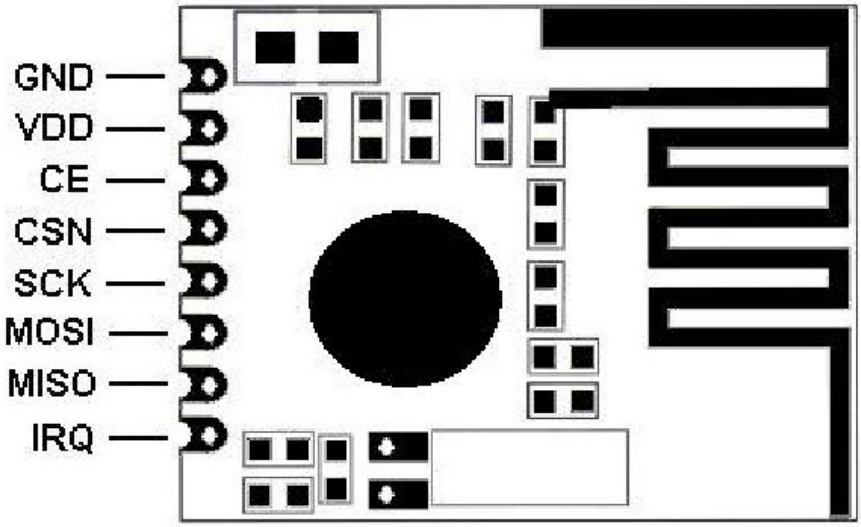
RFM73 adopts new settings, working in 1MHz; Rx sensitivity can improve the 3 dB.

B. Bank0 SPI setting

	RFM70	RFM73
Reg6<4>	X	0

RFM70 can be set to an arbitrary value, not affect the work.
RFM73 have to set to 0, or don't work properly.

C. RFM73 and RFM70 module feet are hardware fully compatible, no dimensions change



D. RFM73 support three data rate:250kbps、1Mbps、2Mbps。Reg6 have detail setting description:

06	RF_SETUP				RF Setup Register
	Reserved	7:6	0	R/W	Only '00' allowed
	RF_DR_LOW	5	0	R/W	Set Air Data Rate. See RF_DR_HIGH for encoding.
	PLL_LOCK	4	0	R/W	Force PLL lock signal. Only used in test
	RF_DR_HIGH	3	1	R/W	Set Air Data Rate. Encoding: RF_DR_LOW, RF_DR_HIGH: '00' – 1Mbps '01' – 2Mbps (default) '10' – 250Kbps '11' – 2Mbps
	RF_PWR[1:0]	2:1	11	R/W	Set RF output power in TX mode RF_PWR[1:0] '00' – -10 dBm '01' – -5 dBm '10' – 0 dBm '11' – 5 dBm
	LNA_HCURR	0	1	R/W	Setup LNA gain 0:Low gain(20dB down) 1:High gain

E. RSSI

vth<3:0>	Bank1.Reg5	RFM70(dBm)	RFM73(dBm)
0	A67F0200	X	X
1	A67F0204	X	X
2	A67F0208	-105	X
3	A67F020C	-100	X
4	A67F0210	-97	-90
5	A67F0214	-94	-85
6	A67F0218	-92	-87
7	A67F021C	-90	-82
8	A67F0220	-88	X
9	A67F0224	-86	-94
A	A67F0228	-84	-96
B	A67F022C	-82	-92
C	A67F0230	-80	-80
D	A67F0234	-78	-74
E	A67F0238	-75	-77
F	A67F023C	-73	-71

F. Summary

RFM73 replace RFM70,four points needs to follow：

1. Bank1 initial value
   Working in 1MHz, RFM73 does not modify the settings, adopts RFM70's settings.
   Working in 2MHz, RFM73 have to use the recommended reg mentioned above.
   RFM73 adopts new settings, working in 1MHz; Rx sensitivity can improve the 3 dB.

2. Bank0 initial value
   Reg6<4>：RFM73 have to set to 0.

3. RSSI
   RSSI is different; users have to notice the RSSI.

4. Reg6
   Notice the data rate setting.