FN-LINK TECHNOLOGY LIMITD
5th Floor, A Building, Haoye Logistics Park,
Shugang Channel, Bao'an District,
Shenzhen City, CHINA
TEL: 86-0755-29558186
FAX: 86-0755-29558196
Website: www.fn-link.com

Product Specification

IEEE 802.11a/b/g/n 2T2R USB WiFi Module

Project Name	802.11n 2T2R WIFI Module
Model NO	FN-8821-VS
Customer	CH
Customer's Part NO	

Drawing: HU XJ	Check	Approved

Customer Approval	Check	Approved	Date

INDEX

.

0. Revision History

REV NO	Date	Modifications	Draft	Approved
Rev1.0	Aug 11th,2013			XJ Hu

1. Introduction

FN-8821-VS is a highly integrated and excellent performance Wireless LAN (WLAN) USB2.0 network interface device. High-speed wireless connection up to 300 Mbps.

1.1 Overview

The general hardware for the module is shown in Figure 1. This WLAN Module design is based on Realtek RTL8192DU-VS. It is a highly integrated single-chip MIMO Wireless LAN (WLAN) USB2.0 network interface controller complying with the 802.11a/b/g/n specification. It combines a MAC, a 2T2R capable baseband, support 2.4G & 5G band, and RF in a single chip. It is designed to provide excellent performance with low power Consumption and enhance the advantages of robust system and cost-effective.

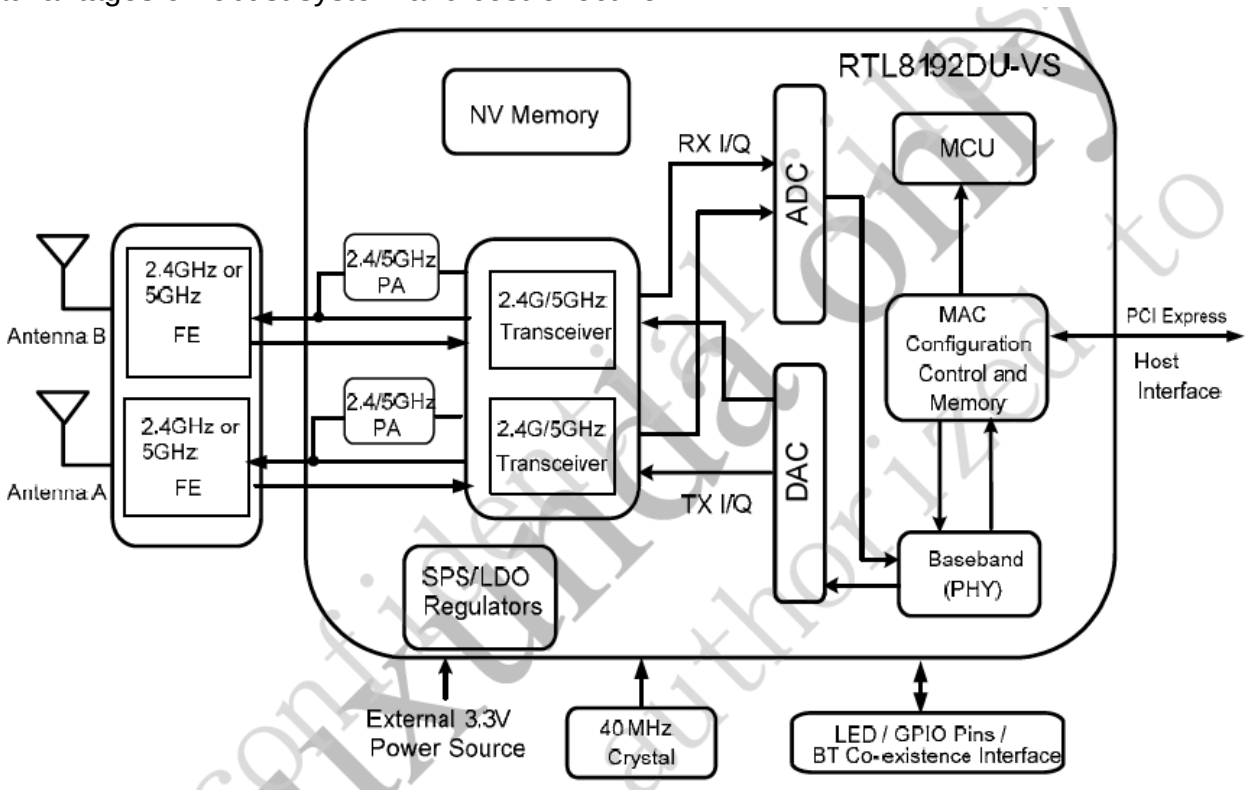


Figure 1. MIMO 2x2 Solution (11n 2.4GHz or 5GHz 2x2 MAC/BB/RF + PA)

1.2 Specification Reference

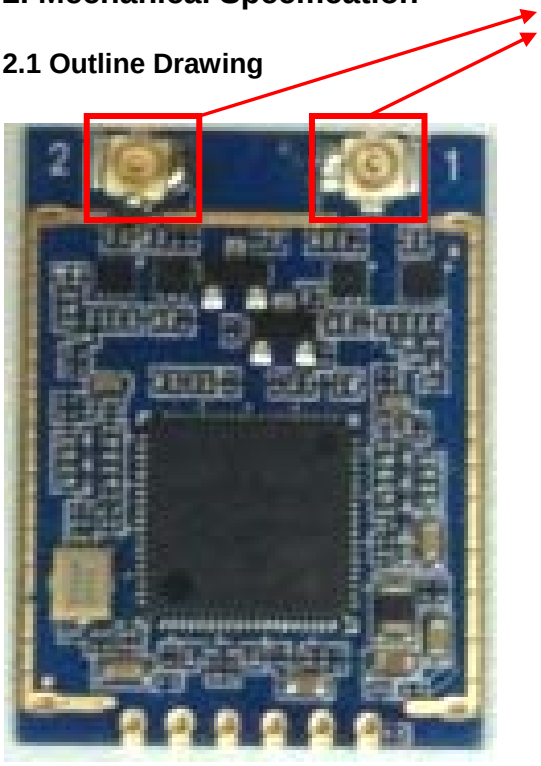
This specification is based on additional references listed as below.
iEEE 802.11a
iEEE 802.11b
iEEE 802.11g
iEEE 802.11n
iEEE 802.11e(WMM)、
iEEE 802.11i(WPA,WPA2)
iEEE 802.11hTPC
iEEE 802.11k、WAPI

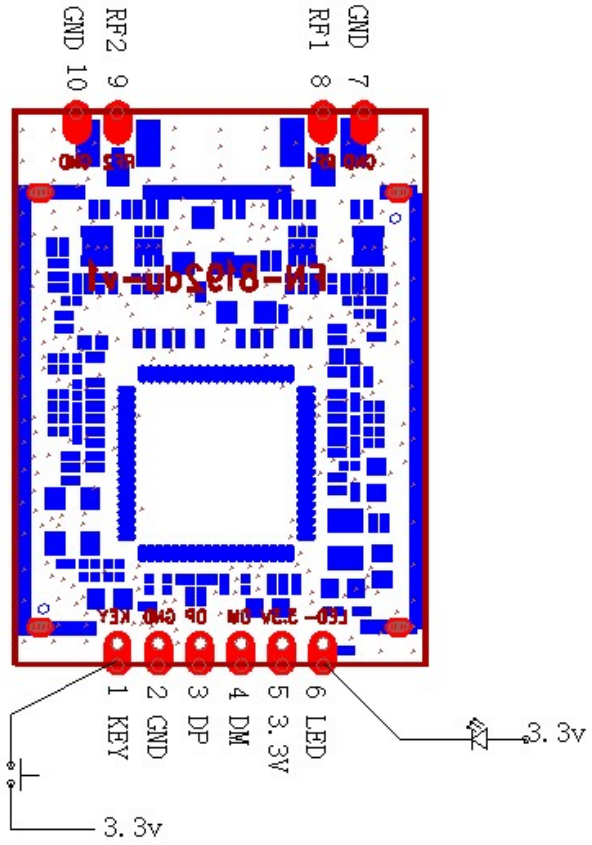
1.3 System Characteristics

Main Chipset	Realtek RTL8192DU-VS
Operating Frequency	2.4G: 2.405GHz～2.485GHz 5G: 5.150GHz～5.825GHz
WIFI Standard	iEEE802.11a/b/g/n 2T2R
2.4G/5.8G At the same time work	Does not support
Modulation	802.11b: CCK(11, 5.5Mbps), QPSK(2Mbps), BPSK(1Mbps) 802.11 a/g: OFDM 802.11n: MCS
PHY Data rates	802.11a: 54,48,36,24,18,12,9,6 Mbps 802.11b: 11,5.5,2,1 Mbps 802.11g: 54,48,36,24,18,12,9,6 Mbps 802.11n: 6.5~72.2Mbps (20Mhz); 13~300Mbps(40MHz Bandwidth)
Receiver Sensitivity	300 Mbps：-65dBm@10% PER; 130 Mbps：-70dBm@10% PER; 108 Mbps：-70dBm@10% PER; 54 Mbps：-70dBm@10% PER; 11 Mbps：-87dBm@8% PER;6 Mbps：-90dBm@10% PER; 1 Mbps：-92dBm@8% PER
Host Interface	USB 2.0
Operation Range	Up to 100meters in open space
RF Power	<14dBm@11n,<18dBm@11b,<15dBm@11g
RF Antenna	External Antenna
OS Support	Android / Win CE /Linux/Windows 2000/XP/Vista/WIN7
Security	WEP,TKIP,AES,WPA,WPA2
Power Consumption	3.3Vdc 450mA Max
Operating Temperature	-20~ +50°C Ambient Temperature
Storage Temperature	-40~ +70°C Ambient Temperature
Humidity	5% to 90%maximum (non-condensing)
Dimension	Typical L27.00*W20.00*T3.00mm

2. Mechanical Specification

2.1 Outline Drawing

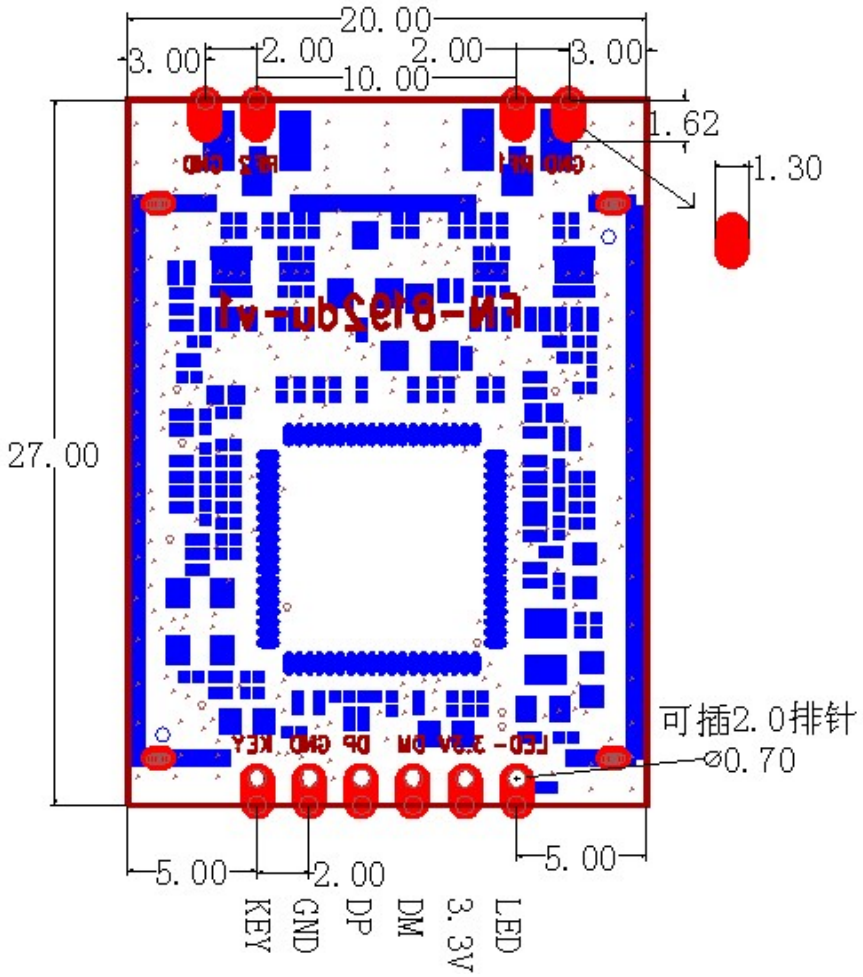




2.2 Connector Pin Definition

Pin #	Name	Description
1	Key	WPS Switch 轻触开关接高电位
2	GND	Ground
3	DP	USB Data +
4	DM	USB Data -
5	3.3V	3.3V Power Supply
6	LED	External LED control
8	RF1	ANT1 OUT
9	RF2	ANT2 OUT

2.3 Layout reference



3. RF Performance

3.1Transmitter Power & EVM (Unit in dBm)

5G Transmitter Power

11a 20M Mode

Mode: 11a	Transceiver: A		Bandwidth: 20MHz			DataRate: 54Mbps			
Channel	36	40	44	48	52	56	60	64	Crt.
Output Power(dBm)	14.32	14.33	14.590	14.520	14.430	14.61	14.40	14.66	> 14
EVM(dB)	-28.07	-28.85	-28.04	-28.03	-28.08	-28.16	-28.38	-28.32	< -25
Freq. Offset(ppm)	-11.97	-11.90	-11.86	-11.89	-11.80	-11.79	-11.78	-11.64	± 20

Mode: 11a	Transceiver: B		Bandwidth: 20MHz			DataRate: 54Mbps			
Channel	36	40	44	48	52	56	60	64	Crt.
Output Power(dBm)	14.500	14.240	14.640	14.420	14.50	14.46	14.53	14.45	> 14
EVM(dB)	-29.85	-29.59	-29.56	-29.78	-29.66	-29.77	-30.0	-30.78	< -25
Freq. Offset(ppm)	-11.86	-11.95	-11.93	-11.92	-11.79	-12.05	-11.96	-11.98	± 20

Mode: 11a	Transceiver: A			Bandwidth: 20MHz					DataRate: 54Mbps			
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
Output Power(dBm)	14.38	14.24	14.42	14.53	14.53	14.36	14.3	14.47	14.39	14.48	14.24	> 14
EVM(dB)	-30.02	-29.63	-29.99	-30.72	-30.40	-30.35	-31.33	-30.89	-30.61	-30.26	-30.20	< -25
Freq. Offset(ppm)	-11.80	-11.65	-11.56	-11.37	-11.26	-11.47	-11.17	-11.07	-11.02	-11.1	-11.2	± 20

Mode: 11a	Transceiver: B			Bandwidth: 20MHz					DataRate: 54Mbps			
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
Output Power(dBm)	14.29	14.76	14.71	14.59	14.47	14.22	14.38	14.73	14.61	14.59	14.55	> 14
EVM(dB)	-29.18	-30.31	-30.49	-30.49	-30.09	-30.29	-30.52	-30.82	-30.69	-30.85	-31.16	< -25
Freq. Offset(ppm)	-11.63	-11.65	-11.80	-11.85	-11.90	-11.95	-11.97	-11.99	-12.00	-12.00	-12.00	± 20

Mode: 11a	Transceiver: A		Bandwidth: 20MHz			DataRate: 54Mbps
Channel	149	153	157	161	165	Crt.
Output Power(dBm)	14.52	14.35	14.36	14.41	14.4	> 14
EVM(dB)	-29.43	-29.36	-30.06	-29.70	-28.98	< -25
Freq. Offset(ppm)	-11.84	-11.83	-11.55	-11.40	-11.51	± 20

11n 20M Mode

Mode: 11a	Transceiver: B		Bandwidth: 20MHz			DataRate: 54Mbps
Channel	149	153	157	161	165	Crt.
Output Power(dBm)	14.53	14.41	14.55	14.24	14.51	> 14
EVM(dB)	-31.2	-30.12	-31.04	-30.46	-28.72	< -25
Freq. Offset(ppm)	-11.72	-11.91	-11.90	-12.04	-11.91	± 20

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 20MHz			DataRate: MCS7			
Channel	36	40	44	48	52	56	60	64	Crt.
Output Power(dBm)	12.46	12.41	12.22	12.36	12.54	12.25	12.45	12.25	> 12
EVM(dB)	-30.49	-30.12	-29.19	-29.18	-29.52	-30.05	-29.72	-30.45	< -28
Freq. Offset(ppm)	-11.72	-11.50	-11.51	-11.56	-11.75	-11.70	-11.47	-11.27	± 20

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 20MHz			DataRate: MCS7			
Channel	36	40	44	48	52	56	60	64	Crt.
Output Power(dBm)	12.37	12.54	12.47	12.65	12.39	12.34	12.40	12.33	> 12
EVM(dB)	-32.13	-31.35	-31.63	-31.27	-30.88	-31.81	-31.77	-31.79	< -28
Freq. Offset(ppm)	-11.77	-11.93	-11.96	-11.89	-11.88	-12.05	-12.06	-11.86	± 20

Mode: 11n-HT-1S	Transceiver: A			Bandwidth: 20MHz				Data Rate: MCS7			
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
Output Power(dBm)	13.01	12.33	12.29	12.40	12.52	12.24	12.28	12.61	12.54	12.46	12.23	> 12
EVM(dB)	-29.67	-29.66	-30.10	-30.84	-30.76	-30.46	-31.42	-31.16	-30.78	-31.29	-30.77	< -28
Freq. Offset(ppm)	-12.01	-11.64	-11.47	-11.22	-11.11	-11.27	-11.30	-10.99	-11.11	-11.26	-11.10	± 20

Mode: 11n-HT-1S		Transceiver: B			Bandwidth: 20MHz				Data Rate: MCS7			
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
Output Power(dBm)	12.39	12.48	12.61	12.55	12.53	12.53	12.25	12.53	12.39	12.47	12.44	> 12
EVM(dB)	-29.44	-30.80	-30.45	-30.40	-30.58	-29.85	-30.68	-31.45	-31.27	-31.11	-31.18	< -28
Freq. Offset(ppm)	-11.86	-11.94	-11.93	-11.81	-11.88	-11.91	-11.94	-11.80	-11.86	-11.91	-11.89	± 20

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 20MHz			DataRate: MCS7
Channel	149	153	157	161	165	Crt.
Output Power(dBm)	12.48	12.21	12.62	12.60	12.60	> 12
EVM(dB)	-31.11	-28.45	-30.61	-31.30	-29.93	< -28
Freq. Offset(ppm)	-11.92	-11.63	-11.13	-10.97	-11.01	± 20

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 20MHz			DataRate: MCS7
Channel	149	153	157	161	165	Crt.
Output Power(dBm)	12.63	12.43	12.33	12.39	12.44	> 12
EVM(dB)	-32.76	-30.22	-30.92	-30.39	-30.72	< -28
Freq. Offset(ppm)	-11.85	-11.88	-11.84	-11.81	-11.91	± 20

11n 40M Mode

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 40MHz			DataRate: MCS7		
Channel	38	42	46	50	54	58	62	Crt.
Output Power(dBm)	12.29	12.63	12.49	12.42	12.34	12.24	12.37	> 12
EVM(dB)	-29.95	-28.89	-28.48	-28.75	-29.34	-29.09	-28.93	< -28
Freq. Offset(ppm)	-11.65	-11.56	-11.47	-11.54	-11.53	-11.71	-11.79	± 20

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 40MHz			DataRate: MCS7		
Channel	38	42	46	50	54	58	62	Crt.
Output Power(dBm)	12.64	12.55	12.55	12.27	12.33	12.62	12.32	> 12
EVM(dB)	-30.79	-30.72	-30.15	-30.13	-29.27	-30.79	-30.48	< -28
Freq. Offset(ppm)	-12.01	-12.08	-12.02	-12.10	-12.02	-12.09	-12.04	± 20

Mode: 11n-HT-1S		Transceiver: A			Bandwidth: 40MHz				Data Rate: MCS7		
Channel	102	106	110	114	118	122	126	130	134	138	Crt.
Output Power(dBm)	12.97	12.38	12.27	12.28	12.27	12.41	12.55	12.32	12.43	12.51	> 12
EVM(dB)	-30.22	-29.91	-30.84	-29.98	-30.04	-30.56	-29.28	-29.73	-31.35	-30.71	< -28
Freq. Offset(ppm)	-12.06	-11.76	-11.60	-11.52	-11.45	-11.48	-11.35	-11.54	-11.47	-11.49	± 20

Mode: 11n-HT-1S		Transceiver: B			Bandwidth: 40MHz				Data Rate: MCS7		
Channel	102	106	110	114	118	122	126	130	134	138	Crt.
Output Power(dBm)	12.30	12.33	12.41	12.44	12.59	12.47	12.45	12.24	12.76	12.52	> 12
EVM(dB)	-28.54	-29.86	-29.74	-29.21	-29.34	-30.43	-29.97	-30.52	-30.15	-30.56	< -28
Freq. Offset(ppm)	-11.56	-11.58	-11.68	-11.59	-11.57	-11.51	-11.53	-11.55	-11.47	-11.51	± 20

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 40MHz		DataRate: MCS7
Channel	151	155	159	163	Crt.
Output Power(dBm)	12.53	12.22	12. 46	12.61	> 12
EVM(dB)	-29.17	-30.40	-29.92	-29.10	< -28
Freq. Offset(ppm)	-11.89	-11.72	-11.54	-11.43	± 20

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 40MHz		DataRate: MCS7
Channel	151	155	159	163	Crt.
Output Power(dBm)	12.40	12.39	12.72	12.49	> 12
EVM(dB)	-29.54	-30.41	-30.49	-29.46	< -28
Freq. Offset(ppm)	-11.49	-11.48	-11.46	-11.56	± 20

Mode:11n-HT-2S	Transceiver: AB		Bandwidth: 20MHz			DataRate: MCS15			
Channel	36	40	44	48	52	56	60	64	Crt.
Output Pwr.A(dBm)	11.30	11.58	11.40	11.09	11.14	11.53	11.64	11.11	> 11
Output Pwr.B(dBm)	11.53	11.34	11.38	11.53	11.71	11.79	11.64	11.57	> 11
EVM A(dB)	-30.15	-30.12	-30.53	-30.76	-30.58	-29.36	-29.90	-29.37	< -28
EVM B(dB)	-31.90	-32.17	-32.79	-31.70	-30.78	-30.42	-31.89	-31.42	< -28
Freq. Offset(ppm)	-10.78	-11.01	-11.04	-10.97	-10.92	-11.45	-11.63	-10.83	± 20

Mode:11n-HT-2S	Transceiver: AB			Bandwidth: 20MHz				DataRate: MCS15				
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
Output Pwr.A(dBm)	11.38	11.54	11.27	11.15	11.30	11.53	11.62	11.330	11.43	11.35	11.12	> 11
Output Pwr.B(dBm)	11.63	11.39	11.53	11.52	11.60	11.44	11.86	11.36	11.39	11.48	11.43	> 11
EVM A(dB)	-31.07	-30.19	-30.39	-30.82	-29.53	-31.33	-30.72	-30.86	-31.19	-30.69	-31.32	< -28
EVM B(dB)	-29.93	-30.29	-29.60	-29.98	-29.67	-31.40	-31.43	-31.44	-30.03	-30.54	-30.37	< -28
Freq. Offset(ppm)	-10.51	-10.70	-10.79	-10.67	-10.62	-10.71	-10.72	-10.56	-10.73	-10.77	-10.72	± 20

Mode:11n-HT-2S	Transceiver: AB		Bandwidth: 20MHz		DataRate: MCS15	
Channel	149	153	157	161	165	Crt.
Output Pwr.A(dBm)	11.40	11.66	11.23	11.69	11.61	> 11
Output Pwr.B(dBm)	11.87	11.45	11.54	11.65	11.48	> 11
EVM A(dB)	-31.31	-28.57	-29.01	-29.76	-28.46	< -28
EVM B(dB)	-31.05	-28.91	-28.98	-30.23	-28.76	< -28
Freq. Offset(ppm)	-9.95	-11.05	-11.57	-11.16	-10.78	± 20

Mode:11n-HT-2S	Transceiver: AB		Bandwidth: 40MHz			DataRate: MCS15		
Channel	38	42	46	50	54	58	62	Crt.
Output Pwr.A(dBm)	11.27	11.31	11.24	11.10	11.25	11.09	11.13	> 11
Output Pwr.B(dBm)	11.56	11.57	11.31	11.45	11.48	11.74	11.47	> 11
EVM A(dB)	-29.84	-29.54	-29.64	-29.65	-30.06	-28.99	-29.31	< -28
EVM B(dB)	-29.24	-30.63	-31.43	-30.42	-30.87	-29.46	-29.79	< -28
Freq. Offset(ppm)	-10.94	-11.17	-11.38	-11.07	-11.19	-11.35	-11.25	± 20

Mode:11n-HT-2S	Transceiver: AB			Bandwidth: 40MHz						DataRate: MCS15	
Channel	102	106	110	114	118	122	126	130	134	138	Crt.
Output Pwr.A(dBm)	11.59	11.46	11.42	11.60	11.06	11.25	11.55	11.09	11.38	11.49	> 11
Output Pwr.B(dBm)	11.34	11.66	11.69	11.70	11.65	11.37	11.39	11.49	11.80	11.54	> 11
EVM A(dB)	-30.05	-28.98	-29.90	-30.46	-29.49	-28.45	-28.47	-28.19	-30.78	-30.33	< -28
EVM B(dB)	-29.34	-29.14	-29.73	-29.50	-29.79	-29.46	-29.23	-28.14	-30.17	-30.69	< -28
Freq. Offset(ppm)	-10.99	-11.28	-11.13	-11.17	-11.19	-11.78	-11.80	-11.54	-11.37	-11.46	± 20

Mode:11n-HT-2S	Transceiver: AB		Bandwidth: 40MHz		DataRate: MCS15
Channel	151	155	159	163	Crt.
Output Pwr.A(dBm)	11.33	11.29	11.25	11.28	> 11
Output Pwr.B(dBm)	11.66	12	11.7	11.30	> 11
EVM A(dB)	-29.41	-30.66	-29.30	-29.11	< -28
EVM B(dB)	-30.50	-30.25	-30.28	-30.30	< -28
Freq. Offset(ppm)	-11.00	-11.28	-11.16	-11.07	± 20

2.4G Tx Performance

11n 20M Mode

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 20MHz	DataRate: MCS7
Channel	1	7	13	Crt.
Output Power(dBm)	12.5	12.5	12.8	> 12
EVM(dB)	-31.5	-30.7	-30.2	< -28
Freq. Offset(ppm)	-11.10	-11.24	-11.20	-11.07

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 20MHz	DataRate: MCS7
Channel	1	7	13	Crt.
Output Power(dBm)	12.2	12.1	12.4	> 12
EVM(dB)	-30.8	-30.5	-29.2	< -28
Freq. Offset(ppm)	-10.10	-12.24	-10.70	-11.07

11n 40M Mode

Mode:11n-HT-1S	Transceiver: A		Bandwidth: 40MHz	DataRate: MCS7
Channel	3	7	11	Crt.
Output Power(dBm)	11.2	11.3	11.4	> 11

EVM(dB)	-31.1	-30.7	-30.1	< -28
Freq. Offset(ppm)	-10.20	-11.24	-12.20	-11.07

Mode:11n-HT-1S	Transceiver: B		Bandwidth: 40MHz	DataRate: MCS7
Channel	3	7	11	Crt.
Output Power(dBm)	11.7	11.4	11.3	> 11
EVM(dB)	-31.5	-31.2	-31.1	< -28
Freq. Offset(ppm)	-11.10	-12.24	-11.20	-11.07

11g 20M Mode

Mode:11g	Transceiver: A、Bandwidth: 20MHz			DataRate:OFDM 54M
Channel	1	7	13	Crt.
Output Power(dBm)	14.5	14.8	15.2	> 14
EVM(dB)	-27.5	-28.2	-27.8	< -25
Freq. Offset(ppm)	-11.20	-11.24	-11.40	-11.07

Mode:11g	Transceiver: B、Bandwidth: 20MHz			DataRate:OFDM 54M
Channel	1	7	13	Crt.
Output Power(dBm)	14.8	14.5	15.1	> 14
EVM(dB)	-28.5	-27.7	-28.2	< -25
Freq. Offset(ppm)	-11.10	-11.54	-11.60	-11.07

11b 20M Mode

Mode:11b	Transceiver: A、Bandwidth: 20MHz			DataRate:CCK 11M
Channel	1	7	13	Crt.
Output Power(dBm)	16.8	16.5	17.1	> 16
EVM(dB)	-18.0	-20.7	-20.2	< -15
Freq. Offset(ppm)	-12.10	-11.24	-11.20	-11.07

Mode:11b	Transceiver: B、Bandwidth: 20MHz			DataRate:CCK 11M
Channel	1	7	13	Crt.
Output Power(dBm)	16.8	16.5	17.1	> 16
EVM(dB)	-18.0	-19.2	-19.5	< -15
Freq. Offset(ppm)	-11.42	-11.32	-11.50	-11.07

3.2 Transmit Center Frequency Tolerance

11g transmit center frequency tolerance test result:

Channel	CH6
Result(ppm)	0.65
Frequency tolerance	1.57KHz
Pass/Fail	PASS

11n transmit center frequency tolerance test result:

Channel	CH6
Result(ppm)	0.71
Frequency tolerance	1.73KHz
Pass/Fail	PASS

3.3 Receiver Sensitivity (Unit in dBm)

Rx Performance

11b Mode: RX(Spec≦-85dBm)

Mode	Rate	Channel 1	Channel 7	Channel 13
11b	1Mbps	-92	-91	-91
	2Mbps	-90	-90	-91
	5.5Mbps	-89	-89	-88
	11Mbps	-88	-87	-87

11g Mode: RX(Spec≦-70dBm)

Mode	Rate	Channel 1	Channel 7	Channel 13
11g	6Mbps	-91	-90	-90
	9Mbps	-90	-89	-90
	12Mbps	-89	-89	-88
	18Mbps	-85	-85	-86
	24Mbps	-78	-79	-78
	36Mbps	-75	-75	-75
	48Mbps	-72	-71	-71
	54Mbps	-73	-72	-71

Mode: 11a			RX configuration: 2R			Bandwidth: 20MHz			
Channel	36	40	44	48	52	56	60	64	Crt.
54M	-77	-78	-77	-78	-77	-78	-77	-78	≤ -68
36M	-83	-84	-84	-83	-83	-84	-83	-84	≤ -73
18M	-88	-89	-89	-89	-89	-89	-89	-89	≤ -80
9M	-91	-92	-92	-92	-91	-92	-91	-92	≤ -84
6M	-92	-93	-92	-92	-91	-92	-91	-92	≤ -85

Mode: 11a			RX configuration: 2R					Bandwidth: 20MHz				
Channel	100	104	108	112	116	120	124	128	132	136	140	Crt.
54M	-78	-78	-77	-78	-78	-78	-78	-78	-77	-78	-78	≤ -68
36M	-83	-84	-84	-84	-84	-84	-83	-84	-83	-84	-84	≤ -73
18M	-89	-90	-89	-90	-90	-90	-89	-90	-89	-90	-90	≤ -80
9M	-92	-93	-92	-92	-92	-92	-92	-93	-92	-93	-93	≤ -84
6M	-92	-93	-92	-93	-93	-94	-92	-94	-92	-93	-93	≤ -85

Mode: 11a	RX configuration: 2R			Bandwidth: 20MHz		
Channel	149	153	157	161	165	Crt.
54M	-78	-78	-78	-78	-78	≤ -68
36M	-84	-84	-84	-84	-84	≤ -73
18M	-89	-90	-90	-90	-90	≤ -80
9M	-93	-93	-93	-93	-93	≤ -84
6M	-93	-93	-93	-93	-93	≤ -85

Mode: HT-11n				RX configuration: 2R			Bandwidth: 20MHz		
Channel	36	40	44	48	52	56	60	64	Crt.

MCS15	-70	-71	-71	-71	-70	-71	-70	-72	≤ -64
MCS13	-73	-74	-74	-74	-72	-74	-73	-74	≤ -66
MCS11	-81	-82	-82	-82	-81	-82	-81	-82	≤ -74
MCS9	-87	-87	-87	-87	-86	-87	-86	-87	≤ -79
MCS7	-74	-75	-74	-74	-74	-74	-73	-74	≤ -67
MCS5	-77	-77	-77	-77	-76	-77	-76	-77	≤ -69
MCS3	-84	-85	-85	-85	-84	-85	-84	-85	≤ -77
MCS1	-89	-90	-89	-89	-88	-90	-88	-90	≤ -82
MCS0	-91	-92	-92	-92	-91	-91	-91	-92	≤ -85

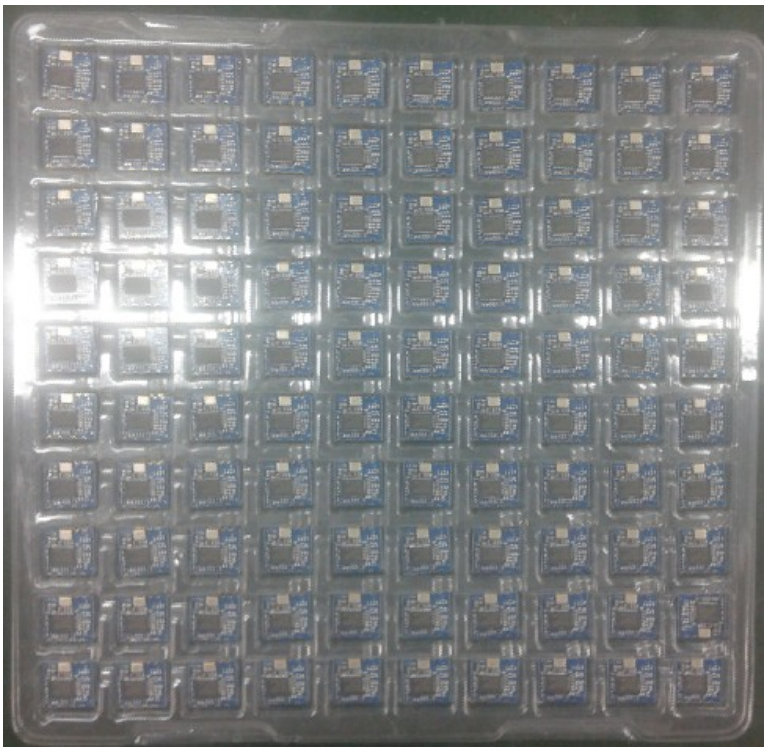
3.5 Power Consumption

Mode	Status	Power(mW)	Note
OS Windows XP	Link Rx/ Tx	3.3Vdcx400mA= 214.50mW	20M
		3.3Vdcx550mA= 231.00mW	40M

4.0 Package

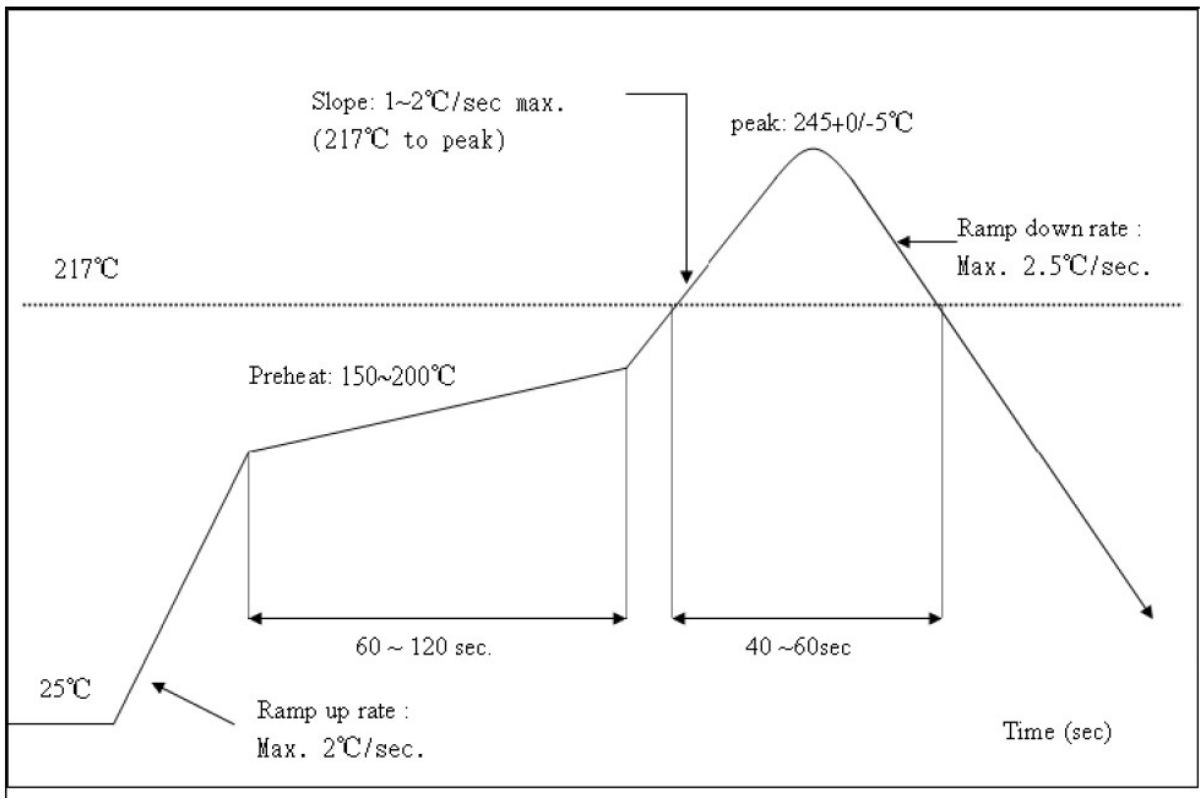
Blister Packaging 吸塑包装 **Similar to the following figure**

4.1



5.0 User's Manual

5.1 Recommended Reflow curve
Referred to IPC/JEDEC standard.
Peak Temperature : <250°C
Number of Times : ≤2 times



5.2 Patch WIFI modules installed before the notice:

WIFI module installed note:
1. Please press 1 : 1 and then expand outward proportion to 0.7 mm, 0.12 mm thickness When open a stencil
2. Take and use the WIFI module, please insure the electrostatic protective measures.
3. Reflow soldering temperature should be according to the customer the main size of the products, such as the temperature set at 250 + 5 ℃ for the MID motherboard.

About the module packaging, storage and use of matters needing attention are as follows:
1. The module of the reel and storage life of vacuum packing: 1). Shelf life: 8 months, storage environment conditions: temperature in: < 40 ℃, relative humidity: < 90% r.h.
2. The module vacuum packing once opened, time limit of the assembly:
Card: 1) check the humidity display value should be less than 30% (in blue), such as: 30% ~ 40% (pink), or greater than 40% (red) the module have been moisture absorption.
2.) factory environmental temperature humidity control: ≦ 30% ℃, ≦ 60% r.h..
3). Once opened, the workshop the preservation of life for 168 hours.
3. Once opened, such as when not used up within 168 hours:
1). The module must be again to remove the module moisture absorption.
2). The baking temperature: 125 ℃, 8 hours.
3.) after baking, put the right amount of desiccant to seal packages.

贴片 WIFI 模块装机的前注意事项：

1、 客户在开钢网时一定要将 WIFI 模块焊盘的孔开大，请按 1 比 1 再向外扩大 0.7mm 比例来开，厚度按 0.12mm。
2、有需要拿 WIFI 模时一定不要光着手去拿 WIFI 模块，一定要戴上手套及静电环。
3、过炉温度要根据客户主板的大小而定，一般像贴在平板电脑上 250+-5 度。

关于模块包装，储存以及使用管制应注意事项如下：
1.模块的卷盘加真空包装之储存期限：1）.保存期限：8 个月，储存环境条件：温度在：<40℃，相对湿度：<90%R.H
2.模块真空包装拆封后，组装之时限：
1）.检查湿度卡：显示值应小于 30%（蓝色），如：30%~40%(粉红色）或者大于 40%（红色）表示模块已吸湿气。

2）.工厂环境温度湿度管制：≦30%℃，≦60%R.H。3）.拆封后，车间的保存寿命为 168 小时。
3.拆封后，如未在 168 小时内使用完时：
1）.模块须重新烘烤，以除去模块吸湿问题。
2）.烘烤温度条件：125℃，8 小时。
3）.烘烤后，放入适量的干燥剂再密封包装。

5.3 软件注意事项：