

FCC RF Test Report

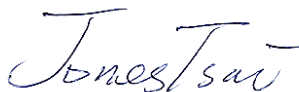
APPLICANT : DELL Inc.
EQUIPMENT : Tablet PC
BRAND NAME : Dell
MODEL NAME : T02D; T02D003
TYPE NAME : T02D003
FCC ID : E2K-T02D003
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 18, 2014 and testing was completed on May 13, 2014. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and the testing has shown the tested sample to be in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.



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APPENDIX A. SETUP PHOTOGRAPHS



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR431806D	Rev. 01	Initial issue of report	May 27, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	RSS-210 A9.2	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	RSS-210 A9.2	Maximum Conducted Output Power	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.3	15.407(a)	RSS-210 A9.2	Power Spectral Density	≤ 4, 11, 17 dBm (depend on band)	Pass	-
3.4	15.407(a)(6)	RSS-210 A9.3	Peak Excursion Ratio	≤ 13dB	Pass	-
3.5	15.407(b)	RSS-210 A9.3	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 2.53 dB at 5350.880 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 6.74 dB at 0.360 MHz
3.7	15.407(g)	-	Frequency Stability	Within Operation Band	Pass	-
3.8	15.407(c)	RSS-210 A9.4	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.9	15.203 & 15.407(a)	RSS-210 A9.2	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

DELL Inc.
One Dell Way, Round Rock, Texas 78682, United States

1.2 Manufacturer

DELL Inc.
One Dell Way, Round Rock, Texas 78682, United States

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Tablet PC
Brand Name	Dell
Model Name	T02D; T02D003
Type Name	T02D003
FCC ID	E2K-T02D003
EUT supports Radios application	802.11a/b/g/n (HT20 / HT40) 802.11ac (VHT20/VHT40/VHT80) Bluetooth v3.0 + EDR / Bluetooth v4.0 LE
HW Version	DVT-B-V0.40
SW Version	YTP802A110830
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5580 MHz 5660 MHz ~ 5700 MHz
Maximum Output Power to Antenna	<p><5180 MHz ~ 5240 MHz> 802.11a : 9.33 dBm / 0.0086 W 802.11n HT20 : 9.32 dBm / 0.0086 W 802.11n HT40 : 9.97 dBm / 0.0099 W 802.11ac VHT20 : 9.41 dBm / 0.0087 W 802.11ac VHT40 : 9.44 dBm / 0.0088 W 802.11ac VHT80 : 9.85 dBm / 0.0097 W</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 11.58 dBm / 0.0144 W 802.11n HT20 : 11.46 dBm / 0.0140 W 802.11n HT40 : 11.31 dBm / 0.0135 W 802.11ac VHT20 : 11.56 dBm / 0.0143 W 802.11ac VHT40 : 11.33 dBm / 0.0136 W 802.11ac VHT80 : 11.85 dBm / 0.0153 W</p> <p><5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz > 802.11a : 8.76 dBm / 0.0075 W 802.11n HT20 : 8.78 dBm / 0.0076 W 802.11n HT40 : 9.18 dBm / 0.0083 W 802.11ac VHT20 : 8.83 dBm / 0.0076 W 802.11ac VHT40 : 8.85 dBm / 0.0077 W 802.11ac VHT80 : 9.24 dBm / 0.0084 W</p>
99% Occupied Bandwidth	<p><5180 MHz ~ 5240 MHz> 802.11a : 18.20 MHz 802.11n HT20 : 19.15 MHz 802.11n HT40 : 36.72 MHz 802.11ac VHT20: 19.05 MHz 802.11ac VHT40 : 36.72 MHz 802.11ac VHT80 : 75.90 MHz</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 18.25 MHz 802.11n HT20 : 19.05 MHz 802.11n HT40 : 36.72 MHz 802.11ac VHT20: 19.00 MHz 802.11ac VHT40 : 36.63 MHz 802.11ac VHT80 : 75.75 MHz</p> <p><5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz> 802.11a : 18.35 MHz 802.11n HT20 : 19.10 MHz 802.11n HT40 : 36.81 MHz 802.11ac VHT20: 19.15 MHz 802.11ac VHT40 : 36.90 MHz 802.11ac VHT80 : 75.75 MHz</p>



Antenna Type	IFA Antenna with gain <5180 MHz ~ 5240 MHz> 3.3 dBi <5260 MHz ~ 5320 MHz> 4.5 dBi <5500 MHz ~ 5700 MHz > 4.9 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.			
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755- 3320-2398			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH01-SZ	CO01-SZ	03CH01-SZ	831040/4086F-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 644545 D01 Guidance for IEEE 802.11ac and Pre-ac Device Emissions Testing v01r02.
- ♦ FCC KDB 789033 D01 General UNII Test Procedures v01r03
- ♦ ANSI C63.4-2003

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38	5190	46	5230
	40	5200	48	5240
	42	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54	5270	62	5310
	56	5280	64	5320
	58	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5600 MHz and 5650-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102	5510	116	5580
	104	5520	132	5660
	106	5530	134	5670
	108	5540	136	5680
	110	5550	140	5700

Note: The above Frequency and Channel in boldface were 802.11n HT40.

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
CH 36	5180 MHz	9.33	9.29	9.30	9.30	9.23	9.19	9.28	9.29
CH 44	5220 MHz	9.19	9.15	9.16	9.16	9.09	9.05	9.14	9.15
CH 48	5240 MHz	9.24	9.20	9.21	9.21	9.14	9.10	9.19	9.20
CH 52	5260 MHz	11.58	11.41	11.50	11.53	11.49	11.37	11.56	11.48
CH 60	5300 MHz	11.40	11.23	11.32	11.35	11.31	11.19	11.38	11.30
CH 64	5320 MHz	11.30	11.13	11.22	11.25	11.21	11.09	11.28	11.20
CH 100	5500 MHz	8.76	8.73	8.74	8.73	8.74	8.55	8.74	8.69
CH 116	5580 MHz	8.68	8.65	8.66	8.65	8.66	8.47	8.66	8.61
CH 140	5700 MHz	8.51	8.48	8.49	8.48	8.49	8.30	8.49	8.44

Channel	Frequency	5GHz 802.11a/n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 36	5180 MHz	9.32	9.23	9.30	9.31	9.22	9.30	9.28	9.30
CH 44	5220 MHz	9.19	9.10	9.17	9.18	9.09	9.17	9.15	9.17
CH 48	5240 MHz	8.84	8.75	8.82	8.83	8.74	8.82	8.80	8.82
CH 52	5260 MHz	11.46	11.37	11.44	11.45	11.36	11.44	11.42	11.44
CH 60	5300 MHz	11.42	11.33	11.40	11.41	11.32	11.40	11.38	11.40
CH 64	5320 MHz	11.24	11.15	11.22	11.23	11.14	11.22	11.20	11.22
CH 100	5500 MHz	8.78	8.69	8.76	8.77	8.68	8.76	8.74	8.76
CH 116	5580 MHz	8.67	8.58	8.65	8.66	8.57	8.65	8.63	8.65
CH 140	5700 MHz	8.75	8.66	8.73	8.74	8.65	8.73	8.71	8.73



Channel	Frequency	5GHz 802.11a/n HT40 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 38	5190 MHz	9.97	9.95	9.93	9.55	9.64	9.75	9.65	9.66
CH 46	5230 MHz	9.34	9.32	9.30	8.92	9.01	9.12	9.02	9.03
CH 54	5270 MHz	11.31	11.29	11.27	10.89	10.98	11.09	10.99	11.00
CH 62	5310 MHz	11.29	11.27	11.25	10.87	10.96	11.07	10.97	10.98
CH 102	5510 MHz	9.18	9.16	9.14	8.76	8.85	8.96	8.86	8.87
CH 110	5550 MHz	8.83	8.81	8.79	8.41	8.50	8.61	8.51	8.52
CH 134	5670 MHz	8.53	8.51	8.49	8.11	8.20	8.31	8.21	8.22

Channel	Frequency	5GHz 802.11ac VHT20 RF Power (dBm)								
		OFDM Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
CH 36	5180 MHz	9.41	9.37	9.36	9.12	8.97	8.96	9.01	8.99	8.98
CH 44	5220 MHz	9.30	9.26	9.25	9.01	8.86	8.85	8.90	8.88	8.87
CH 48	5240 MHz	8.86	8.82	8.81	8.57	8.42	8.41	8.46	8.44	8.43
CH 52	5260 MHz	11.56	11.52	11.51	11.27	11.12	11.11	11.16	11.14	11.13
CH 60	5300 MHz	11.45	11.41	11.40	11.16	11.01	11.00	11.05	11.03	11.02
CH 64	5320 MHz	11.24	11.20	11.19	10.95	10.80	10.79	10.84	10.82	10.81
CH 100	5500 MHz	8.83	8.79	8.78	8.54	8.39	8.38	8.43	8.41	8.40
CH 116	5580 MHz	8.69	8.65	8.64	8.40	8.25	8.24	8.29	8.27	8.26
CH 140	5700 MHz	8.77	8.73	8.72	8.48	8.33	8.32	8.37	8.35	8.34



Channel	Frequency	5GHz 802.11ac VHT40 RF Power (dBm)									
		OFDM Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 38	5190 MHz	9.44	9.38	9.40	9.42	9.42	9.17	9.28	9.18	9.12	9.27
CH 46	5230 MHz	9.38	9.32	9.34	9.36	9.36	9.11	9.22	9.12	9.06	9.21
CH 54	5270 MHz	11.31	11.25	11.27	11.29	11.29	11.04	11.15	11.05	10.99	11.14
CH 62	5310 MHz	11.33	11.27	11.29	11.31	11.31	11.06	11.17	11.07	11.01	11.16
CH 102	5510 MHz	8.85	8.69	8.71	8.73	8.73	8.48	8.59	8.49	8.43	8.58
CH 110	5550 MHz	8.80	8.74	8.76	8.78	8.78	8.53	8.64	8.54	8.48	8.63
CH 134	5670 MHz	8.75	8.69	8.71	8.73	8.73	8.48	8.59	8.49	8.43	8.58

Channel	Frequency	5GHz 802.11ac VHT80 RF Power (dBm)									
		OFDM Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
Ch 042	5210MHz	9.85	9.71	9.76	9.61	9.55	9.64	9.60	9.67	9.63	9.51
Ch 058	5290MHz	11.85	11.71	11.76	11.61	11.55	11.64	11.60	11.67	11.63	11.51
Ch 106	5530MHz	9.24	9.10	9.15	9.00	8.94	9.03	8.99	9.06	9.02	8.90

2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

Test Cases				
	Test Items	Mode	Data rate	Test Channel
		Conducted TCs	26dB and 99% BW Power Spectral Density	802.11a
802.11n HT20	MCS0			L/M/H
802.11n HT40	MCS0			L/M/H
802.11ac VHT20	MCS0			L/M/H
802.11ac VHT40	MCS0			L/M/H
802.11ac VHT80	MCS0			M
20dB Occupied Bandwidth	802.11a		6 Mbps	H
	802.11n HT20		MCS0	H
	802.11n HT40		MCS0	H
	802.11ac VHT20		MCS0	H
	802.11ac VHT40		MCS0	H
	802.11ac VHT80		MCS0	H
Output Power	802.11a		6 Mbps	L/M/H
	802.11n HT20		MCS0	L/M/H
	802.11n HT40		MCS0	L/M/H
	802.11ac VHT20		MCS0	L/M/H
	802.11ac VHT40		MCS0	L/M/H
	802.11ac VHT80		MCS0	M
Peak Excursion	802.11a		6 Mbps	L
	802.11n HT20		MCS0	L
	802.11n HT40		MCS0	L
	802.11ac VHT20		MCS0	L
	802.11ac VHT40		MCS0	L
	802.11ac VHT80		MCS0	L
Frequency Stability	802.11a	6 Mbps	L/H	



Test Cases				
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	L/H
		802.11n HT20	MCS0	L/H
		802.11n HT40	MCS0	L/H
		802.11ac VHT80	MCS0	L/M/H
	Radiated Spurious Emission	802.11a	6 Mbps	L/M/H
		802.11n HT20	MCS0	L/M/H
		802.11n HT40	MCS0	L/M/H
		802.11ac VHT80	MCS0	L/M/H
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone			



Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

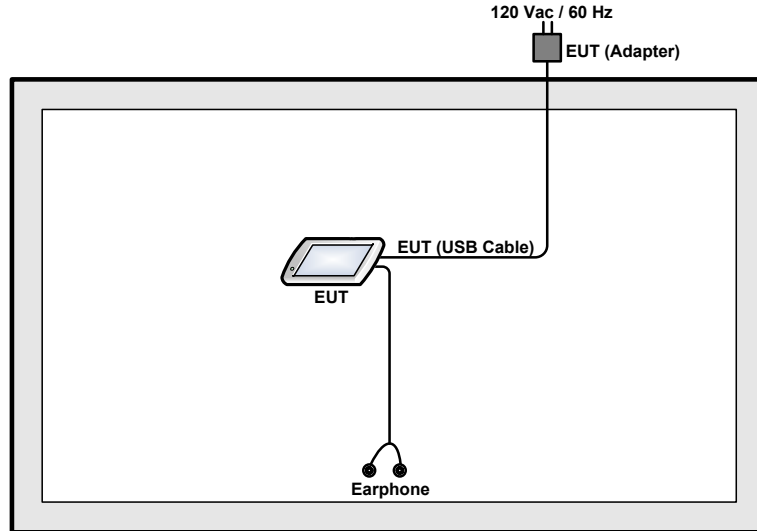


Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

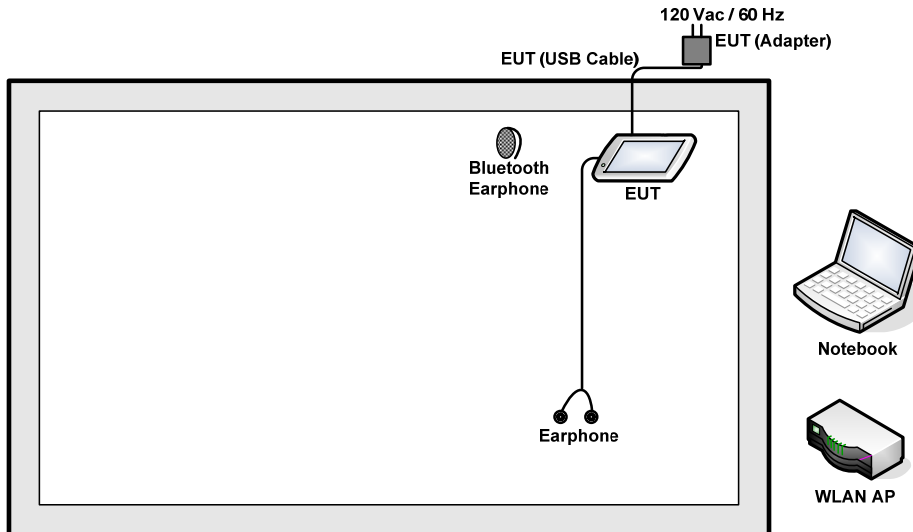
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

2.4 Connection Diagram of Test System

< Radiated Emission Mode >



< AC Conducted Emission Mode >



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
3.	Notebook	DELL	Vostro1440	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8 m
4.	Earphone	Apple	N/A	FCC DoC	Shielded, 1.0 m	N/A
5.	Earphone	Lenovo	SH100	N/A	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 8 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 8 + 10 = 18 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

There is no restriction limits for bandwidth. The maximum conducted output power can be limited by measured emission bandwidth (B).

For the band 5150-5250 MHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B.

For the bands 5250-5350 MHz and 5470-5600 MHz and 5650-5725MHz, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B.

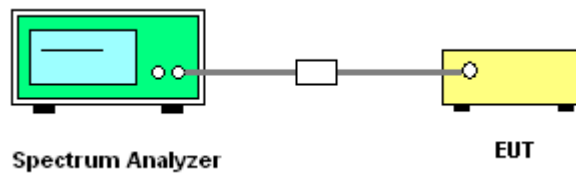
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.
Section D) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) $\geq 3 * RBW$.
8. Measure and record the results in the test report.

3.1.4 Test Setup





3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Test Band :	5GHz band 1	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	36	5180	18.10	21.80	22.58	16.99
11a	6Mbps	1	44	5220	18.20	21.85	22.60	16.99
11a	6Mbps	1	48	5240	18.10	21.85	22.58	16.99
HT20	MCS0	1	36	5180	19.00	22.00	22.79	16.99
HT20	MCS0	1	44	5220	19.15	22.00	22.82	16.99
HT20	MCS0	1	48	5240	19.00	22.10	22.79	16.99
HT40	MCS0	1	38	5190	36.72	41.49	23.01	16.99
HT40	MCS0	1	46	5230	36.72	41.58	23.01	16.99
VHT20	MCS0	1	36	5180	19.00	22.00	22.79	16.99
VHT20	MCS0	1	44	5220	19.05	22.05	22.80	16.99
VHT20	MCS0	1	48	5240	19.05	22.00	22.80	16.99
VHT40	MCS0	1	38	5190	36.72	41.58	23.01	16.99
VHT40	MCS0	1	46	5230	36.63	41.67	23.01	16.99
VHT80	MCS0	1	42	5210	75.90	82.80	23.01	16.99



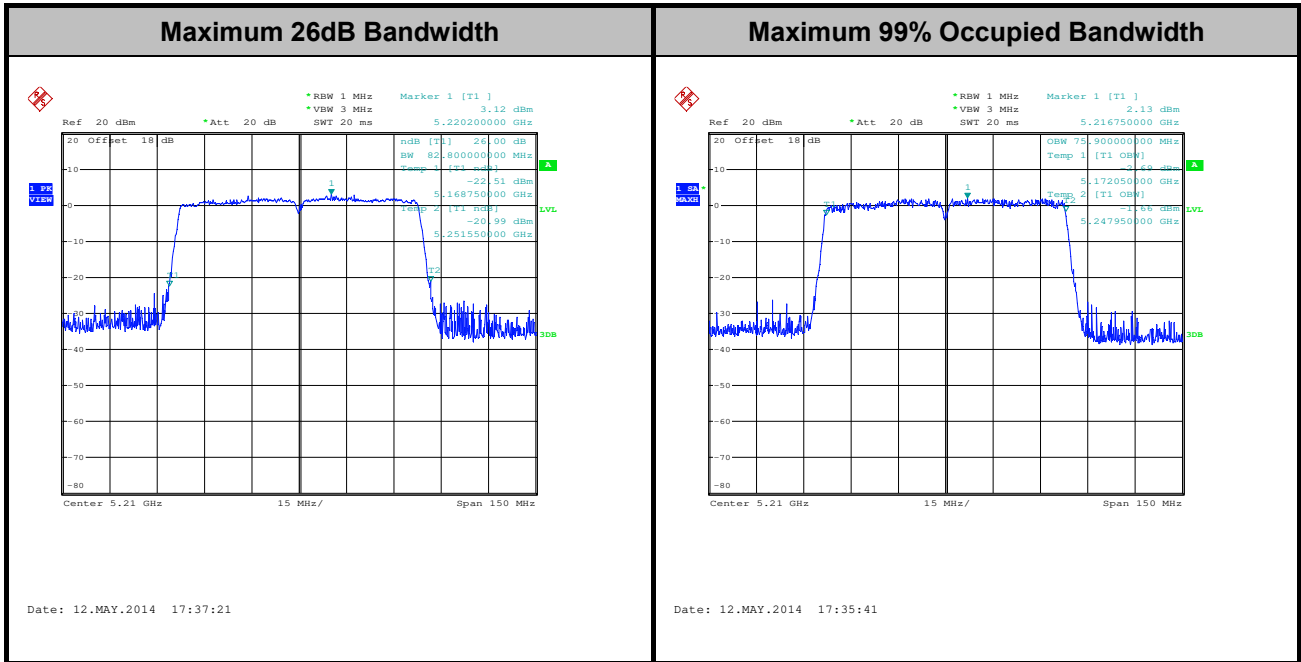
Test Band :	5GHz band 2	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	52	5260	18.20	21.80	29.60	23.98
11a	6Mbps	1	60	5300	18.25	21.70	29.61	23.98
11a	6Mbps	1	64	5320	18.25	21.85	29.61	23.98
HT20	MCS0	1	52	5260	19.00	22.05	29.79	23.98
HT20	MCS0	1	60	5300	18.95	22.00	29.78	23.98
HT20	MCS0	1	64	5320	19.05	21.95	29.80	23.98
HT40	MCS0	1	54	5270	36.72	41.58	30.00	23.98
HT40	MCS0	1	62	5310	36.63	41.31	30.00	23.98
VHT20	MCS0	1	52	5260	19.00	21.85	29.79	23.98
VHT20	MCS0	1	60	5300	19.00	22.10	29.79	23.98
VHT20	MCS0	1	64	5320	18.90	21.95	29.76	23.98
VHT40	MCS0	1	54	5270	36.54	41.67	30.00	23.98
VHT40	MCS0	1	62	5310	36.63	41.76	30.00	23.98
VHT80	MCS0	1	58	5290	75.75	82.35	30.00	23.98



Test Band :	5GHz band 3	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	100	5500	18.25	21.65	29.61	23.98
11a	6Mbps	1	116	5580	18.25	21.80	29.61	23.98
11a	6Mbps	1	140	5700	18.35	21.75	29.64	23.98
HT20	MCS0	1	100	5500	19.10	21.95	29.81	23.98
HT20	MCS0	1	116	5580	18.95	21.85	29.78	23.98
HT20	MCS0	1	140	5700	18.95	21.95	29.78	23.98
HT40	MCS0	1	102	5510	36.81	41.67	30.00	23.98
HT40	MCS0	1	110	5550	36.72	41.67	30.00	23.98
HT40	MCS0	1	134	5670	36.72	41.76	30.00	23.98
VHT20	MCS0	1	100	5500	19.15	22.05	29.82	23.98
VHT20	MCS0	1	116	5580	19.10	21.95	29.81	23.98
VHT20	MCS0	1	140	5700	19.15	22.10	29.82	23.98
VHT40	MCS0	1	102	5510	36.72	41.58	30.00	23.98
VHT40	MCS0	1	110	5550	36.63	41.85	30.00	23.98
VHT40	MCS0	1	134	5670	36.90	41.85	30.00	23.98
VHT80	MCS0	1	106	5530	75.75	82.50	30.00	23.98



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



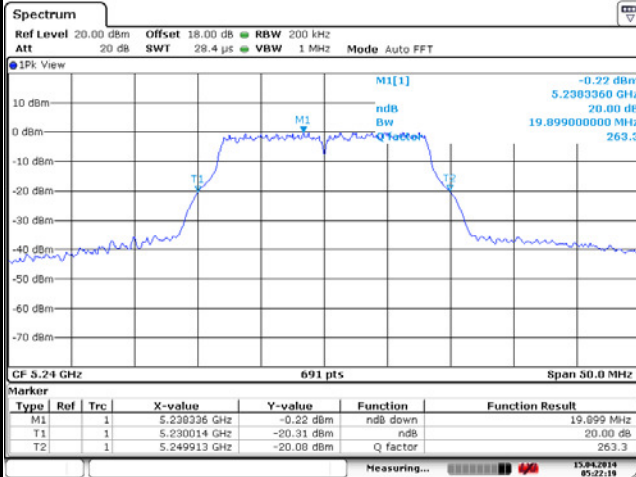
3.1.6 Test Result of 20dB Occupied Bandwidth

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	20dB Bandwidth (MHz)	20dB Bandwidth Upper Frequency (FH) (MHz)	Upper Limit Line (MHz)	Pass/Fail
11a	6Mbps	1	48	5240	19.90	5249.91	5250	Pass
HT20	MCS0	1	48	5240	19.68	5249.77		Pass
HT40	MCS0	1	46	5230	38.55	5249.28		Pass
VHT20	MCS0	1	48	5240	19.90	5249.99		Pass
VHT40	MCS0	1	46	5230	38.55	5249.28		Pass
VHT80	MCS0	1	42	5210	79.67	5249.94		Pass



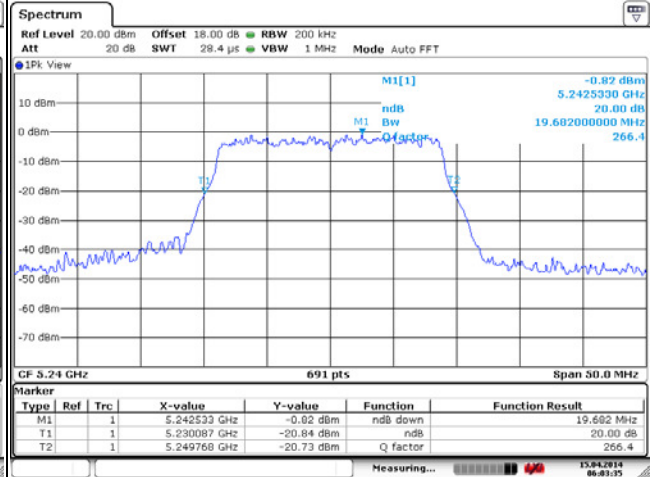
20dB Occupied Bandwidth

802.11a CH48 5240MHz



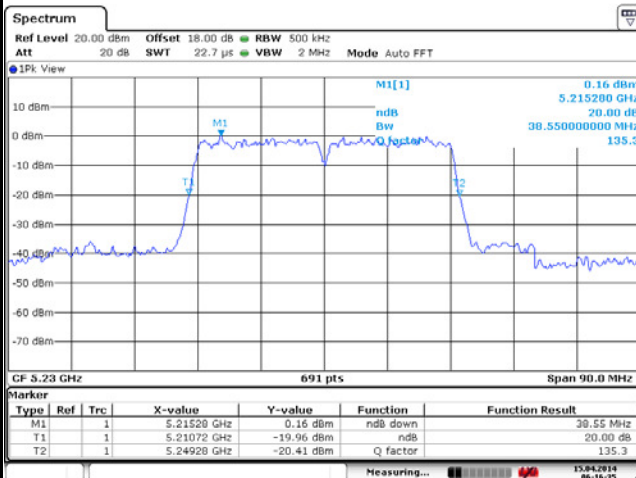
Date: 15.APR.2014 05:22:19

802.11n HT20 CH48 5240MHz



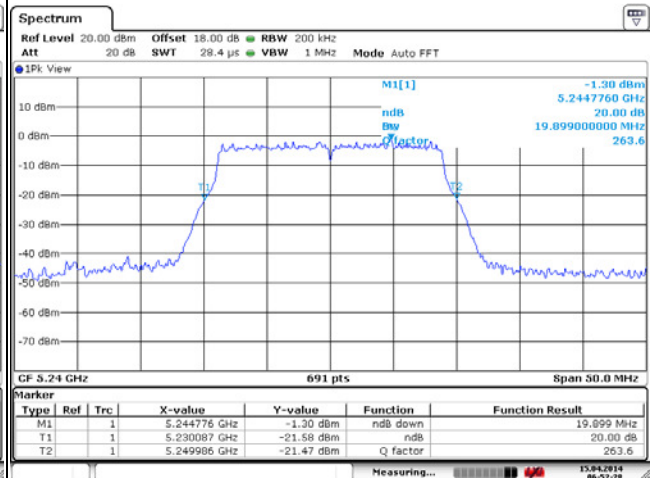
Date: 15.APR.2014 06:03:35

802.11n HT40 CH46 5230MHz

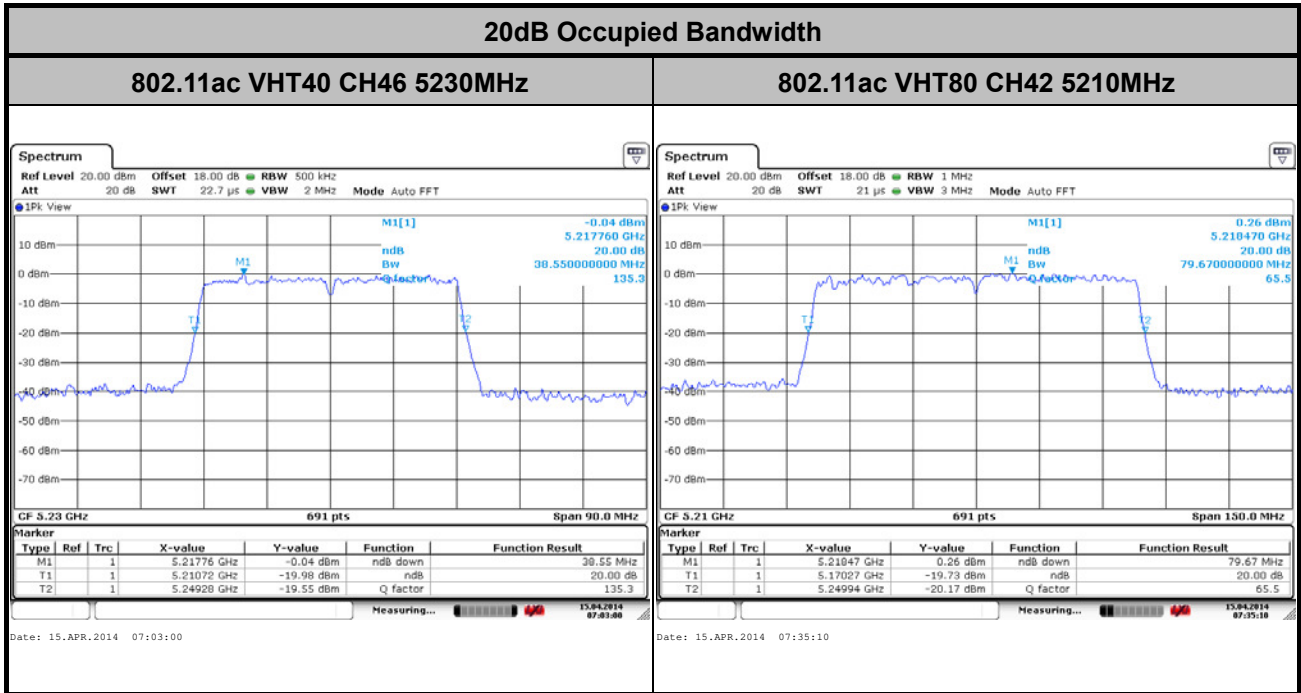


Date: 15.APR.2014 06:16:35

802.11ac VHT20 CH48 5240MHz



Date: 15.APR.2014 06:52:28



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5150-5250 MHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or $4 \text{ dBm} + 10\log B$, where B is the 26 dB emissions bandwidth in 1-MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the bands 5250-5350 MHz and 5470-5600 MHz and 5650-5725 MHz, bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or $11 \text{ dBm} + 10\log B$, where B is the 26 dB emissions bandwidth in 1-MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

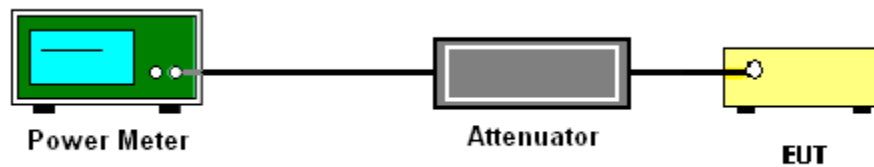
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

3.2.4 Test Setup





3.2.5 Test Result of Maximum Conducted Output Power

Test Band :	5GHz band 1	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.29	9.33	16.99	3.30		Pass
11a	6Mbps	1	44	5220	0.29	9.19	16.99	3.30		Pass
11a	6Mbps	1	48	5240	0.29	9.24	16.99	3.30		Pass
HT20	MCS0	1	36	5180	0.31	9.32	16.99	3.30		Pass
HT20	MCS0	1	44	5220	0.31	9.19	16.99	3.30		Pass
HT20	MCS0	1	48	5240	0.31	8.84	16.99	3.30		Pass
HT40	MCS0	1	38	5190	0.57	9.97	16.99	3.30		Pass
HT40	MCS0	1	46	5230	0.57	9.34	16.99	3.30		Pass
VHT20	MCS0	1	36	5180	0.34	9.41	16.99	3.30		Pass
VHT20	MCS0	1	44	5220	0.34	9.30	16.99	3.30		Pass
VHT20	MCS0	1	48	5240	0.34	8.86	16.99	3.30		Pass
VHT40	MCS0	1	38	5190	0.63	9.44	16.99	3.30		Pass
VHT40	MCS0	1	46	5230	0.63	9.38	16.99	3.30		Pass
VHT80	MCS0	1	42	5210	1.18	9.85	16.99	3.30		Pass



Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	IC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6Mbps	1	36	5180	0.29	9.33		3.30	22.58	Pass
11a	6Mbps	1	44	5220	0.29	9.19		3.30	22.60	Pass
11a	6Mbps	1	48	5240	0.29	9.24		3.30	22.58	Pass
HT20	MCS0	1	36	5180	0.31	9.32		3.30	22.79	Pass
HT20	MCS0	1	44	5220	0.31	9.19		3.30	22.82	Pass
HT20	MCS0	1	48	5240	0.31	8.84		3.30	22.79	Pass
HT40	MCS0	1	38	5190	0.57	9.97		3.30	23.01	Pass
HT40	MCS0	1	46	5230	0.57	9.34		3.30	23.01	Pass
VHT20	MCS0	1	36	5180	0.34	9.41		3.30	22.79	Pass
VHT20	MCS0	1	44	5220	0.34	9.30		3.30	22.80	Pass
VHT20	MCS0	1	48	5240	0.34	8.86		3.30	22.80	Pass
VHT40	MCS0	1	38	5190	0.63	9.44		3.30	23.01	Pass
VHT40	MCS0	1	46	5230	0.63	9.38		3.30	23.01	Pass
VHT80	MCS0	1	42	5210	1.18	9.85		3.30	23.01	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5150-5250 MHz, the maximum average conducted output power shall not exceed lesser of 50 mW (17dBm) or 4 dBm + 10log (B), where B is 26dB BW for FCC.
3. For the band 5150-5250 MHz, the maximum average EIRP output power shall not exceed lesser of 200 mW (23dBm) or 10 dBm + 10log (B), where B is 99%OBW for IC.



Test Band :	5GHz band 2	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	52	5260	0.29	11.58	23.98	4.50		Pass
11a	6Mbps	1	60	5300	0.29	11.40	23.98	4.50		Pass
11a	6Mbps	1	64	5320	0.29	11.30	23.98	4.50		Pass
HT20	MCS0	1	52	5260	0.31	11.46	23.98	4.50		Pass
HT20	MCS0	1	60	5300	0.31	11.42	23.98	4.50		Pass
HT20	MCS0	1	64	5320	0.31	11.24	23.98	4.50		Pass
HT40	MCS0	1	54	5270	0.57	11.31	23.98	4.50		Pass
HT40	MCS0	1	62	5310	0.57	11.29	23.98	4.50		Pass
VHT20	MCS0	1	52	5260	0.34	11.56	23.98	4.50		Pass
VHT20	MCS0	1	60	5300	0.34	11.45	23.98	4.50		Pass
VHT20	MCS0	1	64	5320	0.34	11.24	23.98	4.50		Pass
VHT40	MCS0	1	54	5270	0.63	11.31	23.98	4.50		Pass
VHT40	MCS0	1	62	5310	0.63	11.33	23.98	4.50		Pass
VHT80	MCS0	1	58	5290	1.18	11.85	23.98	4.50		Pass



Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	IC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6Mbps	1	52	5260	0.29	11.58	23.60	4.50	29.60	Pass
11a	6Mbps	1	60	5300	0.29	11.40	23.61	4.50	29.61	Pass
11a	6Mbps	1	64	5320	0.29	11.30	23.61	4.50	29.61	Pass
HT20	MCS0	1	52	5260	0.31	11.46	23.79	4.50	29.79	Pass
HT20	MCS0	1	60	5300	0.31	11.42	23.78	4.50	29.78	Pass
HT20	MCS0	1	64	5320	0.31	11.24	23.80	4.50	29.80	Pass
HT40	MCS0	1	54	5270	0.57	11.31	23.98	4.50	30.00	Pass
HT40	MCS0	1	62	5310	0.57	11.29	23.98	4.50	30.00	Pass
VHT20	MCS0	1	52	5260	0.34	11.56	23.79	4.50	29.79	Pass
VHT20	MCS0	1	60	5300	0.34	11.45	23.79	4.50	29.79	Pass
VHT20	MCS0	1	64	5320	0.34	11.24	23.76	4.50	29.76	Pass
VHT40	MCS0	1	54	5270	0.63	11.31	23.98	4.50	30.00	Pass
VHT40	MCS0	1	62	5310	0.63	11.33	23.98	4.50	30.00	Pass
VHT80	MCS0	1	58	5290	1.18	11.85	23.98	4.50	30.00	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the 5250-5350 MHz and 5470-5600 MHz and 5650-5725 MHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log (B), where B is 26dB BW for FCC and 99% OBW for IC.



Test Band :	5GHz band 3	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	100	5500	0.29	8.76	23.98	4.90		Pass
11a	6Mbps	1	116	5580	0.29	8.68	23.98	4.90		Pass
11a	6Mbps	1	140	5700	0.29	8.51	23.98	4.90		Pass
HT20	MCS0	1	100	5500	0.31	8.78	23.98	4.90		Pass
HT20	MCS0	1	116	5580	0.31	8.67	23.98	4.90		Pass
HT20	MCS0	1	140	5700	0.31	8.75	23.98	4.90		Pass
HT40	MCS0	1	102	5510	0.57	9.18	23.98	4.90		Pass
HT40	MCS0	1	110	5550	0.57	8.83	23.98	4.90		Pass
HT40	MCS0	1	134	5670	0.57	8.53	23.98	4.90		Pass
VHT20	MCS0	1	100	5500	0.34	8.83	23.98	4.90		Pass
VHT20	MCS0	1	116	5580	0.34	8.69	23.98	4.90		Pass
VHT20	MCS0	1	140	5700	0.34	8.77	23.98	4.90		Pass
VHT40	MCS0	1	102	5510	0.63	8.85	23.98	4.90		Pass
VHT40	MCS0	1	110	5550	0.63	8.80	23.98	4.90		Pass
VHT40	MCS0	1	134	5670	0.63	8.75	23.98	4.90		Pass
VHT80	MCS0	1	106	5530	1.18	9.24	23.98	4.90		Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	IC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6Mbps	1	100	5500	0.29	8.76	23.61	4.90	29.61	Pass
11a	6Mbps	1	116	5580	0.29	8.68	23.61	4.90	29.61	Pass
11a	6Mbps	1	140	5700	0.29	8.51	23.64	4.90	29.64	Pass
HT20	MCS0	1	100	5500	0.31	8.78	23.81	4.90	29.81	Pass
HT20	MCS0	1	116	5580	0.31	8.67	23.78	4.90	29.78	Pass
HT20	MCS0	1	140	5700	0.31	8.75	23.78	4.90	29.78	Pass
HT40	MCS0	1	102	5510	0.57	9.18	23.98	4.90	30.00	Pass
HT40	MCS0	1	110	5550	0.57	8.83	23.98	4.90	30.00	Pass
HT40	MCS0	1	134	5670	0.57	8.53	23.98	4.90	30.00	Pass
VHT20	MCS0	1	100	5500	0.34	8.83	23.82	4.90	29.82	Pass
VHT20	MCS0	1	116	5580	0.34	8.69	23.81	4.90	29.81	Pass
VHT20	MCS0	1	140	5700	0.34	8.77	23.82	4.90	29.82	Pass
VHT40	MCS0	1	102	5510	0.63	8.85	23.98	4.90	30.00	Pass
VHT40	MCS0	1	110	5550	0.63	8.80	23.98	4.90	30.00	Pass
VHT40	MCS0	1	134	5670	0.63	8.75	23.98	4.90	30.00	Pass
VHT80	MCS0	1	106	5530	1.18	9.24	23.98	4.90	30.00	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the 5250-5350 MHz and 5470-5600 MHz and 5650-5725 MHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log (B), where B is 26dB BW for FCC and 99% OBW for IC.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For the band 5150-5250 MHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band.

For the bands 5250-5350 MHz and 5470-5600 and 5650-5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band.

If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section F) Peak power spectral density (PPSD).

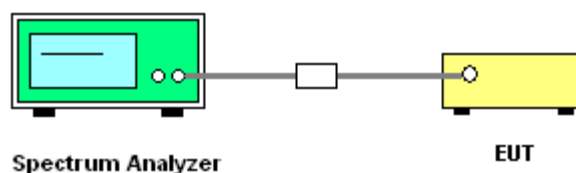
Note: Though the rule refers to “peak power spectral density”, the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

Method SA-2

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

1. The testing follows Method SA-2 of FCC KDB 789033 D01 General UNII Test Procedures v01r03.
 - Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Test Band :	5GHz band 1	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	CH	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	36	5180	0.29	1.06	4.00	3.30	Pass
11a	6Mbps	1	44	5220	0.29	0.40	4.00	3.30	Pass
11a	6Mbps	1	48	5240	0.29	0.36	4.00	3.30	Pass
HT20	MCS0	1	36	5180	0.31	-0.64	4.00	3.30	Pass
HT20	MCS0	1	44	5220	0.31	-0.99	4.00	3.30	Pass
HT20	MCS0	1	48	5240	0.31	-1.14	4.00	3.30	Pass
HT40	MCS0	1	38	5190	0.57	-3.28	4.00	3.30	Pass
HT40	MCS0	1	46	5230	0.57	-3.55	4.00	3.30	Pass
VHT20	MCS0	1	36	5180	0.34	-0.66	4.00	3.30	Pass
VHT20	MCS0	1	44	5220	0.34	-1.04	4.00	3.30	Pass
VHT20	MCS0	1	48	5240	0.34	-1.26	4.00	3.30	Pass
VHT40	MCS0	1	38	5190	0.63	-2.99	4.00	3.30	Pass
VHT40	MCS0	1	46	5230	0.63	-3.45	4.00	3.30	Pass
VHT80	MCS0	1	42	5210	1.18	-6.17	4.00	3.30	Pass



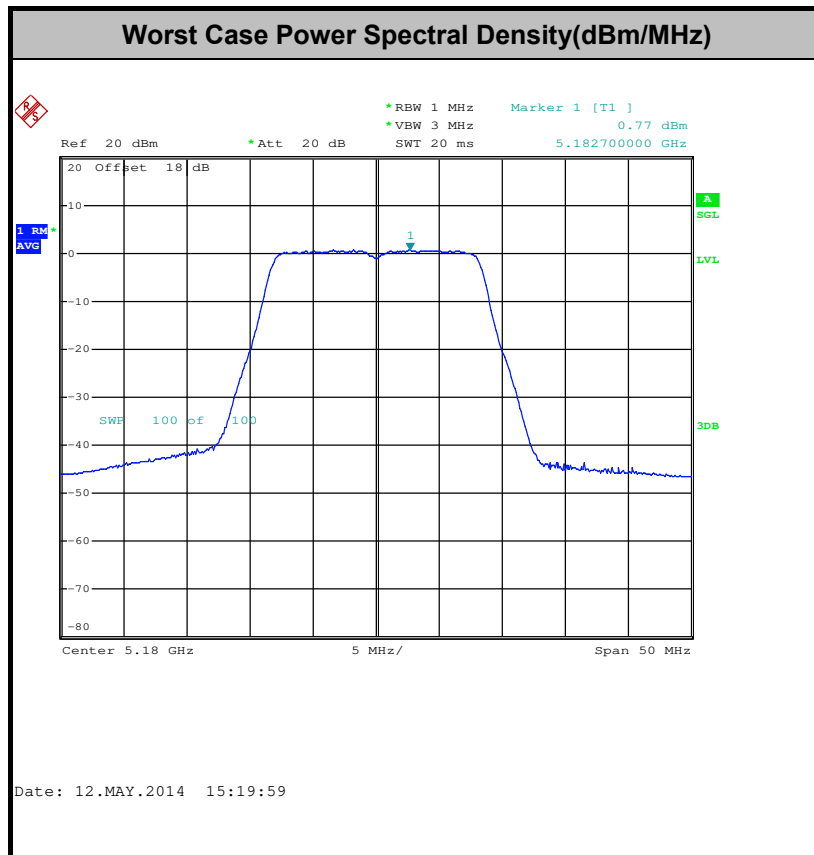
Test Band :	5GHz band 2	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	CH	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	52	5260	0.29	0.93	11.00	4.50	Pass
11a	6Mbps	1	60	5300	0.29	0.39	11.00	4.50	Pass
11a	6Mbps	1	64	5320	0.29	0.49	11.00	4.50	Pass
HT20	MCS0	1	52	5260	0.31	0.32	11.00	4.50	Pass
HT20	MCS0	1	60	5300	0.31	-0.20	11.00	4.50	Pass
HT20	MCS0	1	64	5320	0.31	0.02	11.00	4.50	Pass
HT40	MCS0	1	54	5270	0.57	-2.09	11.00	4.50	Pass
HT40	MCS0	1	62	5310	0.57	-2.53	11.00	4.50	Pass
VHT20	MCS0	1	52	5260	0.34	0.29	11.00	4.50	Pass
VHT20	MCS0	1	60	5300	0.34	-0.06	11.00	4.50	Pass
VHT20	MCS0	1	64	5320	0.34	0.09	11.00	4.50	Pass
VHT40	MCS0	1	54	5270	0.63	-2.03	11.00	4.50	Pass
VHT40	MCS0	1	62	5310	0.63	-2.37	11.00	4.50	Pass
VHT80	MCS0	1	58	5290	1.18	-5.16	11.00	4.50	Pass



Test Band :	5GHz band 3	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	CH	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	100	5500	0.29	-1.58	11.00	4.90	Pass
11a	6Mbps	1	116	5580	0.29	-1.75	11.00	4.90	Pass
11a	6Mbps	1	140	5700	0.29	-1.98	11.00	4.90	Pass
HT20	MCS0	1	100	5500	0.31	-2.01	11.00	4.90	Pass
HT20	MCS0	1	116	5580	0.31	-2.02	11.00	4.90	Pass
HT20	MCS0	1	140	5700	0.31	-2.13	11.00	4.90	Pass
HT40	MCS0	1	102	5510	0.57	-4.29	11.00	4.90	Pass
HT40	MCS0	1	110	5550	0.57	-4.30	11.00	4.90	Pass
HT40	MCS0	1	134	5670	0.57	-4.83	11.00	4.90	Pass
VHT20	MCS0	1	100	5500	0.34	-1.88	11.00	4.90	Pass
VHT20	MCS0	1	116	5580	0.34	-2.02	11.00	4.90	Pass
VHT20	MCS0	1	140	5700	0.34	-2.14	11.00	4.90	Pass
VHT40	MCS0	1	102	5510	0.63	-4.22	11.00	4.90	Pass
VHT40	MCS0	1	110	5550	0.63	-4.31	11.00	4.90	Pass
VHT40	MCS0	1	134	5670	0.63	-4.68	11.00	4.90	Pass
VHT80	MCS0	1	106	5530	1.18	-7.09	11.00	4.90	Pass



Note: Average Power Density (dB) = Measured value+ Duty Factor

3.4 Peak Excursion Ratio Measurement

3.4.1 Limit of Peak Excursion Ratio

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

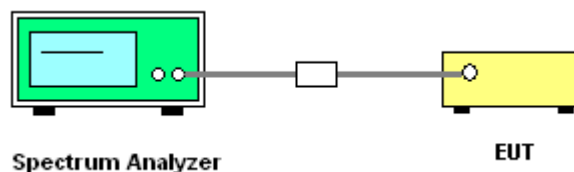
3.4.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section G) Peak excursion measurement

1. The transmitter output is connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
 - *Set RBW = 1MHz.
 - *Set VBW \geq 3MHz.
 - *Detector = peak.
 - *Trace mode = max-hold.
 - *Allow the sweeps to continue until the trace stabilizes.
 - *Use the peak search function to find the peak of the spectrum.
4. Use the procedure found under section 3.3 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

3.4.4 Test Setup

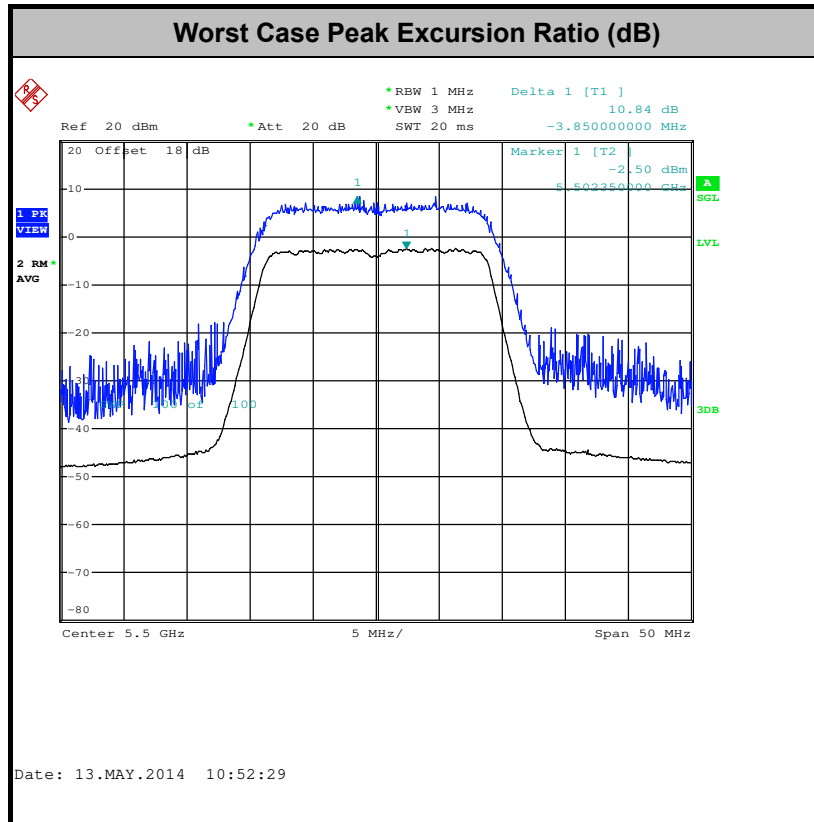


3.4.5 Test Result of Peak Excursion Ratio

Test Band :	5GHz band 3	Temperature :	24~26°C
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Ch.	Freq. (MHz)	Peak Excursion Ratio (dB)					Max. Limits (dB)	Pass/Fail
					BPSK	QPSK	16QAM	64QAM	256QAM		
11a	6Mbps	1	100	5500	8.67	8.73	8.48	8.15	-	13	Pass
HT20	MCS0	1	100	5500	9.33	9.61	10.17	9.34	-	13	Pass
HT40	MCS0	1	102	5510	8.85	9.90	8.94	9.78	-	13	Pass
VHT20	MCS0	1	100	5500	8.77	10.27	9.43	9.37	9.10	13	Pass
VHT40	MCS0	1	102	5510	9.00	9.39	10.16	9.63	9.33	13	Pass
VHT80	MCS0	1	106	5530	8.89	8.89	10.27	9.95	8.52	13	Pass

Note: All modulation measured based on the minimum data rate setting.



Note: Peak Excursion Ratio (dB) = Peak – (Average + Duty Cycle Offset)

Duty Cycle Offset: 0.57dB

3.5 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.5.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3



- (4) KDB789033 v01r03 H)2)c(i) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03. Section H) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

- RBW = 120 kHz
- VBW = 300 kHz
- Detector = Peak
- Trace mode = max hold

(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

- The setting follows the H) 5) of FCC KDB 789033.
- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

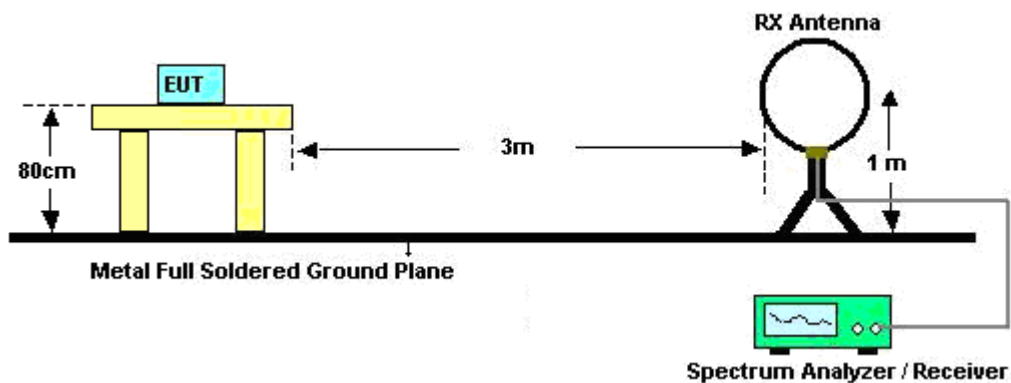
- The setting follows H) 6) of FCC KDB 789033.
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	93.46	1.430	0.699	1kHz
802.11n HT20	93.01	1.330	0.752	1kHz
802.11n HT40	87.71	0.671	1.490	3kHz
802.11n VHT20	92.54	1.340	0.746	1kHz
802.11n VHT40	86.49	0.666	1.502	3kHz
802.11n VHT80	76.15	0.332	3.012	10kHz

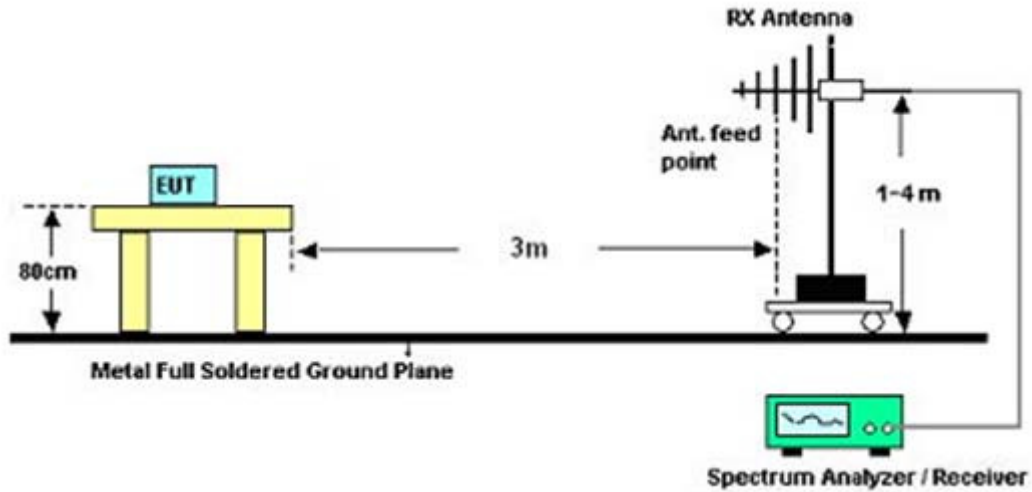
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

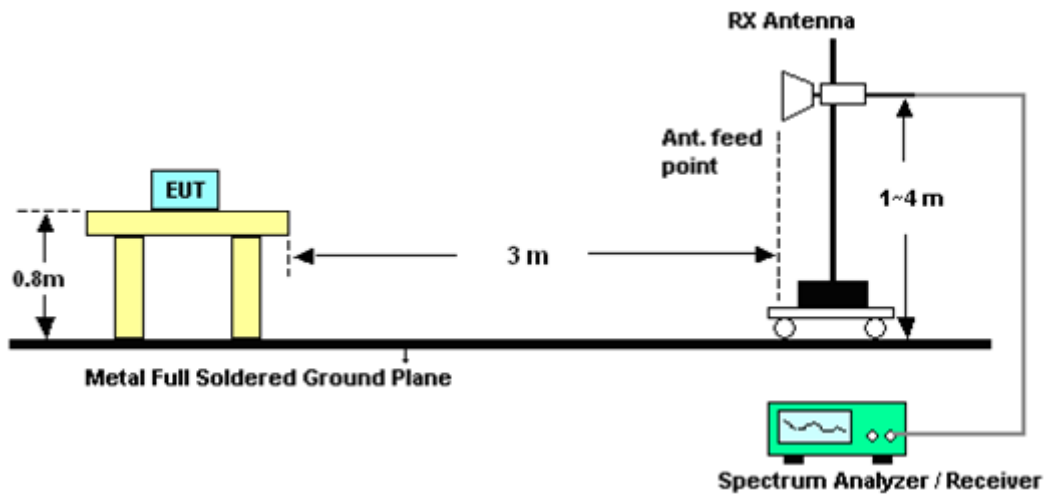
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



3.5.6 Test Result

3.5.6.1 Test Result of Radiated Band Edges

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5108.9	56.79	-17.21	74	40.53	34.15	8.64	26.53	100	277	Peak
5144.45	45.26	-8.74	54	28.98	34.14	8.69	26.55	100	277	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5133.5	55.22	-18.78	74	38.94	34.15	8.67	26.54	100	17	Peak
5144	45.11	-8.89	54	28.83	34.14	8.69	26.55	100	17	Average

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5118.05	55.93	-18.07	74	39.67	34.15	8.64	26.53	134	276	Peak
5134.1	45.16	-8.84	54	28.88	34.15	8.67	26.54	134	276	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5118.2	55.49	-18.51	74	39.23	34.15	8.64	26.53	100	230	Peak
5100.95	45.14	-8.86	54	28.87	34.16	8.64	26.53	100	230	Average



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5363.42	55.49	-18.51	74	39.18	34.05	8.9	26.64	132	275	Peak
5396.75	45.4	-8.6	54	29.08	34.04	8.93	26.65	132	275	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5379.92	55.77	-18.23	74	39.44	34.05	8.93	26.65	100	86	Peak
5398.29	45.1	-8.9	54	28.78	34.04	8.93	26.65	100	86	Average

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5468.56	55.75	-18.25	74	39.42	34.01	9	26.68	111	118	Peak
5464.24	45.03	-8.97	54	28.7	34.01	9	26.68	111	118	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5460.72	54.12	-19.88	74	37.78	34.02	9	26.68	100	115	Peak
5466.8	44.88	-9.12	54	28.55	34.01	9	26.68	100	115	Average



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.15	-17.85	74	39.82	34	9.14	26.81	100	284	Peak
5725	45.56	-8.44	54	29.23	34	9.13	26.8	100	284	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.36	-17.64	74	40.03	34	9.14	26.81	102	250	Peak
5725	45.53	-8.47	54	29.2	34	9.13	26.8	102	250	Average

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5145.8	57.84	-16.16	74	41.56	34.14	8.69	26.55	100	270	Peak
5103.05	45.5	-8.5	54	29.23	34.16	8.64	26.53	100	270	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.4	55.35	-18.65	74	39.07	34.14	8.69	26.55	100	59	Peak
5101.25	45.18	-8.82	54	28.91	34.16	8.64	26.53	100	59	Average



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5118.65	55.16	-18.84	74	38.88	34.15	8.67	26.54	146	276	Peak
5145.95	45.24	-8.76	54	28.96	34.14	8.69	26.55	146	276	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5111.45	56.2	-17.8	74	39.94	34.15	8.64	26.53	100	232	Peak
5147.75	45.1	-8.9	54	28.82	34.14	8.69	26.55	100	232	Average

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	59.07	-14.93	74	42.75	34.06	8.9	26.64	133	271	Peak
5398.4	45.25	-8.75	54	28.93	34.04	8.93	26.65	133	271	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5351.65	57.3	-16.7	74	40.98	34.06	8.9	26.64	173	83	Peak
5398.4	45.52	-8.48	54	29.2	34.04	8.93	26.65	173	83	Average



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5465.36	54.97	-19.03	74	38.64	34.01	9	26.68	111	118	Peak
5468.08	45.02	-8.98	54	28.69	34.01	9	26.68	111	118	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	54.94	-19.06	74	38.61	34.01	9	26.68	100	115	Peak
5469.04	45	-9	54	28.67	34.01	9	26.68	100	115	Average

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	57.91	-16.09	74	41.58	34	9.13	26.8	100	285	Peak
5725	45.58	-8.42	54	29.25	34	9.14	26.81	100	285	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.25	-17.75	74	39.92	34	9.15	26.82	103	248	Peak
5725	45.53	-8.47	54	29.2	34	9.14	26.81	103	248	Average



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5147.45	59.81	-14.19	74	43.53	34.14	8.69	26.55	137	276	Peak
5149.7	47.51	-6.49	54	31.23	34.14	8.69	26.55	137	276	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5130.8	56.2	-17.8	74	39.92	34.15	8.67	26.54	100	59	Peak
5145.05	45.31	-8.69	54	29.03	34.14	8.69	26.55	100	59	Average

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5103.5	56.28	-17.72	74	40.01	34.16	8.64	26.53	100	276	Peak
5139.5	45.09	-8.91	54	28.82	34.14	8.67	26.54	100	276	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5141	55.34	-18.66	74	39.07	34.14	8.67	26.54	100	229	Peak
5138.6	46.21	-7.79	54	29.93	34.15	8.67	26.54	100	229	Average



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5351.1	60.45	-13.55	74	44.13	34.06	8.9	26.64	145	275	Peak
5350.44	48.4	-5.6	54	32.08	34.06	8.9	26.64	145	275	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5354.07	56.75	-17.25	74	40.43	34.06	8.9	26.64	100	85	Peak
5350.33	46.62	-7.38	54	30.3	34.06	8.9	26.64	100	85	Average

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5466.96	57.99	-16.01	74	41.66	34.01	9	26.68	100	120	Peak
5467.6	47.3	-6.7	54	30.97	34.01	9	26.68	100	120	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5460.8	55.48	-18.52	74	39.15	34.04	8.95	26.66	100	115	Peak
5469.84	46.3	-7.7	54	29.97	34.01	9	26.68	100	115	Average



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.41	-17.59	74	40.08	34	9.14	26.81	100	286	Peak
5725	46.55	-7.45	54	30.22	34	9.14	26.81	100	286	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.41	-17.59	74	40.08	34	9.14	26.81	160	87	Peak
5725	46.58	-7.42	54	30.25	34	9.14	26.81	160	87	Average

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5148.95	55.77	-18.23	74	39.49	34.14	8.69	26.55	123	273	Peak
5112.5	45.61	-8.39	54	29.35	34.15	8.64	26.53	123	273	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5141.3	56.54	-17.46	74	40.27	34.14	8.67	26.54	100	51	Peak
5101.4	45.38	-8.62	54	29.11	34.16	8.64	26.53	100	51	Average



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5107.25	56.28	-17.72	74	40.02	34.15	8.64	26.53	121	271	Peak
5115.8	45.19	-8.81	54	28.93	34.15	8.64	26.53	121	271	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5100.65	55.79	-18.21	74	39.52	34.16	8.64	26.53	173	87	Peak
5117.45	45.29	-8.71	54	29.03	34.15	8.64	26.53	173	87	Average

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350.66	56.87	-17.13	74	40.55	34.06	8.9	26.64	116	115	Peak
5397.08	45.38	-8.62	54	29.06	34.04	8.93	26.65	116	115	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	56.48	-17.52	74	40.16	34.06	8.9	26.64	169	87	Peak
5395.98	45.55	-8.45	54	29.23	34.04	8.93	26.65	169	87	Average



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5460.56	54.98	-19.02	74	38.64	34.02	9	26.68	100	118	Peak
5463.44	45.2	-8.8	54	28.87	34.01	9	26.68	100	118	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5464.24	55.7	-18.3	74	39.37	34.01	9	26.68	100	115	Peak
5461.36	45.1	-8.9	54	28.76	34.02	9	26.68	100	115	Average

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	59.44	-14.56	74	43.11	34	9.13	26.8	100	282	Peak
5725	45.57	-8.43	54	29.24	34	9.14	26.81	100	282	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.74	-18.26	74	39.41	34	9.13	26.8	100	63	Peak
5725	45.33	-8.67	54	29	34	9.13	26.8	100	63	Average



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5148.2	57.17	-16.83	74	40.89	34.14	8.69	26.55	100	278	Peak
5146.85	47.42	-6.58	54	31.14	34.14	8.69	26.55	100	278	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5125.25	55.73	-18.27	74	39.45	34.15	8.67	26.54	100	59	Peak
5149.55	46.37	-7.63	54	30.09	34.14	8.69	26.55	100	59	Average

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5127.95	55.06	-18.94	74	38.78	34.15	8.67	26.54	100	271	Peak
5146.55	45.99	-8.01	54	29.71	34.14	8.69	26.55	100	271	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5121.65	56	-18	74	39.72	34.15	8.67	26.54	173	88	Peak
5149.4	46.1	-7.9	54	29.82	34.14	8.69	26.55	173	88	Average



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5351.32	60.81	-13.19	74	44.49	34.06	8.9	26.64	121	272	Peak
5350.44	51.45	-2.55	54	35.13	34.06	8.9	26.64	121	272	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5352.53	63.34	-10.66	74	47.02	34.06	8.9	26.64	172	84	Peak
5350.88	51.47	-2.53	54	35.15	34.06	8.9	26.64	172	84	Average

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5468.4	59.73	-14.27	74	43.4	34.01	9	26.68	100	117	Peak
5468.88	48.59	-5.41	54	32.26	34.01	9	26.68	100	117	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5460	55.95	-18.05	74	39.62	34.04	8.95	26.66	100	117	Peak
5469.68	46.93	-7.07	54	30.6	34.01	9	26.68	100	117	Average



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.87	-18.13	74	39.54	34	9.14	26.81	100	281	Peak
5725	46.57	-7.43	54	30.24	34	9.13	26.8	100	281	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	56.15	-17.85	74	39.82	34	9.13	26.8	121	116	Peak
5725	46.24	-7.76	54	29.91	34	9.14	26.81	121	116	Average

Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	42	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5148.8	56.82	-17.18	74	40.54	34.14	8.69	26.55	135	274	Peak
5133.5	47.74	-6.26	54	31.46	34.15	8.67	26.54	135	274	Average
5384.87	55.31	-18.69	74	38.98	34.05	8.93	26.65	135	274	Peak
5459.56	47.79	-6.21	54	31.45	34.02	9	26.68	135	274	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5103.05	55.74	-18.26	74	39.47	34.16	8.64	26.53	100	57	Peak
5144.6	47.38	-6.62	54	31.1	34.14	8.69	26.55	100	57	Average
5363.31	55.66	-18.34	74	39.35	34.05	8.9	26.64	100	57	Peak
5360.89	47.69	-6.31	54	31.38	34.05	8.9	26.64	100	57	Average



Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	58	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5127.65	55.95	-18.05	74	39.67	34.15	8.67	26.54	110	269	Peak
5128.1	47.46	-6.54	54	31.18	34.15	8.67	26.54	110	269	Average
5350.66	62.03	-11.97	74	45.71	34.06	8.9	26.64	110	269	Peak
5352.42	51.35	-2.65	54	35.03	34.06	8.9	26.64	110	269	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5111.6	55.11	-18.89	74	38.85	34.15	8.64	26.53	173	89	Peak
5101.55	47.32	-6.68	54	31.05	34.16	8.64	26.53	173	89	Average
5350.55	60.1	-13.9	74	43.78	34.06	8.9	26.64	173	89	Peak
5350.22	51.31	-2.69	54	34.99	34.06	8.9	26.64	173	89	Average



Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	106	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5465.92	56.84	-17.16	74	40.5	34.03	8.98	26.67	100	119	Peak
5464.08	49.66	-4.34	54	33.33	34.01	9	26.68	100	119	Average
5736.92	56.41	-17.59	74	40.08	34	9.14	26.81	100	119	Peak
5754.52	47.87	-6.13	54	31.54	34	9.14	26.81	100	119	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5469.36	56.11	-17.89	74	39.78	34.01	9	26.68	100	117	Peak
5463.76	47.89	-6.11	54	31.56	34.01	9	26.68	100	117	Average
5763.4	56.03	-17.97	74	39.7	34	9.15	26.82	100	117	Peak
5746.68	48.39	-5.61	54	32.06	34	9.14	26.81	100	117	Average

3.5.6.2 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	96.01	-	-	79.72	34.13	8.72	26.56	100	277	Peak
5180	88.47	-	-	72.18	34.13	8.72	26.56	100	277	Average
10360	39.95	-34.05	74	47.23	36.78	12.85	56.91	152	260	Peak
15540	48.48	-25.52	74	48.85	40.2	16.2	56.77	189	238	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	86.17	-	-	69.88	34.13	8.72	26.56	100	17	Peak
5180	78.92	-	-	62.63	34.13	8.72	26.56	100	17	Average
10360	38.95	-35.05	74	46.23	36.78	12.85	56.91	152	260	Peak
15540	50.36	-23.64	74	50.73	40.2	16.2	56.77	189	238	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	97.29	-	-	80.99	34.09	8.8	26.59	134	276	Peak
5260	89.45	-	-	73.15	34.09	8.8	26.59	134	276	Average
10440	39.17	-34.83	74	46.43	36.74	12.89	56.89	125	230	Peak
15660	44.8	-29.2	74	45.2	40.2	16.27	56.87	110	225	Peak

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	88.66	-	-	72.36	34.09	8.8	26.59	100	230	Peak
5260	80.3	-	-	64	34.09	8.8	26.59	100	230	Average
10440	38.56	-35.44	74	45.82	36.74	12.89	56.89	125	230	Peak
15660	45.37	-28.63	74	45.77	40.2	16.27	56.87	110	225	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	95.79	-	-	79.49	34.07	8.85	26.62	132	275	Peak
5320	87.29	-	-	70.99	34.07	8.85	26.62	132	275	Average
10640	39.2	-34.8	74	46.25	36.78	13.01	56.84	152	135	Peak
15960	45.59	-28.41	74	46.06	40.2	16.44	57.11	173	245	Peak

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	90.3	-	-	74	34.07	8.85	26.62	100	86	Peak
5320	82.83	-	-	66.53	34.07	8.85	26.62	100	86	Average
10640	38.85	-35.15	74	45.9	36.78	13.01	56.84	152	135	Peak
15960	48.79	-25.21	74	49.26	40.2	16.44	57.11	173	245	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	95.28	-	-	78.95	34	9.03	26.7	111	118	Peak
5500	87	-	-	70.67	34	9.03	26.7	111	118	Average
11000	38.98	-35.02	74	45.49	37	13.24	56.75	163	230	Peak

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	88.66	-	-	72.33	34	9.03	26.7	100	115	Peak
5500	82	-	-	65.67	34	9.03	26.7	100	115	Average
11000	38.91	-35.09	74	45.42	37	13.24	56.75	163	230	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	93.06	-	-	76.73	34	9.07	26.74	113	249	Peak
5580	85.55	-	-	69.22	34	9.07	26.74	113	249	Average
11160	38.53	-35.47	74	45.04	37	13.24	56.75	163	230	Peak

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	90.54	-	-	74.21	34	9.07	26.74	172	116	Peak
5580	82.45	-	-	66.12	34	9.07	26.74	172	116	Average
11160	39.1	-34.9	74	45.61	37	13.24	56.75	163	230	Peak



Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	94.06	-	-	77.73	34	9.12	26.79	100	284	Peak
5700	86.38	-	-	70.05	34	9.12	26.79	100	284	Average
11400	39.68	-34.32	74	45.14	37.64	13.37	56.47	147	285	Peak

Test Mode :	802.11a	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	89.42	-	-	73.09	34	9.12	26.79	102	250	Peak
5700	81.3	-	-	64.97	34	9.12	26.79	102	250	Average
11400	40.04	-33.96	74	45.5	37.64	13.37	56.47	147	285	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	96.35	-	-	80.06	34.13	8.72	26.56	100	270	Peak
5180	87.9	-	-	71.61	34.13	8.72	26.56	100	270	Average
10360	38.64	-35.36	74	45.92	36.78	12.85	56.91	152	260	Peak
15540	46.7	-27.3	74	47.07	40.2	16.2	56.77	189	238	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	88.89	-	-	72.6	34.13	8.72	26.56	100	59	Peak
5180	79.99	-	-	63.7	34.13	8.72	26.56	100	59	Average
10360	38.45	-35.55	74	45.73	36.78	12.85	56.91	152	260	Peak
15540	46.91	-27.09	74	47.28	40.2	16.2	56.77	189	238	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 10520 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	98.13	-	-	81.83	34.09	8.8	26.59	145	276	Peak
5260	90.15	-	-	73.85	34.09	8.8	26.59	145	276	Average
10520	38.7	-35.3	74	45.93	36.71	12.93	56.87	110	220	Peak
15780	48.53	-25.47	74	48.95	40.2	16.34	56.96	109	345	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 10520 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	88.91	-	-	72.61	34.09	8.8	26.59	100	232	Peak
5260	80.05	-	-	63.75	34.09	8.8	26.59	100	232	Average
10520	39.29	-34.71	74	46.52	36.71	12.93	56.87	110	220	Peak
15780	49.22	-24.78	74	49.64	40.2	16.34	56.96	109	345	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	95.72	-	-	79.42	34.07	8.85	26.62	133	271	Peak
5320	87.01	-	-	70.71	34.07	8.85	26.62	133	271	Average
10640	39.54	-34.46	74	46.59	36.78	13.01	56.84	152	135	Peak
15960	45.55	-28.45	74	46.02	40.2	16.44	57.11	173	245	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	93.06	-	-	76.76	34.07	8.85	26.62	173	83	Peak
5320	84.47	-	-	68.17	34.07	8.85	26.62	173	83	Average
10640	39.06	-34.94	74	46.11	36.78	13.01	56.84	152	135	Peak
15960	47.23	-26.77	74	47.7	40.2	16.44	57.11	173	245	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	94.03	-	-	77.7	34	9.03	26.7	111	118	Peak
5500	85.63	-	-	69.3	34	9.03	26.7	111	118	Average
11000	39.66	-34.34	74	46.17	37	13.24	56.75	163	230	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	89.23	-	-	72.9	34	9.03	26.7	100	115	Peak
5500	80.33	-	-	64	34	9.03	26.7	100	115	Average
11000	38.46	-35.54	74	44.97	37	13.24	56.75	163	230	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	93.54	-	-	77.21	34	9.07	26.74	103	254	Peak
5580	85.18	-	-	68.85	34	9.07	26.74	103	254	Average
11160	40	-34	74	46.07	37.27	13.29	56.63	170	200	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	86.41	-	-	70.08	34	9.07	26.74	100	116	Peak
5580	79.43	-	-	63.1	34	9.07	26.74	100	116	Average
11160	40.46	-33.54	74	46.53	37.27	13.29	56.63	170	200	Peak



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	94.93	-	-	78.6	34	9.12	26.79	100	285	Peak
5700	86.51	-	-	70.18	34	9.12	26.79	100	285	Average
11400	40.28	-33.72	74	45.74	37.64	13.37	56.47	147	285	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	90.01	-	-	73.68	34	9.12	26.79	103	248	Peak
5700	80.99	-	-	64.66	34	9.12	26.79	103	248	Average
11400	40.85	-33.15	74	46.31	37.64	13.37	56.47	147	285	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	94.65	-	-	78.36	34.13	8.72	26.56	137	276	Peak
5190	86.89	-	-	70.6	34.13	8.72	26.56	137	276	Average
10380	38.49	-35.51	74	45.76	36.77	12.86	56.9	147	225	Peak
15570	46.33	-27.67	74	46.71	40.2	16.22	56.8	165	278	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	83.53	-	-	67.24	34.13	8.72	26.56	100	59	Peak
5190	76.31	-	-	60.02	34.13	8.72	26.56	100	59	Average
10380	39.12	-34.88	74	46.39	36.77	12.86	56.9	147	225	Peak
15570	48.55	-25.45	74	48.93	40.2	16.22	56.8	165	278	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5270 MHz is fundamental signal which can be ignored. 10540 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	93.21	-	-	76.91	34.09	8.8	26.59	100	276	Peak
5270	85.26	-	-	68.96	34.09	8.8	26.59	100	276	Average
10540	39.55	-34.45	74	46.74	36.72	12.95	56.86	110	220	Peak
15810	45.18	-28.82	74	45.62	40.2	16.35	56.99	109	345	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5270 MHz is fundamental signal which can be ignored. 10540 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	84.63	-	-	68.33	34.09	8.8	26.59	100	229	Peak
5270	77.22	-	-	60.92	34.09	8.8	26.59	100	229	Average
10540	39.27	-34.73	74	46.46	36.72	12.95	56.86	110	220	Peak
15810	48.46	-25.54	74	48.9	40.2	16.35	56.99	109	345	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5310	93.02	-	-	76.72	34.07	8.85	26.62	145	275	Peak
5310	84.93	-	-	68.63	34.07	8.85	26.62	145	275	Average
10620	39.29	-34.71	74	46.36	36.77	13	56.84	104	185	Peak
15930	45.47	-28.53	74	45.95	40.2	16.41	57.09	145	231	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5310	88.68	-	-	72.38	34.07	8.85	26.62	100	85	Peak
5310	80.45	-	-	64.15	34.07	8.85	26.62	100	85	Average
10620	40.83	-33.17	74	47.9	36.77	13	56.84	104	185	Peak
15930	48.59	-25.41	74	49.07	40.2	16.41	57.09	145	231	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	89.45	-	-	73.12	34	9.04	26.71	100	120	Peak
5510	80.51	-	-	64.18	34	9.04	26.71	100	120	Average
11020	38.8	-35.2	74	45.26	37.03	13.25	56.74	100	210	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	86.19	-	-	69.86	34	9.04	26.71	100	115	Peak
5510	77.51	-	-	61.18	34	9.04	26.71	100	115	Average
11020	39.63	-34.37	74	46.09	37.03	13.25	56.74	100	210	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	110	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	91.68	-	-	75.35	34	9.05	26.72	124	250	Peak
5550	83.85	-	-	67.52	34	9.05	26.72	124	250	Average
11100	39.27	-34.73	74	45.52	37.16	13.27	56.68	170	200	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	110	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	87.09	-	-	70.76	34	9.05	26.72	100	113	Peak
5550	78.16	-	-	61.83	34	9.05	26.72	100	113	Average
11100	39.3	-34.7	74	45.55	37.16	13.27	56.68	170	200	Peak



Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	89.63	-	-	73.3	34	9.11	26.78	100	286	Peak
5670	82.26	-	-	65.93	34	9.11	26.78	100	286	Average
11340	40.65	-33.35	74	46.3	37.53	13.34	56.52	111	231	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	92.15	-	-	75.82	34	9.11	26.78	160	87	Peak
5670	84.16	-	-	67.83	34	9.11	26.78	160	87	Average
11340	41.14	-32.86	74	46.79	37.53	13.34	56.52	111	231	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	99.19	-	-	82.9	34.13	8.72	26.56	123	273	Peak
5180	90.36	-	-	74.07	34.13	8.72	26.56	123	273	Average
10360	39.26	-34.74	74	46.54	36.78	12.85	56.91	152	260	Peak
15540	47.18	-26.82	74	47.55	40.2	16.2	56.77	189	238	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	36	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	89.72	-	-	73.43	34.13	8.72	26.56	100	51	Peak
5180	81.18	-	-	64.89	34.13	8.72	26.56	100	51	Average
10360	39.64	-34.36	74	46.92	36.78	12.85	56.91	152	260	Peak
15540	48.95	-25.05	74	49.32	40.2	16.2	56.77	189	238	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5260 MHz is fundamental signal which can be ignored. 10520 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	98.65	-	-	82.35	34.09	8.8	26.59	121	271	Peak
5260	90.02	-	-	73.72	34.09	8.8	26.59	121	271	Average
10520	40.3	-33.7	74	47.53	36.71	12.93	56.87	110	220	Peak
15780	45.04	-28.96	74	45.46	40.2	16.34	56.96	109	345	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	52	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5260 MHz is fundamental signal which can be ignored. 10520 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	96.2	-	-	79.9	34.09	8.8	26.59	173	87	Peak
5260	87.48	-	-	71.18	34.09	8.8	26.59	173	87	Average
10520	39.55	-34.45	74	46.78	36.71	12.93	56.87	110	220	Peak
15780	45.46	-28.54	74	45.88	40.2	16.34	56.96	109	345	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	94.43	-	-	78.13	34.07	8.85	26.62	116	115	Peak
5320	85.58	-	-	69.28	34.07	8.85	26.62	116	115	Average
10640	40.86	-33.14	74	47.91	36.78	13.01	56.84	152	135	Peak
15960	47.54	-26.46	74	48.01	40.2	16.44	57.11	173	245	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	64	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	95.82	-	-	79.52	34.07	8.85	26.62	169	87	Peak
5320	86.41	-	-	70.11	34.07	8.85	26.62	169	87	Average
10640	40.88	-33.12	74	47.93	36.78	13.01	56.84	152	135	Peak
15960	47.79	-26.21	74	48.26	40.2	16.44	57.11	173	245	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	95.11	-	-	78.78	34	9.03	26.7	100	118	Peak
5500	86.78	-	-	70.45	34	9.03	26.7	100	118	Average
11000	40.26	-33.74	74	46.77	37	13.24	56.75	163	230	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	100	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	93.93	-	-	77.6	34	9.03	26.7	100	115	Peak
5500	84.8	-	-	68.47	34	9.03	26.7	100	115	Average
11000	39.24	-34.76	74	45.75	37	13.24	56.75	163	230	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	95.29	-	-	78.96	34	9.07	26.74	100	118	Peak
5580	86.45	-	-	70.12	34	9.07	26.74	100	118	Average
11160	40.29	-33.71	74	46.36	37.27	13.29	56.63	170	200	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	116	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5580MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	92.66	-	-	76.33	34	9.07	26.74	100	118	Peak
5580	83.83	-	-	67.5	34	9.07	26.74	100	118	Average
11160	41.03	-32.97	74	47.1	37.27	13.29	56.63	170	200	Peak



Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	96.83	-	-	80.5	34	9.12	26.79	100	282	Peak
5700	88.17	-	-	71.84	34	9.12	26.79	100	282	Average
11400	40.15	-33.85	74	45.61	37.64	13.37	56.47	147	285	Peak

Test Mode :	802.11n VHT20	Temperature :	23~25°C
Test Channel :	140	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	91.03	-	-	74.7	34	9.12	26.79	100	63	Peak
5700	82.62	-	-	66.29	34	9.12	26.79	100	63	Average
11400	40.73	-33.27	74	46.19	37.64	13.37	56.47	147	285	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5190 MHz is fundamental signal which can be ignored. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	95.8	-	-	79.51	34.13	8.72	26.56	100	278	Peak
5190	87.6	-	-	71.31	34.13	8.72	26.56	100	278	Average
10380	39.11	-34.89	74	46.38	36.77	12.86	56.9	147	225	Peak
15570	47.55	-26.45	74	47.93	40.2	16.22	56.8	165	278	Peak

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	38	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5190 MHz is fundamental signal which can be ignored. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	86.34	-	-	70.05	34.13	8.72	26.56	100	59	Peak
5190	78.35	-	-	62.06	34.13	8.72	26.56	100	59	Average
10380	40.5	-33.5	74	47.77	36.77	12.86	56.9	147	225	Peak
15570	46.38	-27.62	74	46.76	40.2	16.22	56.8	165	278	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5270 MHz is fundamental signal which can be ignored. 10540 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	95.63	-	-	79.33	34.09	8.8	26.59	100	271	Peak
5270	87.5	-	-	71.2	34.09	8.8	26.59	100	271	Average
10540	40.01	-33.99	74	47.2	36.72	12.95	56.86	110	220	Peak
15810	45.67	-28.33	74	46.11	40.2	16.35	56.99	109	345	Peak

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	54	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5270 MHz is fundamental signal which can be ignored. 10540 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	93.24	-	-	76.94	34.09	8.8	26.59	173	88	Peak
5270	85.51	-	-	69.21	34.09	8.8	26.59	173	88	Average
10540	39.45	-34.55	74	46.64	36.72	12.95	56.86	110	220	Peak
15810	46.05	-27.95	74	46.49	40.2	16.35	56.99	109	345	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
77.53	30.22	-9.78	40	53.43	5.61	1.12	29.94	100	213	Peak
160.95	29.06	-14.44	43.5	48.59	8.86	1.55	29.94	-	-	Peak
415.09	32.67	-13.33	46	44.1	16.15	2.34	29.92	-	-	Peak
762.35	30.88	-15.12	46	37.93	19.8	3.08	29.93	-	-	Peak
800.18	29.85	-16.15	46	36.63	20	3.15	29.93	-	-	Peak
900.09	26.88	-19.12	46	32.69	20.8	3.33	29.94	-	-	Peak
5310	93.69	-	-	77.39	34.07	8.85	26.62	121	272	Peak
5310	85.68	-	-	69.38	34.07	8.85	26.62	121	272	Average
10620	39.24	-34.76	74	46.31	36.77	13	56.84	104	185	Peak
15930	45.2	-28.8	74	45.68	40.2	16.41	57.09	145	231	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	62	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
78.5	31.86	-8.14	40	54.9	5.77	1.13	29.94	100	241	Peak
165.8	29.21	-14.29	43.5	48.93	8.66	1.56	29.94	-	-	Peak
370.47	26.6	-19.4	46	38.91	15.4	2.22	29.93	-	-	Peak
416.06	27.78	-18.22	46	39.26	16.1	2.34	29.92	-	-	Peak
692.51	26.81	-19.19	46	35.14	18.64	2.96	29.93	-	-	Peak
947.62	26.73	-19.27	46	32.06	21.18	3.43	29.94	-	-	Peak
5310	93.39	-	-	77.09	34.07	8.85	26.62	172	84	Peak
5310	85.36	-	-	69.06	34.07	8.85	26.62	172	84	Average
10620	40.43	-33.57	74	47.5	36.77	13	56.84	104	185	Peak
15930	46.17	-27.83	74	46.65	40.2	16.41	57.09	145	231	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	93.76	-	-	77.43	34	9.04	26.71	100	117	Peak
5510	85.23	-	-	68.9	34	9.04	26.71	100	117	Average
11020	39.57	-34.43	74	46.03	37.03	13.25	56.74	100	210	Peak

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	102	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	90.46	-	-	74.13	34	9.04	26.71	100	117	Peak
5510	82.63	-	-	66.3	34	9.04	26.71	100	117	Average
11020	39.38	-34.62	74	45.84	37.03	13.25	56.74	100	210	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	110	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	92.6	-	-	76.27	34	9.05	26.72	100	117	Peak
5550	84.15	-	-	67.82	34	9.05	26.72	100	117	Average
11100	39.46	-34.54	74	45.71	37.16	13.27	56.68	170	200	Peak

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	110	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	89.7	-	-	73.37	34	9.05	26.72	100	117	Peak
5550	81.6	-	-	65.27	34	9.05	26.72	100	117	Average
11100	39.84	-34.16	74	46.09	37.16	13.27	56.68	170	200	Peak



Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	93.89	-	-	77.56	34	9.11	26.78	100	281	Peak
5670	85.56	-	-	69.23	34	9.11	26.78	100	281	Average
11340	40.93	-33.07	74	46.58	37.53	13.34	56.52	111	231	Peak

Test Mode :	802.11n VHT40	Temperature :	23~25°C
Test Channel :	134	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	89.45	-	-	73.12	34	9.11	26.78	121	116	Peak
5670	81.32	-	-	64.99	34	9.11	26.78	121	116	Average
11340	40.56	-33.44	74	46.21	37.53	13.34	56.52	111	231	Peak



Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	42	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5210 MHz is fundamental signal which can be ignored. 10420 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5210	91.96	-	-	75.67	34.11	8.75	26.57	135	274	Peak
5210	84.55	-	-	68.26	34.11	8.75	26.57	135	274	Average
10420	39.95	-34.05	74	47.21	36.75	12.88	56.89	105	136	Peak
15630	45.31	-28.69	74	45.7	40.2	16.26	56.85	110	221	Peak

Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	42	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5210 MHz is fundamental signal which can be ignored. 10420 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5210	91.96	-	-	75.67	34.11	8.75	26.57	100	57	Peak
5210	84.55	-	-	68.26	34.11	8.75	26.57	100	57	Average
10420	39.79	-34.21	74	47.05	36.75	12.88	56.89	105	136	Peak
15630	46.91	-27.09	74	47.3	40.2	16.26	56.85	110	221	Peak



Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	58	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5290 MHz is fundamental signal which can be ignored. 2. 10580 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5290	90.58	-	-	74.27	34.09	8.82	26.6	110	269	Peak
5290	83.24	-	-	66.93	34.09	8.82	26.6	110	269	Average
10580	39.45	-34.55	74	46.57	36.75	12.98	56.85	106	220	Peak
15870	45.37	-28.63	74	45.83	40.2	16.38	57.04	132	200	Peak

Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	58	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5290 MHz is fundamental signal which can be ignored. 2. 10580 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5290	88.69	-	-	72.38	34.09	8.82	26.6	173	89	Peak
5290	81.61	-	-	65.3	34.09	8.82	26.6	173	89	Average
10580	39.88	-34.12	74	47	36.75	12.98	56.85	106	220	Peak
15870	46	-28	74	46.46	40.2	16.38	57.04	132	200	Peak



Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	106	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 5530 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5530	90.23	-	-	73.9	34	9.05	26.72	100	119	Peak
5530	82.26	-	-	65.93	34	9.05	26.72	100	119	Average
11060	40.01	-33.99	74	46.34	37.11	13.26	56.7	176	262	Peak

Test Mode :	802.11n VHT80	Temperature :	23~25°C
Test Channel :	106	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 5530 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5530	86.02	-	-	69.69	34	9.05	26.72	100	117	Peak
5530	78.51	-	-	62.18	34	9.05	26.72	100	117	Average
11060	40.22	-33.78	74	46.55	37.11	13.26	56.7	176	262	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

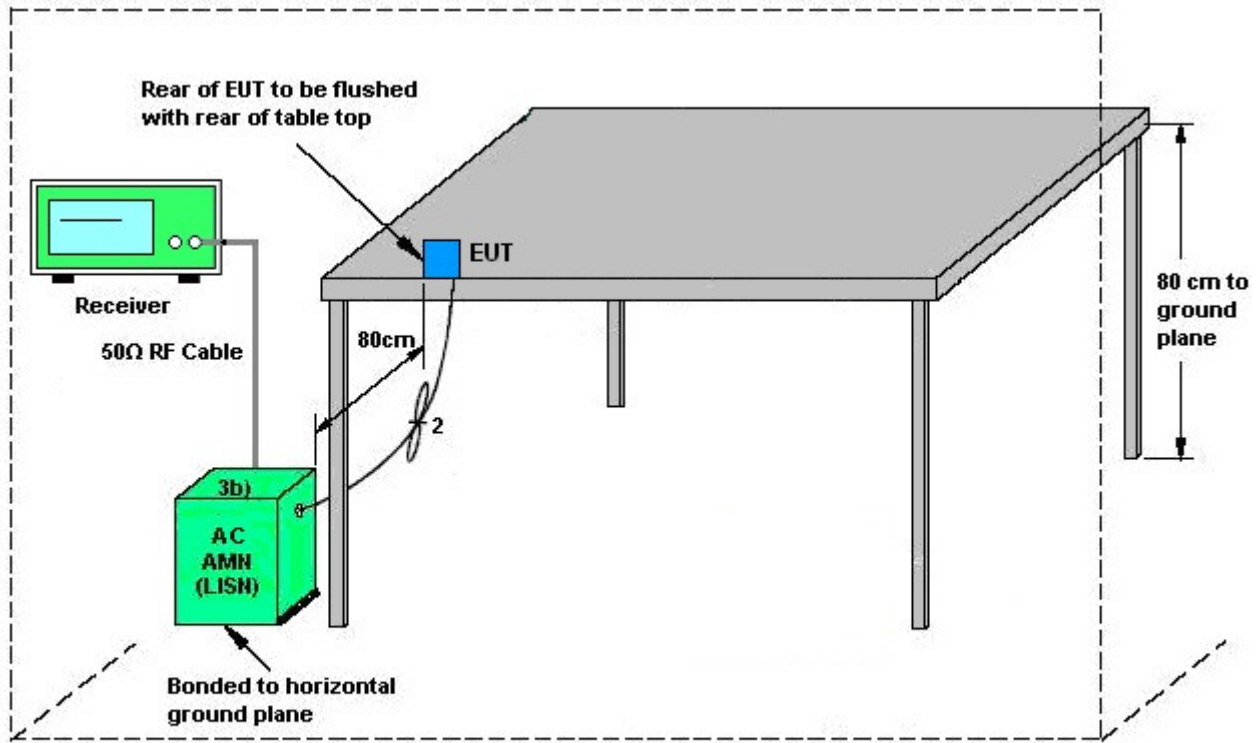
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup

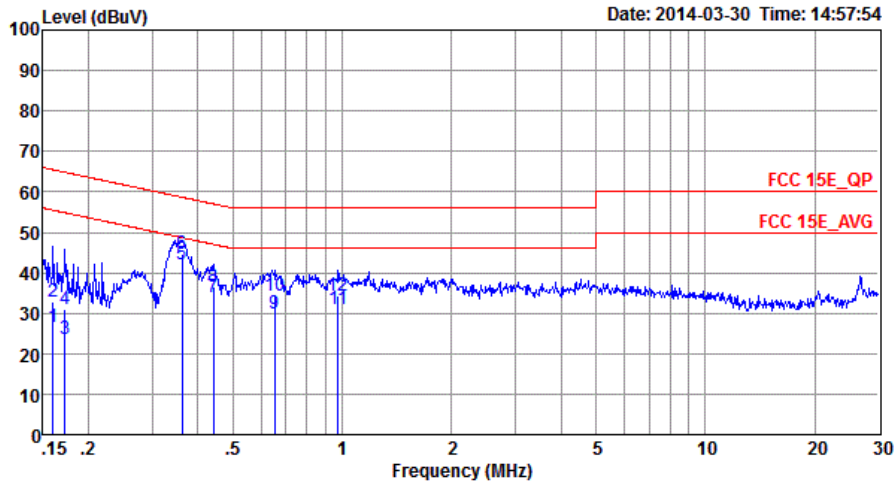


AMN = Artificial mains network (LISH)
 AE = Associated equipment
 EUT = Equipment under test
 ISN = Impedance stabilization network



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~22°C
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone		



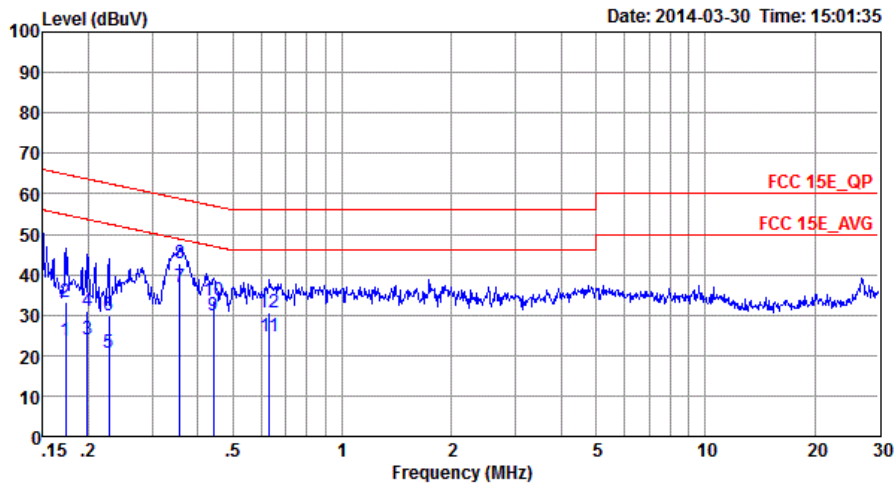
Site : C001-SZ
 Condition: FCC 15E_QP LISN_L_20140304 LINE

Mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	26.57	-28.90	55.47	16.00	0.22	10.35	Average
2	0.16	32.97	-32.50	65.47	22.40	0.22	10.35	QP
3	0.17	23.55	-31.31	54.86	13.00	0.22	10.33	Average
4	0.17	31.15	-33.71	64.86	20.60	0.22	10.33	QP
5 *	0.36	41.95	-6.74	48.69	31.50	0.27	10.18	Average
6	0.36	44.75	-13.94	58.69	34.30	0.27	10.18	QP
7	0.44	33.95	-13.07	47.02	23.50	0.29	10.16	Average
8	0.44	36.55	-20.47	57.02	26.10	0.29	10.16	QP
9	0.65	29.86	-16.14	46.00	19.50	0.21	10.15	Average
10	0.65	34.26	-21.74	56.00	23.90	0.21	10.15	QP
11	0.97	31.00	-15.00	46.00	20.60	0.25	10.15	Average
12	0.97	34.40	-21.60	56.00	24.00	0.25	10.15	QP



Test Mode :	Mode 1	Temperature :	21~22°C
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone		



Site : CO01-SZ
 Condition: FCC 15E_QP LISN_N_20140304 NEUTRAL

Mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	23.45	-31.36	54.81	12.79	0.33	10.33	Average
2	0.17	33.05	-31.76	64.81	22.39	0.33	10.33	QP
3	0.20	23.82	-29.85	53.67	13.20	0.32	10.30	Average
4	0.20	31.12	-32.55	63.67	20.50	0.32	10.30	QP
5	0.23	20.60	-31.92	52.52	10.01	0.33	10.26	Average
6	0.23	29.80	-32.72	62.52	19.21	0.33	10.26	QP
7 *	0.36	37.06	-11.72	48.78	26.50	0.38	10.18	Average
8	0.36	42.86	-15.92	58.78	32.30	0.38	10.18	QP
9	0.44	29.76	-17.26	47.02	19.20	0.40	10.16	Average
10	0.44	33.76	-23.26	57.02	23.20	0.40	10.16	QP
11	0.63	24.65	-21.35	46.00	14.20	0.30	10.15	Average
12	0.63	30.75	-25.25	56.00	20.30	0.30	10.15	QP

3.7 Frequency Stability Measurement

3.7.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

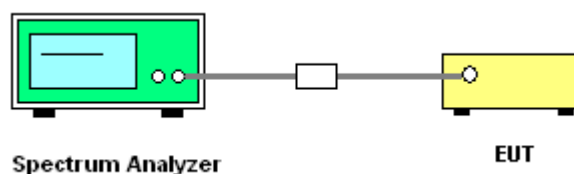
3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.7.4 Test Setup





3.7.5 Test Result of Frequency Stability

Test Band :	5GHz band 1,2,3	Test Engineer :	Fly Liang
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Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.6
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.2
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.8
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-10	3.8
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	55	3.8

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.6
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.2
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.8
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-10	3.8
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	55	3.8



Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.6
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	4.2
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.8
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	-10	3.8
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	55	3.8

Note:

1. Center Frequency = (Low Frequency + High Frequency) / 2.
2. The frequency band 5180-5240MHz which was verified by testing against other standard is less than 20 ppm which is sufficient to maintain the signal within the 5150-5250MHz band.

3.8 Automatically Discontinue Transmission

3.8.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.8.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



3.9 Antenna Requirements

3.9.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.9.2 Antenna Anti-Replacement Construction

Non-standard antenna connector is used.

3.9.3 Antenna Gain

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Mar. 03, 2014	Apr. 02, 2014~ May 12, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Jun. 17, 2013	Apr. 02, 2014~ May 12, 2014	Jun. 16, 2014	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	13dBm~-20dBm	Mar. 03, 2014	Apr. 02, 2014~ May 12, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA2411B	1207253	0.3GHz~40GHz	Mar. 03, 2014	Apr. 02, 2014~ May 12, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	May 13, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Signal Analyzer	R&S	FSV40	101078	10Hz~40GHz	Jun. 17, 2013	May 13, 2014	Jun. 16, 2014	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 29, 2013	May 13, 2014	May 28, 2014	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	23188	30MHz~2GHz	Oct. 26, 2013	May 13, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 26, 2013	May 13, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jan. 27, 2014	May 13, 2014	Jan. 26, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	May 13, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Agilent	83017A	MY39501302	3Hz~26.5GHz	Mar. 03, 2014	May 13, 2014	Mar. 02, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	May 13, 2014	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	May 13, 2014	NCR	Radiation (03CH01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Mar. 30, 2014~ Apr. 01, 2014	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Mar. 30, 2014~ Apr. 01, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Mar. 30, 2014~ Apr. 01, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	61602000089 1	100Vac~250Vac	Dec. 17, 2013	Mar. 30, 2014~ Apr. 01, 2014	Dec. 16, 2014	Conduction (CO01-SZ)



5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.90
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