

FCC RF Test Report

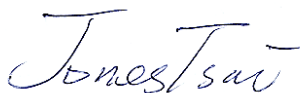
APPLICANT : DELL Inc.
EQUIPMENT : Tablet PC
BRAND NAME : Dell
MODEL NAME : T01C; T01C003
TYPE NAME : T01C003
FCC ID : E2K-T01C003
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Feb. 24, 2014 and testing was completed on May 23, 2014. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.



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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 3.05 dB at 5470.000 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 8.59 dB at 0.380 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	T01C; T01C003
Type Name	T01C003
FCC ID	E2K-T01C003
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/HT40/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
HW Version	P708-B1-BOT
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 : 12.96 dBm / 0.0198 W 802.11n HT20 : 12.29 dBm / 0.0169 W 802.11n HT40 : 13.16 dBm / 0.0207 W 802.11ac VHT20 : 12.46 dBm / 0.0176 W 802.11ac VHT40 : 13.16 dBm / 0.0207 W 802.11ac VHT80 : 13.29 dBm / 0.0213 W</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 11.82 dBm / 0.0152 W 802.11n HT20 : 12.05 dBm / 0.0160 W 802.11n HT40 : 12.61 dBm / 0.0182 W 802.11ac VHT20 : 11.72 dBm / 0.01486 W 802.11ac VHT40 : 12.03 dBm / 0.0160 W 802.11ac VHT80 : 12.55 dBm / 0.0180 W</p> <p><5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz > 802.11a : 12.34 dBm / 0.0171 W 802.11n HT20 : 10.29 dBm / 0.0107 W 802.11n HT40 : 10.82 dBm / 0.0121 W 802.11ac VHT20 : 10.40 dBm / 0.0110 W 802.11ac VHT40 : 10.15 dBm / 0.0104 W 802.11ac VHT80 : 10.45 dBm / 0.0111 W</p>
99% Occupied Bandwidth	<p><5180 MHz ~ 5240 MHz> 802.11a : 18.15 MHz 802.11n HT20 : 19.05 MHz 802.11n HT40 : 36.63 MHz 802.11ac VHT20: 18.95 MHz 802.11ac VHT40 : 36.72 MHz 802.11ac VHT80 : 75.96 MHz</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 18.20 MHz 802.11n HT20 : 19.05 MHz 802.11n HT40 : 36.72 MHz 802.11ac VHT20: 18.90 MHz 802.11ac VHT40 : 36.72 MHz 802.11ac VHT80 : 75.78 MHz</p> <p><5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz > 802.11a : 18.25 MHz 802.11n HT20 : 18.90 MHz 802.11n HT40 : 36.72 MHz 802.11ac VHT20: 18.95 MHz 802.11ac VHT40 : 36.72 MHz 802.11ac VHT80 : 75.96 MHz</p>



Antenna Type	IFA Antenna
Antenna Gain	5150 MHz ~ 5250 MHz : 2.10 dBi 5250 MHz ~ 5350 MHz : 2.00 dBi 5470 MHz ~ 5725 MHz : 2.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note: 5600 MHz ~ 5650 MHz is notched.

1.5 Modification of EUT

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

1.6 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH01-KS	03CH01-KS	CO01-KS	149928/4086E-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.

5GHz 802.11a RF Output Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	Data Rate	Channel	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
		6Mbps								
CH 36	5180	11.64	CH 48	12.32	12.15	12.11	12.09	11.86	11.94	11.53
CH 44	5220	11.84								
CH 48	5240	12.96								
CH 52	5260	11.72	CH 64	11.78	11.72	11.66	11.66	11.71	11.81	11.59
CH 60	5300	11.62								
CH 64	5320	11.82								
CH 100	5500	12.34	CH 100	12.27	12.33	12.16	12.01	12.17	12.14	11.99
CH 116	5580	12.31								
CH 140	5700	11.92								

5GHz 802.11n HT20 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
		MCS0								
CH 36	5180	12.02	CH 48	12.01	12.09	11.99	12.20	12.16	12.19	11.71
CH 44	5220	12.05								
CH 48	5240	12.29								
CH 52	5260	11.99	CH 64	11.90	11.88	11.80	11.98	12.01	11.91	11.43
CH 60	5300	11.94								
CH 64	5320	12.05								
CH 100	5500	10.29	CH 100	10.11	10.08	10.19	10.10	10.23	10.18	10.28
CH 116	5580	10.03								
CH 140	5700	6.58								



5GHz 802.11n HT40 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
		MCS0								
CH 38	5190	10.78	CH 46	12.54	12.72	12.52	12.73	12.90	12.81	12.82
CH 46	5230	13.16								
CH 54	5270	12.36	CH 62	12.45	12.46	12.32	12.39	12.47	12.54	12.54
CH 62	5310	12.61								
CH 102	5510	7.06	CH 134	10.76	10.70	10.72	10.75	10.67	10.73	10.71
CH 110	5550	10.44								
CH 134	5670	10.82								

5GHz 802.11ac VHT20 RF Output Power (dBm)											
Power vs. Channel			Power vs. MCS Index								
Channel	Frequency (MHz)	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
		MCS0									
CH 36	5180	12.29	CH 48	12.16	12.21	12.28	12.35	12.43	12.34	12.24	12.29
CH 44	5220	12.19									
CH 48	5240	12.46									
CH 52	5260	11.72	CH 52	11.40	11.35	11.18	11.06	10.70	10.33	10.12	10.12
CH 60	5300	11.68									
CH 64	5320	11.71									
CH 100	5500	10.40	CH 100	10.22	10.32	10.34	10.22	10.24	10.13	10.05	10.11
CH 116	5580	10.29									
CH 140	5700	6.65									



5GHz 802.11ac VHT40 RF Output Power (dBm)												
Power vs. Channel			Power vs. MCS Index									
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 38	5190MHz	12.84	CH 46	12.65	12.86	12.73	12.75	12.96	12.93	12.85	12.95	12.83
CH 46	5230MHz	13.16										
CH 54	5270MHz	11.91	CH 62	11.92	11.96	11.49	11.72	11.81	11.77	11.67	11.74	11.56
CH 62	5310MHz	12.03										
CH 102	5510MHz	6.83	CH 134	9.79	9.66	9.64	9.71	9.62	9.62	9.83	9.82	9.61
CH 110	5550MHz	10.03										
CH 134	5670MHz	10.15										

5GHz 802.11ac VHT80 RF Output Power (dBm)												
Power vs. Channel			Power vs. MCS Index									
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 42	5210	13.29	CH 42	12.46	12.73	12.55	12.89	12.84	12.67	12.74	12.67	12.64
CH 58	5290	12.55	CH 58	12.54	12.40	12.12	12.48	12.40	12.40	12.51	12.31	12.48
CH 106	5530	10.45	CH 106	10.37	10.42	10.43	10.41	10.44	10.26	10.36	10.30	10.42

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	M
Frequency Stability	802.11a	6 Mbps	L/M/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 VHT20	MCS0	L/H
		802.11ac VHT40	MCS0	L/H
		802.11ac VHT80	MCS0	M
	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 VHT20	MCS0	L/M/H
		802.11ac VHT40	MCS0	L/M/H
		802.11ac VHT80	MCS0	M
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link (5G) + 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

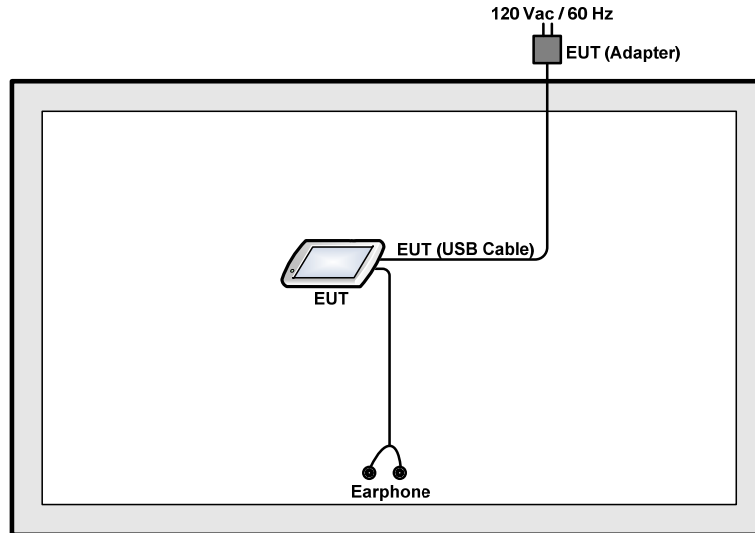


Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

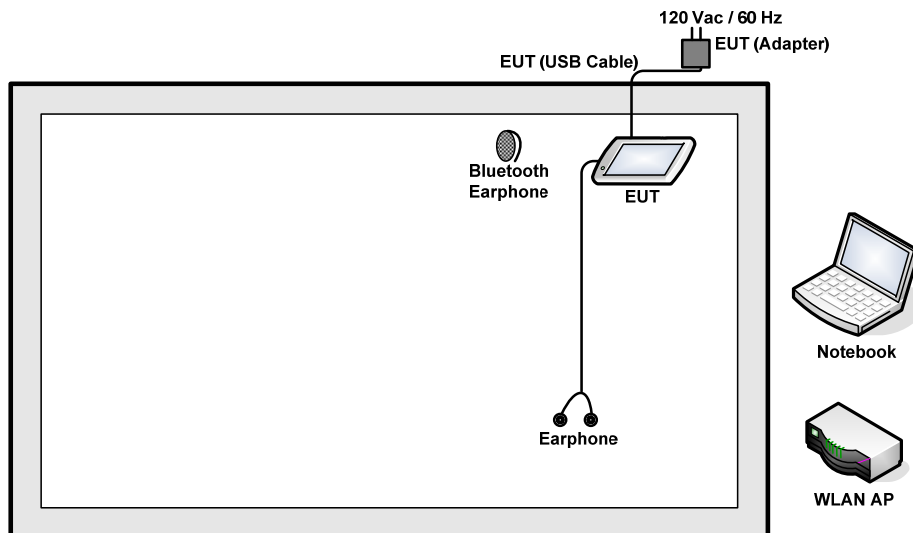
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

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-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Nokia	BH-106	QTLBH-106	N/A	N/A
3.	Notebook	Acer	MS2204	QDS-BRCM1018	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
4.	Earphone	Lenovo	SH100	FCC DOC	Unshielded, 1.0 m	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 7.3 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 7.3 + 10 = 17.3 \text{ (dB)} \end{aligned}$$

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.

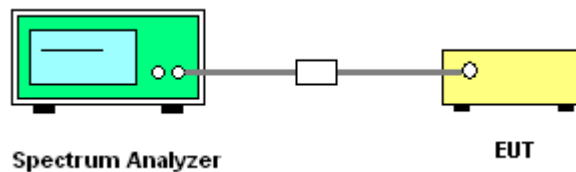
3.1.2 Measuring Instruments

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 :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	21.65	22.58	16.99
11a	6Mbps	1	44	5220	18.15	21.75	22.59	16.99
11a	6Mbps	1	48	5240	18.15	21.80	22.59	16.99
HT20	MCS0	1	36	5180	19.05	21.80	22.80	16.99
HT20	MCS0	1	44	5220	18.95	21.90	22.78	16.99
HT20	MCS0	1	48	5240	18.95	22.05	22.78	16.99
HT40	MCS0	1	38	5190	36.63	41.31	23.01	16.99
HT40	MCS0	1	46	5230	36.63	41.49	23.01	16.99
VHT20	MCS0	1	36	5180	18.85	21.90	22.75	16.99
VHT20	MCS0	1	44	5220	18.95	21.75	22.78	16.99
VHT20	MCS0	1	48	5240	18.95	21.95	22.78	16.99
VHT40	MCS0	1	38	5190	36.72	41.22	23.01	16.99
VHT40	MCS0	1	46	5230	36.63	41.58	23.01	16.99
VHT80	MCS0	1	42	5210	75.96	81.54	23.01	16.99



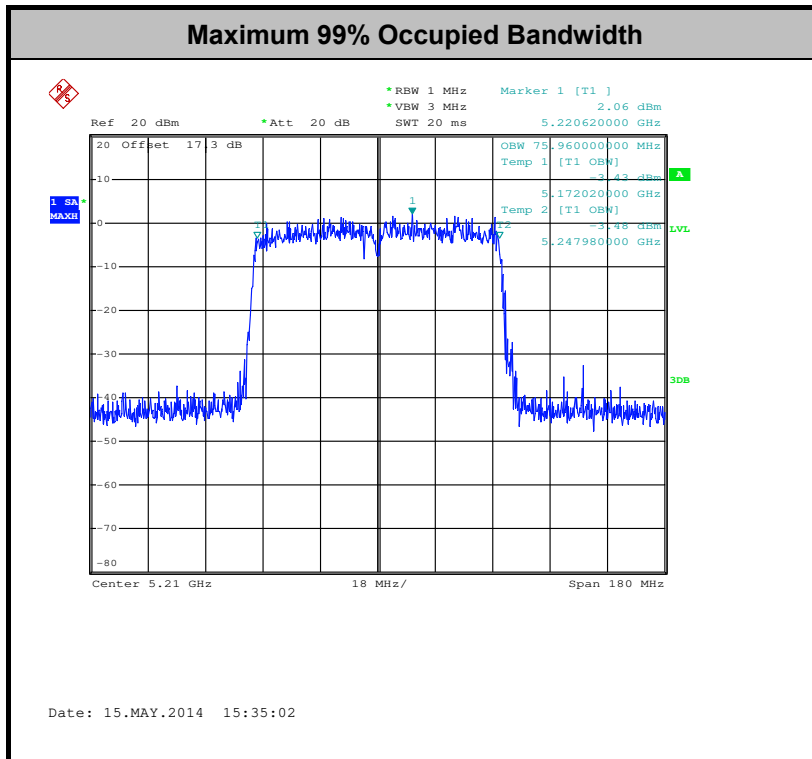
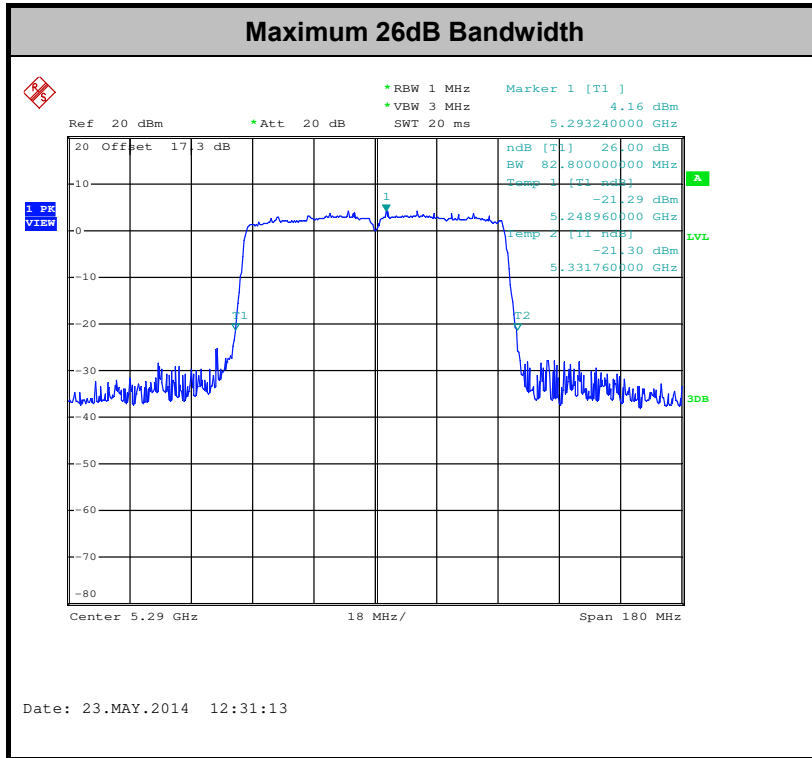
Test Band :	5GHz band 2	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	18.15	21.75	29.59	23.98
11a	6Mbps	1	60	5300	18.15	21.75	29.59	23.98
11a	6Mbps	1	64	5320	18.20	21.70	29.60	23.98
HT20	MCS0	1	52	5260	18.95	21.90	29.78	23.98
HT20	MCS0	1	60	5300	19.00	22.05	29.79	23.98
HT20	MCS0	1	64	5320	19.05	21.90	29.80	23.98
HT40	MCS0	1	54	5270	36.63	41.49	30.00	23.98
HT40	MCS0	1	62	5310	36.72	41.58	30.00	23.98
VHT20	MCS0	1	52	5260	18.90	21.70	29.76	23.98
VHT20	MCS0	1	60	5300	18.90	21.90	29.76	23.98
VHT20	MCS0	1	64	5320	18.70	21.70	29.72	23.98
VHT40	MCS0	1	54	5270	36.63	39.42	30.00	23.98
VHT40	MCS0	1	62	5310	36.72	39.87	30.00	23.98
VHT80	MCS0	1	58	5290	75.78	82.80	30.00	23.98



Test Band :	5GHz band 3	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	18.15	21.80	29.59	23.98
11a	6Mbps	1	116	5580	18.05	21.70	29.56	23.98
11a	6Mbps	1	140	5700	18.25	21.75	29.61	23.98
HT20	MCS0	1	100	5500	18.90	22.05	29.76	23.98
HT20	MCS0	1	116	5580	18.90	21.90	29.76	23.98
HT20	MCS0	1	140	5700	18.90	21.85	29.76	23.98
HT40	MCS0	1	102	5510	36.72	41.49	30.00	23.98
HT40	MCS0	1	110	5550	36.63	41.49	30.00	23.98
HT40	MCS0	1	134	5670	36.63	41.40	30.00	23.98
VHT20	MCS0	1	100	5500	18.95	21.85	29.78	23.98
VHT20	MCS0	1	116	5580	18.95	21.90	29.78	23.98
VHT20	MCS0	1	140	5700	18.95	21.90	29.78	23.98
VHT40	MCS0	1	102	5510	36.72	41.58	30.00	23.98
VHT40	MCS0	1	110	5550	36.63	41.31	30.00	23.98
VHT40	MCS0	1	134	5670	36.63	41.67	30.00	23.98
VHT80	MCS0	1	106	5530	75.96	82.08	30.00	23.98



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



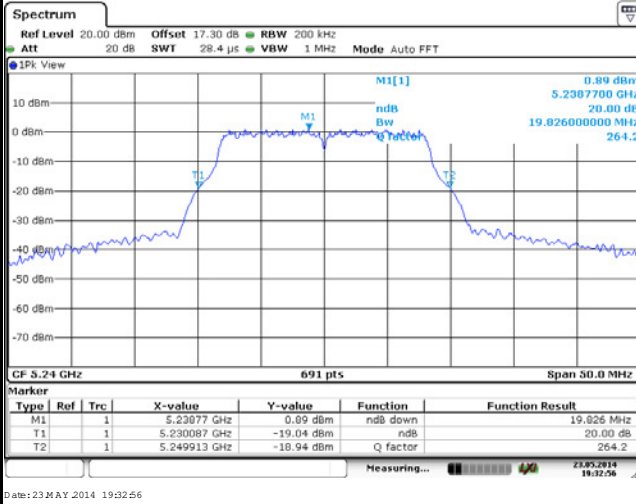
3.1.6 Test Result of 20dB Occupied Bandwidth

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	20dB Bandwidth (MHz)	20dB Bandwidth Upper Frequency (FH) (MHz)	Upper Limit Line (MHz)	Pass/Fail
11a	6Mbps	1	48	5240	19.83	5249.91	5250	Pass
HT20	MCS0	1	48	5240	19.90	5249.99		Pass
HT40	MCS0	1	46	5230	38.93	5249.39		Pass
VHT20	MCS0	1	48	5240	19.61	5249.91		Pass
VHT40	MCS0	1	46	5230	38.49	5249.39		Pass
VHT80	MCS0	1	42	5210	79.42	5249.83		Pass

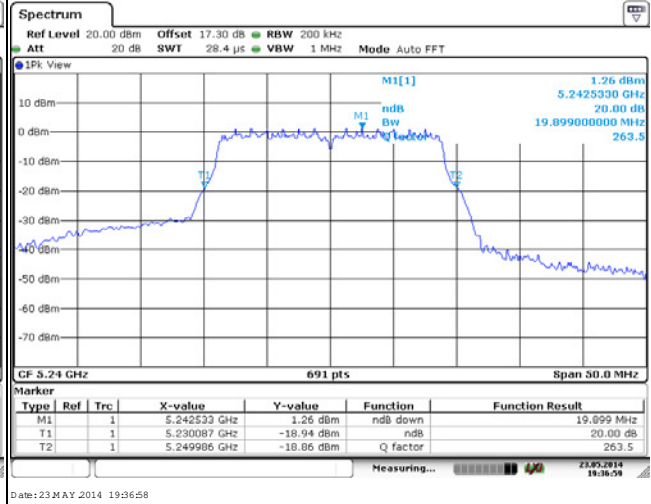


20dB Occupied Bandwidth

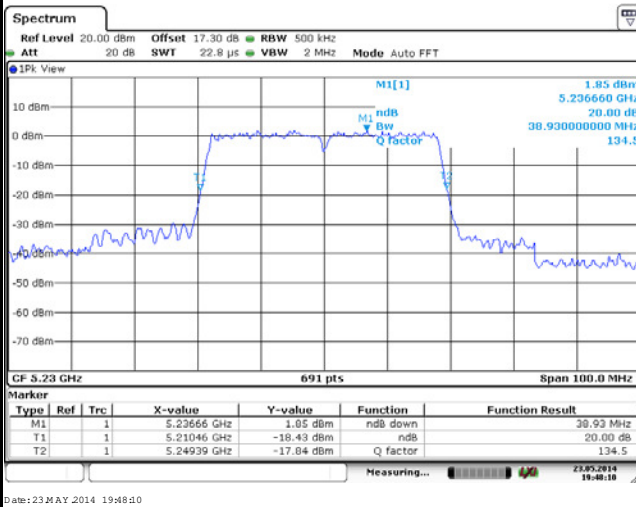
802.11a CH48 5240MHz



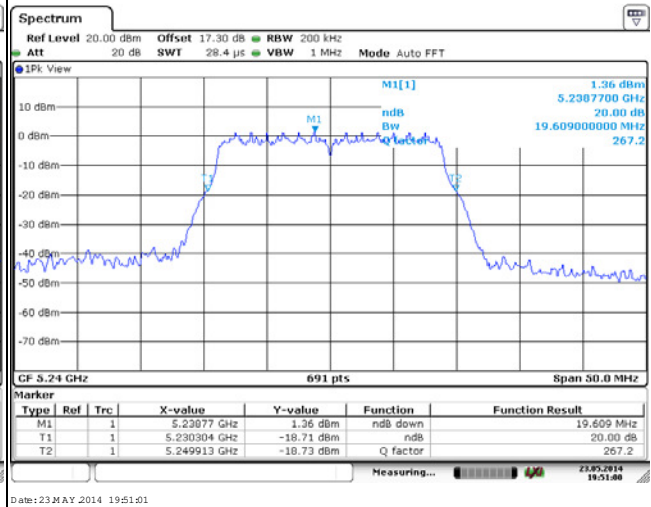
802.11n HT20 CH48 5240MHz

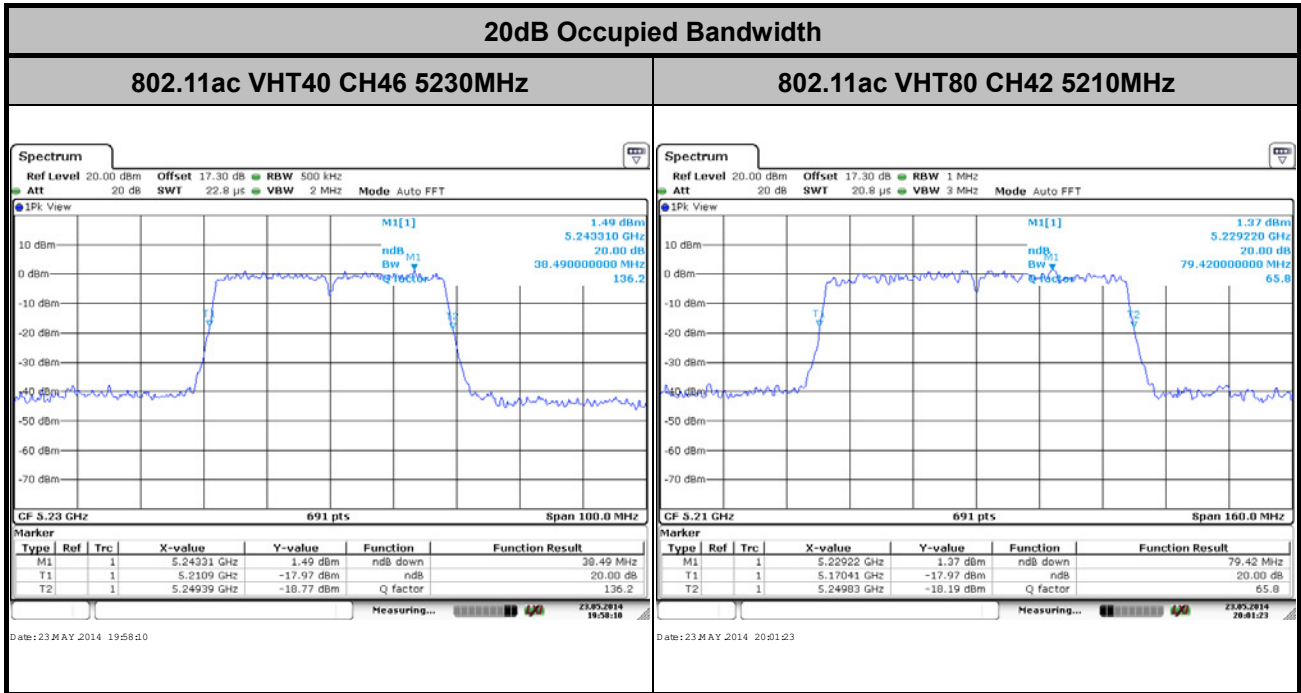


802.11n HT40 CH46 5230MHz



802.11ac VHT20 CH48 5240MHz





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.

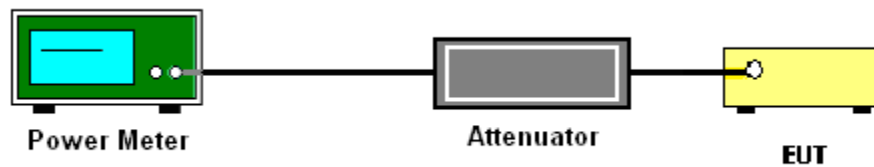
3.2.3 Test Procedures

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 :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	0.27	11.64	16.99	2.10		Pass
11a	6Mbps	1	44	5220	0.27	11.84	16.99	2.10		Pass
11a	6Mbps	1	48	5240	0.27	12.96	16.99	2.10		Pass
HT20	MCS0	1	36	5180	0.31	12.02	16.99	2.10		Pass
HT20	MCS0	1	44	5220	0.31	12.05	16.99	2.10		Pass
HT20	MCS0	1	48	5240	0.31	12.29	16.99	2.10		Pass
HT40	MCS0	1	38	5190	0.63	10.78	16.99	2.10		Pass
HT40	MCS0	1	46	5230	0.63	13.16	16.99	2.10		Pass
VHT20	MCS0	1	36	5180	0.31	12.29	16.99	2.10		Pass
VHT20	MCS0	1	44	5220	0.31	12.19	16.99	2.10		Pass
VHT20	MCS0	1	48	5240	0.31	12.46	16.99	2.10		Pass
VHT40	MCS0	1	38	5190	0.62	12.84	16.99	2.10		Pass
VHT40	MCS0	1	46	5230	0.62	13.16	16.99	2.10		Pass
VHT80	MCS0	1	42	5210	1.14	13.29	16.99	2.10		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	0.27	11.64	-	2.10	22.58	Pass
11a	6Mbps	1	44	5220	0.27	11.84	-	2.10	22.59	Pass
11a	6Mbps	1	48	5240	0.27	12.96	-	2.10	22.59	Pass
HT20	MCS0	1	36	5180	0.31	12.02	-	2.10	22.80	Pass
HT20	MCS0	1	44	5220	0.31	12.05	-	2.10	22.78	Pass
HT20	MCS0	1	48	5240	0.31	12.29	-	2.10	22.78	Pass
HT40	MCS0	1	38	5190	0.63	10.78	-	2.10	23.01	Pass
HT40	MCS0	1	46	5230	0.63	13.16	-	2.10	23.01	Pass
VHT20	MCS0	1	36	5180	0.31	12.29	-	2.10	22.75	Pass
VHT20	MCS0	1	44	5220	0.31	12.19	-	2.10	22.78	Pass
VHT20	MCS0	1	48	5240	0.31	12.46	-	2.10	22.78	Pass
VHT40	MCS0	1	38	5190	0.62	12.84	-	2.10	23.01	Pass
VHT40	MCS0	1	46	5230	0.62	13.16	-	2.10	23.01	Pass
VHT80	MCS0	1	42	5210	1.14	13.29	-	2.10	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 :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	0.27	11.72	23.98	2.00		Pass
11a	6Mbps	1	60	5300	0.27	11.62	23.98	2.00		Pass
11a	6Mbps	1	64	5320	0.27	11.82	23.98	2.00		Pass
HT20	MCS0	1	52	5260	0.31	11.99	23.98	2.00		Pass
HT20	MCS0	1	60	5300	0.31	11.94	23.98	2.00		Pass
HT20	MCS0	1	64	5320	0.31	12.05	23.98	2.00		Pass
HT40	MCS0	1	54	5270	0.63	12.36	23.98	2.00		Pass
HT40	MCS0	1	62	5310	0.63	12.61	23.98	2.00		Pass
VHT20	MCS0	1	52	5260	0.31	11.72	23.98	2.00		Pass
VHT20	MCS0	1	60	5300	0.31	11.68	23.98	2.00		Pass
VHT20	MCS0	1	64	5320	0.31	11.71	23.98	2.00		Pass
VHT40	MCS0	1	54	5270	0.62	11.91	23.98	2.00		Pass
VHT40	MCS0	1	62	5310	0.62	12.03	23.98	2.00		Pass
VHT80	MCS0	1	58	5290	1.14	12.55	23.98	2.00		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	0.27	11.72	23.59	2.00	29.59	Pass
11a	6Mbps	1	60	5300	0.27	11.62	23.59	2.00	29.59	Pass
11a	6Mbps	1	64	5320	0.27	11.82	23.60	2.00	29.60	Pass
HT20	MCS0	1	52	5260	0.31	11.99	23.78	2.00	29.78	Pass
HT20	MCS0	1	60	5300	0.31	11.94	23.79	2.00	29.79	Pass
HT20	MCS0	1	64	5320	0.31	12.05	23.80	2.00	29.80	Pass
HT40	MCS0	1	54	5270	0.63	12.36	23.98	2.00	30.00	Pass
HT40	MCS0	1	62	5310	0.63	12.61	23.98	2.00	30.00	Pass
VHT20	MCS0	1	52	5260	0.31	11.72	23.76	2.00	29.76	Pass
VHT20	MCS0	1	60	5300	0.31	11.68	23.76	2.00	29.76	Pass
VHT20	MCS0	1	64	5320	0.31	11.71	23.72	2.00	29.72	Pass
VHT40	MCS0	1	54	5270	0.62	11.91	23.98	2.00	30.00	Pass
VHT40	MCS0	1	62	5310	0.62	12.03	23.98	2.00	30.00	Pass
VHT80	MCS0	1	58	5290	1.14	12.55	23.98	2.00	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 :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	0.27	12.34	23.98	2.00	Pass
11a	6Mbps	1	116	5580	0.27	12.31	23.98	2.00	Pass
11a	6Mbps	1	140	5700	0.27	11.92	23.98	2.00	Pass
HT20	MCS0	1	100	5500	0.31	10.29	23.98	2.00	Pass
HT20	MCS0	1	116	5580	0.31	10.03	23.98	2.00	Pass
HT20	MCS0	1	140	5700	0.31	6.58	23.98	2.00	Pass
HT40	MCS0	1	102	5510	0.63	7.06	23.98	2.00	Pass
HT40	MCS0	1	110	5550	0.63	10.44	23.98	2.00	Pass
HT40	MCS0	1	134	5670	0.63	10.82	23.98	2.00	Pass
VHT20	MCS0	1	100	5500	0.31	10.40	23.98	2.00	Pass
VHT20	MCS0	1	116	5580	0.31	10.29	23.98	2.00	Pass
VHT20	MCS0	1	140	5700	0.31	6.65	23.98	2.00	Pass
VHT40	MCS0	1	102	5510	0.62	6.83	23.98	2.00	Pass
VHT40	MCS0	1	110	5550	0.62	10.03	23.98	2.00	Pass
VHT40	MCS0	1	134	5670	0.62	10.15	23.98	2.00	Pass
VHT80	MCS0	1	106	5530	1.14	10.45	23.98	2.00	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	0.27	12.34	23.59	2.00	29.59	Pass
11a	6Mbps	1	116	5580	0.27	12.31	23.56	2.00	29.56	Pass
11a	6Mbps	1	140	5700	0.27	11.92	23.61	2.00	29.61	Pass
HT20	MCS0	1	100	5500	0.31	10.29	23.76	2.00	29.76	Pass
HT20	MCS0	1	116	5580	0.31	10.03	23.76	2.00	29.76	Pass
HT20	MCS0	1	140	5700	0.31	6.58	23.76	2.00	29.76	Pass
HT40	MCS0	1	102	5510	0.63	7.06	23.98	2.00	30.00	Pass
HT40	MCS0	1	110	5550	0.63	10.44	23.98	2.00	30.00	Pass
HT40	MCS0	1	134	5670	0.63	10.82	23.98	2.00	30.00	Pass
VHT20	MCS0	1	100	5500	0.31	10.40	23.78	2.00	29.78	Pass
VHT20	MCS0	1	116	5580	0.31	10.29	23.78	2.00	29.78	Pass
VHT20	MCS0	1	140	5700	0.31	6.65	23.78	2.00	29.78	Pass
VHT40	MCS0	1	102	5510	0.62	6.83	23.98	2.00	30.00	Pass
VHT40	MCS0	1	110	5550	0.62	10.03	23.98	2.00	30.00	Pass
VHT40	MCS0	1	134	5670	0.62	10.15	23.98	2.00	30.00	Pass
VHT80	MCS0	1	106	5530	1.14	10.45	23.98	2.00	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).

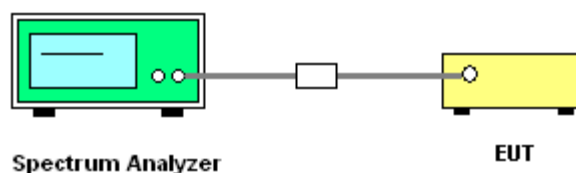
Note: Though the rule refers to “peak power spectral density”, the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

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 :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

Mod.	Data Rate	N _{TX}	CH	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	EIRP PSD Limit (dBm)	Pass/Fail
11a	6Mbps	1	36	5180	0.27	-0.83	4.00	2.10	10	Pass
11a	6Mbps	1	44	5220	0.27	-0.51	4.00	2.10	10	Pass
11a	6Mbps	1	48	5240	0.27	-0.59	4.00	2.10	10	Pass
HT20	MCS0	1	36	5180	0.31	-1.30	4.00	2.10	10	Pass
HT20	MCS0	1	44	5220	0.31	-0.82	4.00	2.10	10	Pass
HT20	MCS0	1	48	5240	0.31	-1.04	4.00	2.10	10	Pass
HT40	MCS0	1	38	5190	0.63	-4.24	4.00	2.10	10	Pass
HT40	MCS0	1	46	5230	0.63	-2.67	4.00	2.10	10	Pass
VHT20	MCS0	1	36	5180	0.31	-0.56	4.00	2.10	10	Pass
VHT20	MCS0	1	44	5220	0.31	-0.42	4.00	2.10	10	Pass
VHT20	MCS0	1	48	5240	0.31	-0.59	4.00	2.10	10	Pass
VHT40	MCS0	1	38	5190	0.62	-3.96	4.00	2.10	10	Pass
VHT40	MCS0	1	46	5230	0.62	-2.86	4.00	2.10	10	Pass
VHT80	MCS0	1	42	5210	1.14	-5.64	4.00	2.10	10	Pass



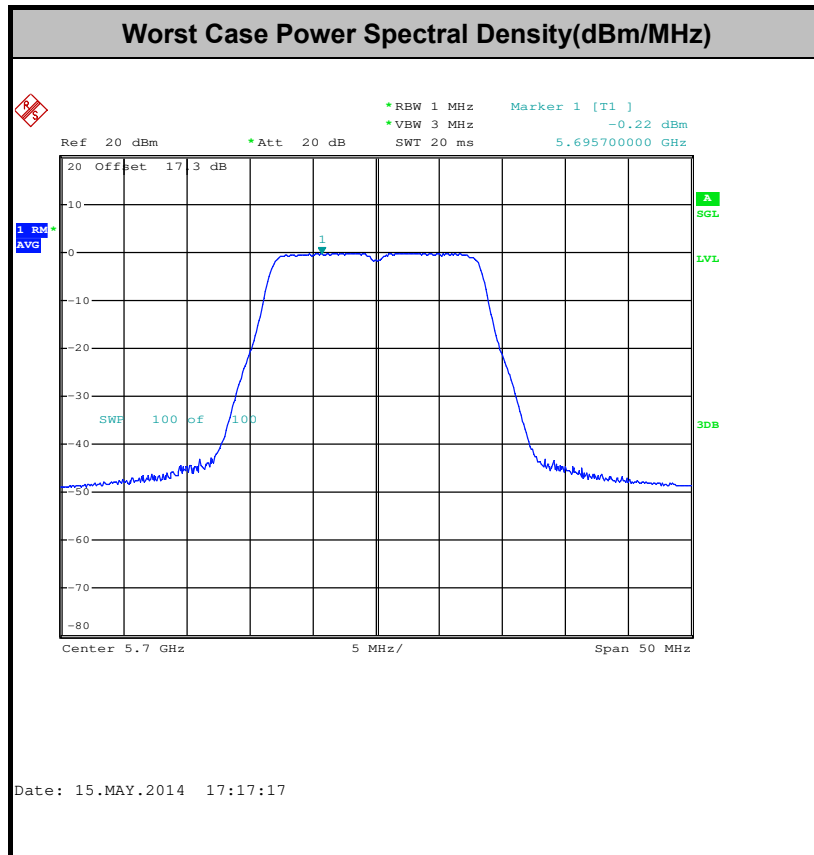
Test Band :	5GHz band 2	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	0.27	-0.28	11.00	2.00	Pass
11a	6Mbps	1	60	5300	0.27	-0.13	11.00	2.00	Pass
11a	6Mbps	1	64	5320	0.27	-0.07	11.00	2.00	Pass
HT20	MCS0	1	52	5260	0.31	-0.61	11.00	2.00	Pass
HT20	MCS0	1	60	5300	0.31	-0.24	11.00	2.00	Pass
HT20	MCS0	1	64	5320	0.31	-0.10	11.00	2.00	Pass
HT40	MCS0	1	54	5270	0.63	-2.87	11.00	2.00	Pass
HT40	MCS0	1	62	5310	0.63	-2.91	11.00	2.00	Pass
VHT20	MCS0	1	52	5260	0.31	-0.68	11.00	2.00	Pass
VHT20	MCS0	1	60	5300	0.31	-0.81	11.00	2.00	Pass
VHT20	MCS0	1	64	5320	0.31	-0.33	11.00	2.00	Pass
VHT40	MCS0	1	54	5270	0.62	-2.99	11.00	2.00	Pass
VHT40	MCS0	1	62	5310	0.62	-2.72	11.00	2.00	Pass
VHT80	MCS0	1	58	5290	1.14	-5.96	11.00	2.00	Pass



Test Band :	5GHz band 3	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	0.27	-0.27	11.00	2.00	Pass
11a	6Mbps	1	116	5580	0.27	-0.63	11.00	2.00	Pass
11a	6Mbps	1	140	5700	0.27	0.05	11.00	2.00	Pass
HT20	MCS0	1	100	5500	0.31	-1.50	11.00	2.00	Pass
HT20	MCS0	1	116	5580	0.31	-1.79	11.00	2.00	Pass
HT20	MCS0	1	140	5700	0.31	-4.64	11.00	2.00	Pass
HT40	MCS0	1	102	5510	0.63	-7.52	11.00	2.00	Pass
HT40	MCS0	1	110	5550	0.63	-4.04	11.00	2.00	Pass
HT40	MCS0	1	134	5670	0.63	-3.88	11.00	2.00	Pass
VHT20	MCS0	1	100	5500	0.31	-1.45	11.00	2.00	Pass
VHT20	MCS0	1	116	5580	0.31	-1.88	11.00	2.00	Pass
VHT20	MCS0	1	140	5700	0.31	-4.79	11.00	2.00	Pass
VHT40	MCS0	1	102	5510	0.62	-3.86	11.00	2.00	Pass
VHT40	MCS0	1	110	5550	0.62	-3.96	11.00	2.00	Pass
VHT40	MCS0	1	134	5670	0.62	-3.94	11.00	2.00	Pass
VHT80	MCS0	1	106	5530	1.14	-5.76	11.00	2.00	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.

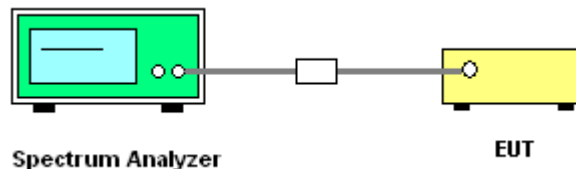
3.4.3 Test Procedures

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

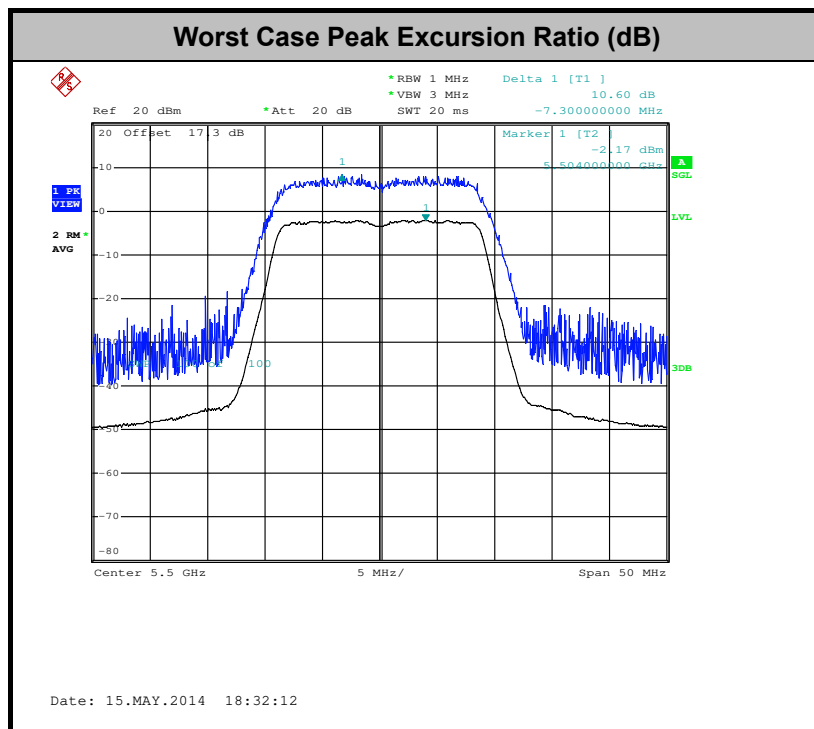


3.4.5 Test Result of Peak Excursion Ratio

Test Band :	5GHz band 3	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

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	8.71	8.64	8.42	8.97	-	13	Pass
HT20	MCS0	1	100	5500	9.52	10.02	9.85	9.69	-	13	Pass
HT40	MCS0	1	102	5510	8.68	10.01	9.91	8.80	-	13	Pass
VHT20	MCS0	1	100	5500	9.61	9.30	9.23	9.61	9.36	13	Pass
VHT40	MCS0	1	102	5510	8.99	9.36	9.45	9.17	9.03	13	Pass
VHT80	MCS0	1	106	5530	9.05	9.35	8.90	7.58	7.88	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: 0.58 dB



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 Part 15.205.

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 -27 dBm/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 5650-5725 MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725 MHz 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.

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

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

(3) 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

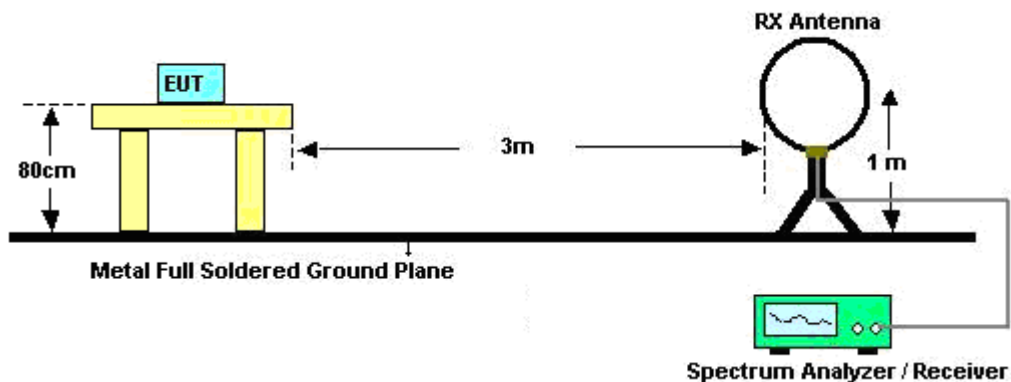
- The setting follows H) 6) of FCC KDB 789033.
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control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

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	93.96	1.43	0.70	1kHz
802.11n HT20	93.06	1.34	0.75	1kHz
802.11n HT40	86.53	0.67	1.50	3kHz
802.11n VHT20	93.10	1.35	0.74	1kHz
802.11n VHT40	86.60	0.67	1.49	3kHz
802.11n VHT80	76.96	0.33	2.99	3kHz

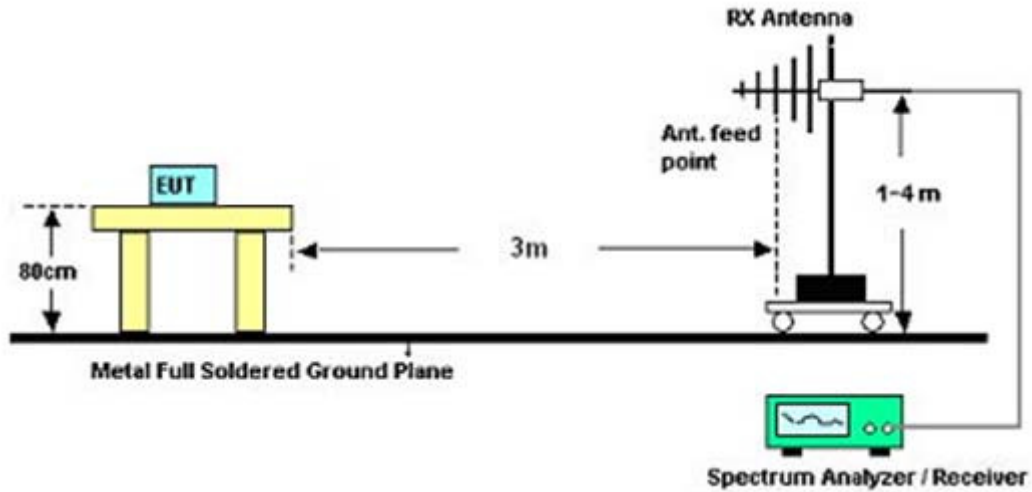
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters 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

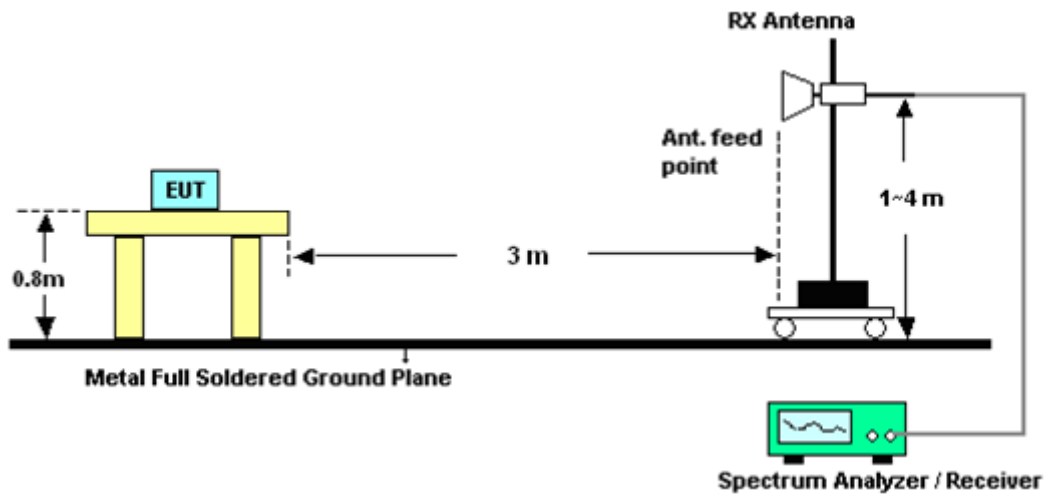
For radiated emissions below 30MHz



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 :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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	64.24	-9.76	74	57.38	35.25	5.38	33.77	100	278	Peak
5138.50	42.07	-11.93	54	35.23	35.24	5.38	33.78	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
5147.25	59.61	-14.39	74	52.75	35.25	5.38	33.77	100	25	Peak
5147.95	40.53	-13.47	54	33.67	35.25	5.38	33.77	100	25	Average

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5350.20	62.33	-11.67	74	55.29	35.32	5.45	33.73	100	333	Peak
5398.85	42.26	-11.74	54	35.17	35.35	5.46	33.72	100	333	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
5350.10	58.66	-15.34	74	51.62	35.32	5.45	33.73	100	12	Peak
5392.35	40.31	-13.69	54	33.24	35.34	5.45	33.72	100	12	Average



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5466.24	61.9	-6.40	68.3	54.75	35.39	5.47	33.71	115	276	Peak

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
5469.12	55.65	-12.65	68.3	48.5	35.39	5.47	33.71	100	318	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5725.16	69.75	-4.25	74	62.28	35.52	5.65	33.7	100	280	Peak
5725.16	46.2	-7.80	54	38.73	35.52	5.65	33.7	100	280	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
5725.16	63.13	-10.87	74	55.66	35.52	5.65	33.7	100	23	Peak
5731.48	42.14	-11.86	54	34.67	35.52	5.65	33.7	100	23	Average



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5149.50	67.40	-6.60	74	60.54	35.25	5.38	33.77	100	277	Peak
5142.10	42.38	-11.62	54	35.52	35.25	5.38	33.77	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
5150.00	62.54	-11.46	74	55.68	35.25	5.38	33.77	100	357	Peak
5144.25	40.47	-13.53	54	33.61	35.25	5.38	33.77	100	357	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5350.15	64.51	-9.49	74	57.47	35.32	5.45	33.73	100	333	Peak
5397.15	42.40	-11.60	54	35.31	35.35	5.46	33.72	100	333	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
5350.10	61.59	-12.41	74	54.55	35.32	5.45	33.73	100	11	Peak
5391.50	40.79	-13.21	54	33.72	35.34	5.45	33.72	100	11	Average



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5469.92	70.22	-3.78	74	63.07	35.39	5.47	33.71	117	286	Peak
5469.84	44.56	-9.44	54	37.41	35.39	5.47	33.71	117	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
5465.44	63.48	-10.52	74	56.33	35.39	5.47	33.71	100	338	Peak
5468.24	41.25	-12.75	54	34.1	35.39	5.47	33.71	100	338	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5725.00	69.69	-4.31	74	62.22	35.52	5.65	33.7	100	279	Peak
5730.20	43.90	-10.1	54	36.43	35.52	5.65	33.7	100	279	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
5726.76	61.75	-12.25	74	54.28	35.52	5.65	33.7	100	337	Peak
5729.96	41.08	-12.92	54	33.61	35.52	5.65	33.7	100	337	Average



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5149.55	69.67	-4.33	74	62.81	35.25	5.38	33.77	100	244	Peak
5149.95	46.78	-7.22	54	39.92	35.25	5.38	33.77	100	244	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
5149.10	65.75	-8.25	74	58.89	35.25	5.38	33.77	100	14	Peak
5148.35	44.26	-9.74	54	37.4	35.25	5.38	33.77	100	14	Average

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5350.15	69.08	-4.92	74	62.04	35.32	5.45	33.73	100	332	Peak
5350.05	45.69	-8.31	54	38.65	35.32	5.45	33.73	100	332	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
5350.10	64.61	-9.39	74	57.57	35.32	5.45	33.73	100	10	Peak
5350.20	43.22	-10.78	54	36.18	35.32	5.45	33.73	100	10	Average



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5469.84	70.18	-3.82	74	63.03	35.39	5.47	33.71	102	274	Peak
5469.84	46.12	-7.88	54	38.97	35.39	5.47	33.71	102	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
5465.2	61.33	-12.67	74	54.18	35.39	5.47	33.71	100	338	Peak
5468.16	41.85	-12.15	54	34.7	35.39	5.47	33.71	100	338	Average

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5727.72	68.39	-5.61	74	60.92	35.52	5.65	33.7	100	279	Peak
5728.68	46.5	-7.50	54	39.03	35.52	5.65	33.7	100	279	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
5727.80	60.4	-13.60	74	52.93	35.52	5.65	33.7	100	340	Peak
5730.92	42.14	-11.86	54	34.67	35.52	5.65	33.7	100	340	Average



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5149.75	67.41	-6.59	74	60.55	35.25	5.38	33.77	100	290	Peak
5143.95	42.09	-11.91	54	35.23	35.25	5.38	33.77	100	290	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
5149.20	65.39	-8.61	74	58.53	35.25	5.38	33.77	100	15	Peak
5148.95	41.11	-12.89	54	34.25	35.25	5.38	33.77	100	15	Average

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5350.50	68.34	-5.66	74	61.30	35.32	5.45	33.73	100	334	Peak
5397.20	43.10	-10.90	54	36.01	35.35	5.46	33.72	100	334	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
5350.10	64.59	-9.41	74	57.55	35.32	5.45	33.73	100	10	Peak
5350.00	40.97	-13.03	54	33.93	35.32	5.45	33.73	100	10	Average



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5466.00	70.44	-3.56	74	63.29	35.39	5.47	33.71	105	276	Peak
5469.68	44.77	-9.23	54	37.62	35.39	5.47	33.71	105	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
5466.40	63.47	-10.53	74	56.32	35.39	5.47	33.71	100	337	Peak
5469.12	41.30	-12.70	54	34.15	35.39	5.47	33.71	100	337	Average

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5725.88	69.15	-4.85	74	61.68	35.52	5.65	33.7	100	267	Peak
5730.20	41.41	-12.59	54	33.94	35.52	5.65	33.7	100	266	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
5725.32	55.53	-18.47	74	48.06	35.52	5.65	33.7	100	316	Peak
5732.52	40.02	-13.98	54	32.55	35.52	5.65	33.7	100	315	Average



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5149.65	69.28	-4.72	74	62.42	35.25	5.38	33.77	100	331	Peak
5148.95	47.93	-6.07	54	41.07	35.25	5.38	33.77	100	331	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
5149.95	66.97	-7.03	74	60.11	35.25	5.38	33.77	100	16	Peak
5148.40	45.75	-8.25	54	38.89	35.25	5.38	33.77	100	16	Average

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5350.85	67.78	-6.22	74	60.74	35.32	5.45	33.73	100	332	Peak
5351.45	46.08	-7.92	54	39.04	35.32	5.45	33.73	100	332	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
5351.45	64.10	-9.90	74	57.06	35.32	5.45	33.73	100	10	Peak
5351.90	43.01	-10.99	54	35.97	35.32	5.45	33.73	100	10	Average



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5469.28	69.6	-4.40	74	62.45	35.39	5.47	33.71	103	275	Peak
5469.28	44.48	-9.52	54	37.33	35.39	5.47	33.71	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
5465.92	58.82	-15.18	74	51.67	35.39	5.47	33.71	100	154	Peak
5469.84	41.23	-12.77	54	34.08	35.39	5.47	33.71	100	154	Average

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5726.12	66.18	-7.82	74	58.71	35.52	5.65	33.7	100	278	Peak
5732.04	46.68	-7.32	54	39.21	35.52	5.65	33.7	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
5725.08	57.4	-16.60	74	49.93	35.52	5.65	33.7	100	338	Peak
5730.6	42.29	-11.71	54	34.82	35.52	5.65	33.7	100	338	Average



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	42	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5145.85	67.82	-6.18	74	60.96	35.25	5.38	33.77	100	244	Peak
5148.90	46.24	-7.76	54	39.38	35.25	5.38	33.77	100	244	Average
5351.35	53.93	-20.07	74	46.89	35.32	5.45	33.73	100	244	Peak
5350.65	40.82	-13.18	54	33.78	35.32	5.45	33.73	100	244	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
5141.30	64.57	-9.43	74	57.71	35.25	5.38	33.77	100	10	Peak
5144.80	43.56	-10.44	54	36.7	35.25	5.38	33.77	100	10	Average
5355.55	53.88	-20.12	74	46.84	35.32	5.45	33.73	100	10	Peak
5357.90	40.91	-13.09	54	33.87	35.32	5.45	33.73	100	10	Average



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	106	Relative Humidity :	43~44%
Test Engineer :	Stone Gu		

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
5470.00	70.95	-3.05	74	63.8	35.39	5.47	33.71	114	275	Peak
5468.16	45.27	-8.73	54	38.12	35.39	5.47	33.71	114	275	Average
5731.48	53.41	-20.59	74	45.94	35.52	5.65	33.7	100	154	Peak
5729.72	40.53	-13.47	54	33.06	35.52	5.65	33.7	100	153	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
5465.68	67.39	-6.61	74	60.24	35.39	5.47	33.71	100	338	Peak
5460.00	44.71	-9.29	54	37.57	35.38	5.47	33.71	100	338	Average
5733.96	52.81	-21.19	74	45.34	35.52	5.65	33.7	100	147	Peak
5739.24	40.51	-13.49	54	33.02	35.52	5.67	33.7	100	147	Average

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

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5180 MHz is fundamental signal which can be ignored. 10359 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
5180	107.05	-	-	100.17	35.26	5.39	33.77	122	279	Peak
5180	96.44	-	-	89.56	35.26	5.39	33.77	122	279	Average
10359	35.15	-38.85	74	60.46	1.46	7.72	34.49	120	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5180 MHz is fundamental signal which can be ignored. 10360 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
5180	102.59	-	-	95.71	35.26	5.39	33.77	100	16	Peak
5180	91.40	-	-	84.52	35.26	5.39	33.77	100	16	Average
10360	35.98	-38.02	74	61.29	1.46	7.72	34.49	100	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	106.01	-	-	99.05	35.29	5.42	33.75	138	269	Peak
5260	94.89	-	-	87.93	35.29	5.42	33.75	138	269	Average
10520	30.26	-43.74	74	55.26	1.58	7.81	34.39	200	103	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.22	-	-	93.26	35.29	5.42	33.75	100	10	Peak
5260	89.16	-	-	82.2	35.29	5.42	33.75	100	10	Average
10520	31.04	-42.96	74	56.04	1.58	7.81	34.39	100	200	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	103.93	-	-	96.91	35.31	5.44	33.73	100	332	Peak
5320	92.77	-	-	85.75	35.31	5.44	33.73	100	332	Average
10640	32.75	-41.25	74	57.49	1.70	7.87	34.31	100	230	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	99.62	-	-	92.60	35.31	5.44	33.73	100	10	Peak
5320	88.93	-	-	81.91	35.31	5.44	33.73	100	10	Average
10640	31.71	-42.29	74	56.45	1.70	7.87	34.31	200	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	108.83	-	-	101.64	35.41	5.48	33.70	103	276	Peak
5500	98.20	-	-	91.01	35.41	5.48	33.70	103	276	Average
11000	35.34	-38.66	74	59.01	2.21	8.12	34.00	200	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	101.78	-	-	94.59	35.41	5.48	33.70	100	336	Peak
5500	89.80	-	-	82.61	35.41	5.48	33.70	100	336	Average
11000	31.87	-42.13	74	55.54	2.21	8.12	34.00	200	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	105.21	-	-	97.94	35.45	5.52	33.70	116	274	Peak
5580	94.58	-	-	87.31	35.45	5.52	33.70	116	274	Average
11160	33.82	-40.18	74	56.58	2.9	8.34	34.00	200	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	97.83	-	-	90.56	35.45	5.52	33.70	135	154	Peak
5580	86.75	-	-	79.48	35.45	5.52	33.70	135	154	Average
11160	33.02	-40.98	74	55.78	2.90	8.34	34.00	100	200	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	109.48	-	-	102.06	35.50	5.62	33.70	100	277	Peak
5700	98.34	-	-	90.92	35.50	5.62	33.70	100	277	Average
11400	34.82	-39.18	74	55.95	4.13	8.74	34.00	100	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.36	-	-	94.94	35.50	5.62	33.70	101	6	Peak
5700	91.99	-	-	84.57	35.50	5.62	33.70	101	6	Average
11400	35.1	-38.90	74	56.23	4.13	8.74	34.00	100	210	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	106.51	-	-	99.63	35.26	5.39	33.77	100	243	Peak
5180	94.23	-	-	87.35	35.26	5.39	33.77	100	243	Average
10360	33.95	-40.05	74	59.26	1.46	7.72	34.49	100	300	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10359 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	104.01	-	-	97.13	35.26	5.39	33.77	100	15	Peak
5180	92.09	-	-	85.21	35.26	5.39	33.77	100	15	Average
10359	33.83	-40.17	74	59.14	1.46	7.72	34.49	200	150	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	106.57	-	-	99.61	35.29	5.42	33.75	122	267	Peak
5260	95.07	-	-	88.11	35.29	5.42	33.75	122	267	Average
10520	29.62	-44.38	74	54.62	1.58	7.81	34.39	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.85	-	-	93.89	35.29	5.42	33.75	100	10	Peak
5260	89.43	-	-	82.47	35.29	5.42	33.75	100	10	Average
10520	30.32	-43.68	74	55.32	1.58	7.81	34.39	100	236	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	105.74	-	-	98.72	35.31	5.44	33.73	100	333	Peak
5320	93.05	-	-	86.03	35.31	5.44	33.73	100	333	Average
10641	32.5	-41.5	74	57.24	1.70	7.87	34.31	100	320	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.79	-	-	93.77	35.31	5.44	33.73	100	11	Peak
5320	88.28	-	-	81.26	35.31	5.44	33.73	100	11	Average
10641	32.45	-41.55	74	57.19	1.70	7.87	34.31	200	0	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	108.61	-	-	101.42	35.41	5.48	33.70	117	286	Peak
5500	97.58	-	-	90.39	35.41	5.48	33.70	117	286	Average
11000	31.42	-42.58	74	55.09	2.21	8.12	34.00	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.78	-	-	95.59	35.41	5.48	33.70	100	338	Peak
5500	90.93	-	-	83.74	35.41	5.48	33.70	100	338	Average
11000	32.37	-41.63	74	56.04	2.21	8.12	34.00	200	103	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	106.71	-	-	99.44	35.45	5.52	33.70	103	273	Peak
5580	94.73	-	-	87.46	35.45	5.52	33.70	103	273	Average
11160	34.66	-39.34	74	57.42	2.90	8.34	34.00	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	98.81	-	-	91.54	35.45	5.52	33.7	177	155	Peak
5580	87.37	-	-	80.1	35.45	5.52	33.7	177	155	Average
11160	34.3	-39.70	74	57.06	2.9	8.34	34	100	0	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.44	-	-	95.02	35.50	5.62	33.70	114	355	Peak
5700	90.67	-	-	83.25	35.50	5.62	33.70	114	355	Average
11400	34.66	-39.34	74	55.79	4.13	8.74	34.00	180	210	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	98.92	-	-	91.5	35.5	5.62	33.7	100	337	Peak
5700	87.03	-	-	79.61	35.5	5.62	33.7	100	337	Average
11400	34.3	-39.70	74	55.43	4.13	8.74	34	100	0	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	104.85	-	-	97.97	35.26	5.39	33.77	100	229	Peak
5190	94.02	-	-	87.14	35.26	5.39	33.77	100	229	Average
10380	34.36	-39.64	74	59.63	1.48	7.73	34.48	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	98.95	-	-	92.07	35.26	5.39	33.77	100	14	Peak
5190	87.98	-	-	81.1	35.26	5.39	33.77	100	14	Average
10380	34.47	-39.53	74	59.74	1.48	7.73	34.48	120	0	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	54	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 10539 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
5270	105.00	-	-	98.04	35.29	5.42	33.75	109	269	Peak
5270	93.64	-	-	86.68	35.29	5.42	33.75	109	269	Average
10539	29.91	-44.09	74	54.87	1.60	7.82	34.38	100	200	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	54	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 10540 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
5270	98.85	-	-	91.89	35.29	5.42	33.75	100	10	Peak
5270	88.14	-	-	81.18	35.29	5.42	33.75	100	10	Average
10540	30.68	-43.32	74	55.64	1.6	7.82	34.38	200	104	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	103.30	-	-	96.28	35.31	5.44	33.73	100	332	Peak
5310	91.40	-	-	84.38	35.31	5.44	33.73	100	332	Average
10620	31.77	-42.23	74	56.55	1.68	7.86	34.32	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	99.23	-	-	92.21	35.31	5.44	33.73	100	10	Peak
5310	87.33	-	-	80.31	35.31	5.44	33.73	100	10	Average
10620	31.95	-42.05	74	56.73	1.68	7.86	34.32	200	300	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.59	-	-	93.4	35.41	5.48	33.70	117	271	Peak
5510	90.21	-	-	83.02	35.41	5.48	33.70	117	271	Average
11019	32.55	-41.45	74	56.14	2.27	8.14	34.00	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	96.91	-	-	89.72	35.41	5.48	33.70	100	338	Peak
5510	85.66	-	-	78.47	35.41	5.48	33.70	100	338	Average
11020	33.52	-40.48	74	57.11	2.27	8.14	34.00	200	103	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	110	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	107.73	-	-	100.48	35.44	5.51	33.70	100	275	Peak
5550	95.47	-	-	88.22	35.44	5.51	33.70	100	275	Average
11100	35.27	-38.73	74	58.43	2.60	8.24	34.00	100	201	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	110	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.57	-	-	93.32	35.44	5.51	33.7	100	338	Peak
5550	89.12	-	-	81.87	35.44	5.51	33.7	100	338	Average
11100	34.48	-39.52	74	57.64	2.6	8.24	34	100	0	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	108.25	-	-	100.85	35.50	5.60	33.70	100	279	Peak
5670	96.75	-	-	89.35	35.50	5.60	33.70	100	279	Average
11340	34.00	-40	74	55.53	3.83	8.64	34.00	200	0	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	99.64	-	-	92.24	35.5	5.60	33.70	100	340	Peak
5670	88.64	-	-	81.24	35.5	5.60	33.70	100	340	Average
11340	34.12	-39.88	74	55.65	3.83	8.64	34.00	120	100	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 10359 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	106.37	-	-	99.49	35.26	5.39	33.77	100	290	Peak
5180	94.57	-	-	87.69	35.26	5.39	33.77	100	290	Average
10359	35.54	-38.46	74	60.85	1.46	7.72	34.49	100	20	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	103.13	-	-	96.25	35.26	5.39	33.77	100	15	Peak
5180	92.05	-	-	85.17	35.26	5.39	33.77	100	15	Average
10360	34.68	-39.32	74	59.99	1.46	7.72	34.49	200	136	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	105.35	-	-	98.39	35.29	5.42	33.75	100	331	Peak
5260	93.91	-	-	86.95	35.29	5.42	33.75	100	331	Average
10520	34.10	-39.90	74	59.10	1.58	7.81	34.39	200	0	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.77	-	-	95.81	35.29	5.42	33.75	100	10	Peak
5260	90.97	-	-	84.01	35.29	5.42	33.75	100	10	Average
10520	34.18	-39.82	74	59.18	1.58	7.81	34.39	200	0	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	105.77	-	-	98.75	35.31	5.44	33.73	100	334	Peak
5320	93.87	-	-	86.85	35.31	5.44	33.73	100	334	Average
10640	33.83	-40.17	74	58.57	1.70	7.87	34.31	100	0	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	101.53	-	-	94.51	35.31	5.44	33.73	100	10	Peak
5320	90.10	-	-	83.08	35.31	5.44	33.73	100	10	Average
10640	33.91	-40.09	74	58.65	1.70	7.87	34.31	100	0	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	110.14	-	-	102.95	35.41	5.48	33.70	103	276	Peak
5500	98.62	-	-	91.43	35.41	5.48	33.70	103	276	Average
11000	34.86	-39.14	74	58.53	2.21	8.12	34.00	100	0	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.67	-	-	95.48	35.41	5.48	33.70	100	337	Peak
5500	91.05	-	-	83.86	35.41	5.48	33.70	100	337	Average
11000	34.13	-39.87	74	57.8	2.21	8.12	34.00	200	10	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	105.55	-	-	98.28	35.45	5.52	33.70	116	275	Peak
5580	94.42	-	-	87.15	35.45	5.52	33.70	116	275	Average
11160	34.29	-39.71	74	57.05	2.90	8.34	34.00	110	0	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	97.95	-	-	90.68	35.45	5.52	33.70	192	157	Peak
5580	86.54	-	-	79.27	35.45	5.52	33.70	192	157	Average
11160	34.31	-39.69	74	57.07	2.90	8.34	34.00	115	20	Peak



Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	101.61	-	-	94.19	35.5	5.62	33.70	100	265	Peak
5700	90.08	-	-	82.66	35.5	5.62	33.70	100	265	Average
11400	34.98	-39.02	74	56.11	4.13	8.74	34.00	100	210	Peak

Test Mode :	802.11ac VHT20	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	92.95	-	-	85.53	35.5	5.62	33.70	156	320	Peak
5700	81.74	-	-	74.32	35.5	5.62	33.70	156	320	Average
11400	35.00	-39.00	74	56.13	4.13	8.74	34.00	100	0	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	103.73	-	-	96.85	35.26	5.39	33.77	100	331	Peak
5190	91.94	-	-	85.06	35.26	5.39	33.77	100	331	Average
10380	34.23	-39.77	74	59.50	1.48	7.73	34.48	100	200	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.46	-	-	93.58	35.26	5.39	33.77	100	16	Peak
5190	89.17	-	-	82.29	35.26	5.39	33.77	100	16	Average
10380	35.57	-38.43	74	60.84	1.48	7.73	34.48	100	200	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	54	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 10539 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
5270	102.97	-	-	96.01	35.29	5.42	33.75	100	332	Peak
5270	91.2	-	-	84.24	35.29	5.42	33.75	100	332	Average
10539	30.19	-43.81	74	55.15	1.60	7.82	34.38	200	145	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	54	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 10539 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
5270	98.38	-	-	91.42	35.29	5.42	33.75	100	10	Peak
5270	87.67	-	-	80.71	35.29	5.42	33.75	100	10	Average
10539	30.22	-43.78	74	55.18	1.60	7.82	34.38	100	0	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.03	-	-	95.01	35.31	5.44	33.73	100	332	Peak
5310	91.46	-	-	84.44	35.31	5.44	33.73	100	332	Average
10620	31.58	-42.42	74	56.36	1.68	7.86	34.32	100	200	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	62	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	98.87	-	-	91.85	35.31	5.44	33.73	100	10	Peak
5310	87.32	-	-	80.30	35.31	5.44	33.73	100	10	Average
10620	31.48	-42.52	74	56.26	1.68	7.86	34.32	100	0	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.28	-	-	93.09	35.41	5.48	33.70	127	271	Peak
5510	89.37	-	-	82.18	35.41	5.48	33.70	127	271	Average
11020	32.23	-41.77	74	55.82	2.27	8.14	34.00	100	0	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	102	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	93.2	-	-	86.01	35.41	5.48	33.70	180	155	Peak
5510	82.9	-	-	75.71	35.41	5.48	33.70	180	155	Average
11019	32.42	-41.58	74	56.01	2.27	8.14	34.00	100	0	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	110	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	107.73	-	-	100.48	35.44	5.51	33.70	102	273	Peak
5550	97.05	-	-	89.80	35.44	5.51	33.70	102	273	Average
11100	34.50	-39.50	74	57.66	2.60	8.24	34.00	100	210	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	110	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.58	-	-	93.33	35.44	5.51	33.70	100	338	Peak
5550	90.06	-	-	82.81	35.44	5.51	33.70	100	338	Average
11100	34.26	-39.74	74	57.42	2.6	8.24	34.00	120	300	Peak



Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	109.19	-	-	101.79	35.50	5.60	33.70	100	278	Peak
5670	97.45	-	-	90.05	35.50	5.60	33.70	100	278	Average
11340	33.32	-40.68	74	54.85	3.83	8.64	34.00	200	0	Peak

Test Mode :	802.11ac VHT40	Temperature :	23~24°C
Test Channel :	134	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.51	-	-	93.11	35.50	5.60	33.70	100	338	Peak
5670	89.43	-	-	82.03	35.50	5.60	33.70	100	338	Average
11340	34.41	-39.59	74	55.94	3.83	8.64	34.00	100	0	Peak



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	42	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.63	-	-	93.72	35.27	5.40	33.76	100	244	Peak
5210	89.32	-	-	82.41	35.27	5.40	33.76	100	244	Average
10420	34.34	-39.66	74	59.54	1.51	7.75	34.46	100	300	Peak

Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	42	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	96.7	-	-	89.79	35.27	5.40	33.76	100	10	Peak
5210	85.67	-	-	78.76	35.27	5.40	33.76	100	10	Average
10420	33.67	-40.33	74	58.87	1.51	7.75	34.46	100	0	Peak



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	58	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	99.48	-	-	92.49	35.3	5.43	33.74	100	332	Peak
5290	88.09	-	-	81.10	35.3	5.43	33.74	100	332	Average
10580	31.15	-42.85	74	56.01	1.64	7.84	34.34	100	230	Peak

Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	58	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	95.73	-	-	88.74	35.30	5.43	33.74	100	10	Peak
5290	85.03	-	-	78.04	35.30	5.43	33.74	100	10	Average
10580	31.09	-42.91	74	55.95	1.64	7.84	34.34	100	163	Peak



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	106	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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
88.20	22.41	-21.09	43.5	46.86	8.30	0.87	33.62	-	-	Peak
128.94	26.98	-16.52	43.5	47.82	11.71	1.04	33.59	200	132	Peak
202.66	17.80	-25.70	43.5	40.93	9.12	1.31	33.56	-	-	Peak
304.51	19.76	-26.24	46	38.42	13.10	1.61	33.37	-	-	Peak
757.50	21.33	-24.67	46	31.71	19.89	2.49	32.76	-	-	Peak
942.77	26.90	-27.10	54	35.83	20.70	2.81	32.44	-	-	Peak
5530	104.54	-	-	97.33	35.42	5.49	33.70	114	275	Peak
5530	93.61	-	-	86.40	35.42	5.49	33.70	114	275	Average
11060	34.15	-39.85	74	57.49	2.46	8.20	34.00	100	0	Peak



Test Mode :	802.11ac VHT80	Temperature :	23~24°C
Test Channel :	106	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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
40.67	30.12	-9.88	40	51.51	11.64	0.61	33.64	100	0	Peak
128.94	20.45	-23.05	43.5	41.29	11.71	1.04	33.59	-	-	Peak
202.66	20.23	-23.27	43.5	43.36	9.12	1.31	33.56	-	-	Peak
609.09	24.00	-22.00	46	36.06	18.64	2.25	32.95	-	-	Peak
710.94	23.79	-22.21	46	34.85	19.40	2.4	32.86	-	-	Peak
943.74	25.98	-28.02	54	34.9	20.71	2.81	32.44	-	-	Peak
5530	97.26	-	-	90.05	35.42	5.49	33.70	100	338	Peak
5530	86.08	-	-	78.87	35.42	5.49	33.70	100	338	Average
11060	33.71	-40.29	74	57.05	2.46	8.20	34.00	200	0	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.

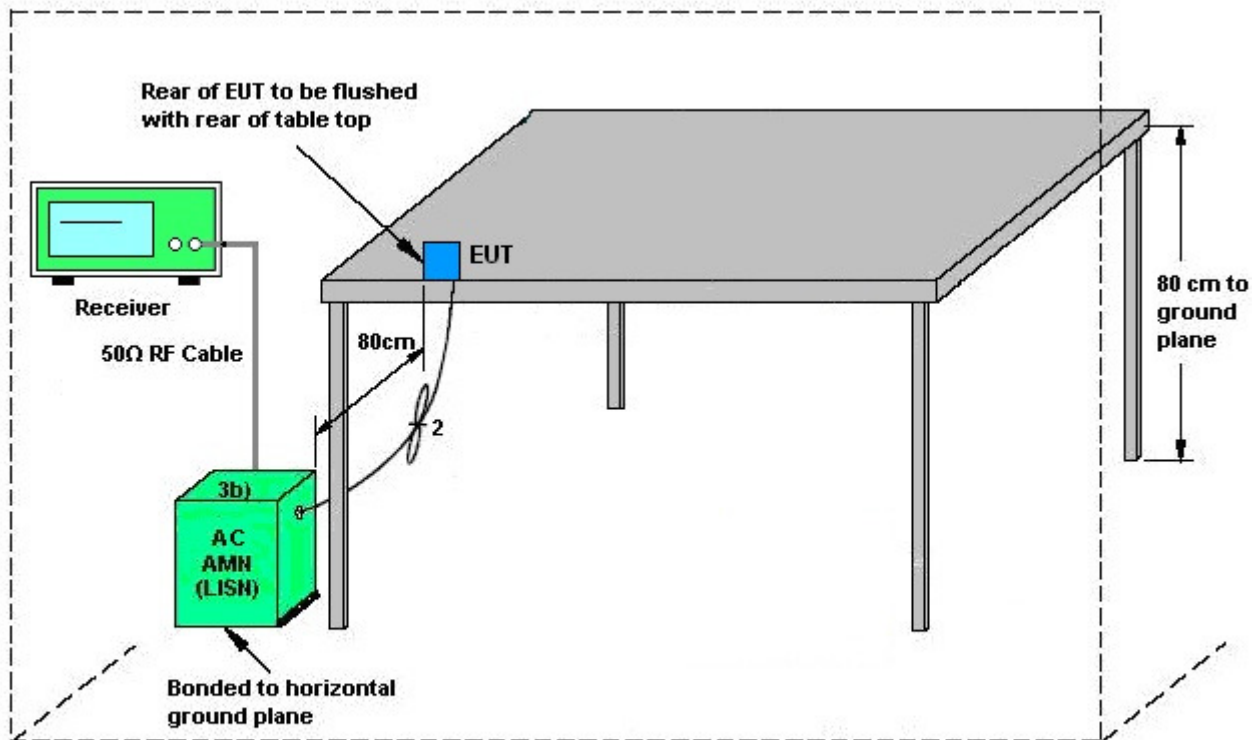
3.6.2 Measuring Instruments

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

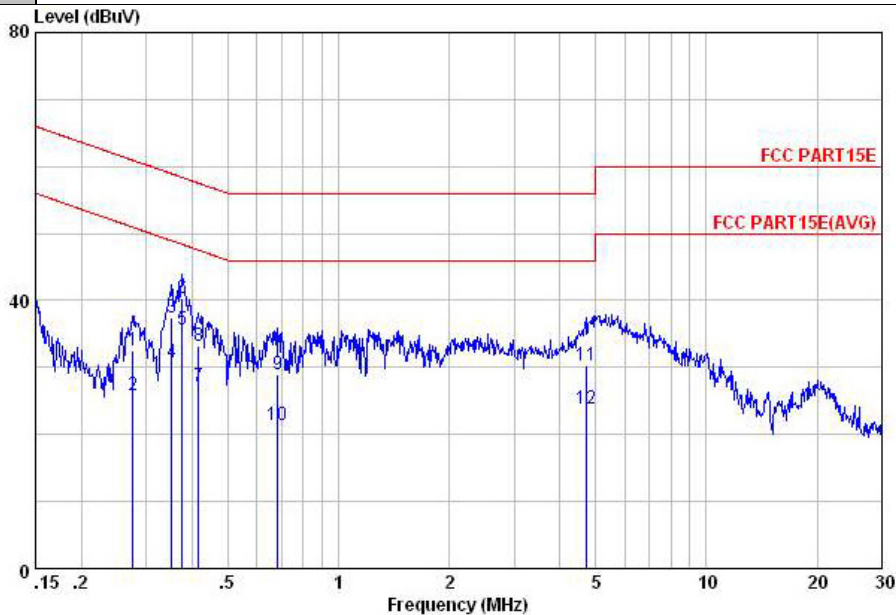


AMN = Artificial mains network (LISH)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	22~24°C
Test Engineer :	Eligah Wang	Relative Humidity :	35~37%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone		

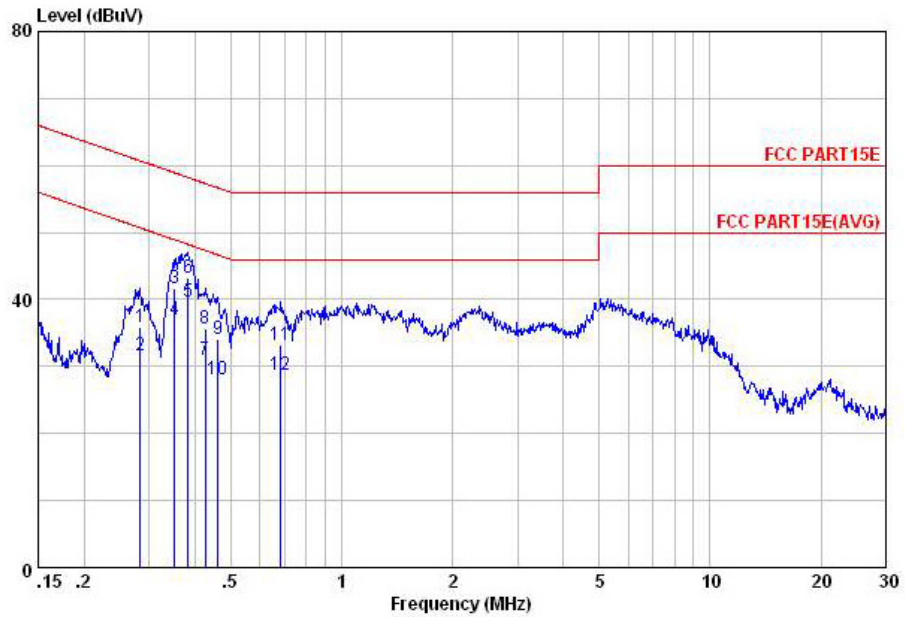


Site : C001-KS
 Condition: FCC PART15E LISN-L20130306 LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.28	32.54	-28.40	60.94	21.30	0.79	10.45	QP
2	0.28	25.84	-25.10	50.94	14.60	0.79	10.45	Average
3	0.35	37.35	-21.56	58.91	26.60	0.43	10.32	QP
4	0.35	30.65	-18.26	48.91	19.90	0.43	10.32	Average
5	0.38	35.77	-12.62	48.39	25.10	0.37	10.30	Average
6	0.38	40.27	-18.12	58.39	29.60	0.37	10.30	QP
7	0.42	27.17	-20.34	47.51	16.60	0.29	10.28	Average
8	0.42	33.17	-24.34	57.51	22.60	0.29	10.28	QP
9	0.68	28.91	-27.09	56.00	18.50	0.20	10.21	QP
10	0.68	21.31	-24.69	46.00	10.90	0.20	10.21	Average
11	4.72	30.25	-25.75	56.00	19.80	0.20	10.25	QP
12	4.72	23.95	-22.05	46.00	13.50	0.20	10.25	Average



Test Mode :	Mode 1	Temperature :	22~24°C
Test Engineer :	Eligah Wang	Relative Humidity :	35~37%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone		



Site : C001-KS
 Condition: FCC PART15E LISN-N20130306 NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.28	35.83	-24.89	60.72	24.60	0.80	10.43	QP
2	0.28	31.63	-19.09	50.72	20.40	0.80	10.43	Average
3	0.35	41.72	-17.19	58.91	30.90	0.50	10.32	QP
4	0.35	36.92	-11.99	48.91	26.10	0.50	10.32	Average
5	0.38	39.62	-8.59	48.21	28.90	0.43	10.29	Average
6	0.38	43.12	-15.09	58.21	32.40	0.43	10.29	QP
7	0.43	30.94	-16.39	47.33	20.29	0.37	10.28	Average
8	0.43	35.54	-21.79	57.33	24.89	0.37	10.28	QP
9	0.46	34.00	-22.67	56.67	23.40	0.33	10.27	QP
10	0.46	28.10	-18.57	46.67	17.50	0.33	10.27	Average
11	0.68	33.12	-22.88	56.00	22.70	0.21	10.21	QP
12	0.68	28.82	-17.18	46.00	18.40	0.21	10.21	Average

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.

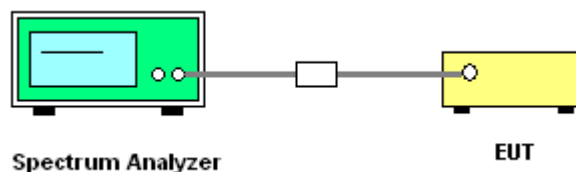
3.7.2 Measuring Instruments

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 :	Adonis Li
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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	5180.00	0.00	0.00	20	3.6
11a	6Mbps	1	36	5180	5180.00	0.00	0.00	20	4.2
11a	6Mbps	1	36	5180	5180.00	0.00	0.00	20	3.8
11a	6Mbps	1	36	5180	5180.00	0.00	0.00	-10	3.8
11a	6Mbps	1	36	5180	5180.00	0.00	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	5320.00	0.00	0.00	20	3.6
11a	6Mbps	1	64	5320	5320.00	0.00	0.00	20	4.2
11a	6Mbps	1	64	5320	5320.00	0.00	0.00	20	3.8
11a	6Mbps	1	64	5320	5320.00	0.00	0.00	-10	3.8
11a	6Mbps	1	64	5320	5320.00	0.00	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	5500.00	0.00	0.00	20	3.6
11a	6Mbps	1	100	5500	5500.00	0.00	0.00	20	4.2
11a	6Mbps	1	100	5500	5500.00	0.00	0.00	20	3.8
11a	6Mbps	1	100	5500	5500.00	0.00	0.00	-10	3.8
11a	6Mbps	1	100	5500	5500.00	0.00	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	FSP40	100319	9kHz~40GHz	Dec. 28, 2013	May 15, 2014~ May 23, 2014	Dec. 27, 2014	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV30	101338	9kHz~30GHz	Jun. 17, 2013	May 15, 2014~ May 23, 2014	Jun. 16, 2014	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	30MHz~40GHz	Feb. 27, 2014	May 15, 2014~ May 23, 2014	Feb. 26, 2015	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Feb. 27, 2014	May 15, 2014~ May 23, 2014	Feb. 26, 2015	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 05, 2013	May 09, 2014	Nov. 04, 2014	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	101399	9kHz~30GHz	May 23, 2013	May 09, 2014	May 22, 2014	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 09, 2013	May 09, 2014	Oct. 08, 2014	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Jan. 08, 2014	May 09, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 08, 2014	May 09, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701030	1GHz~18GHz	Nov. 18, 2013	May 09, 2014	Nov. 17, 2014	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Mar. 10, 2014	May 09, 2014	Mar. 09, 2015	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161073	1MHz~1GHz	May 04, 2014	May 09, 2014	May 03, 2015	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02371	1GHz~26.5GHz	Dec. 10, 2013	May 09, 2014	Dec. 09, 2014	Radiation (03CH01-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 09, 2014	NCR	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	May 09, 2014	NCR	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	May 09, 2014	NCR	Radiation (03CH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 23, 2013	Apr. 22, 2014	May 22, 2014	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Dec. 10, 2013	Apr. 22, 2014	Dec. 09, 2014	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Dec. 10, 2013	Apr. 22, 2014	Dec. 09, 2014	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Nov. 12, 2013	Apr. 22, 2014	Nov. 11, 2014	Conduction (CO01-KS)



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% ($U = 2Uc(y)$)	2.54
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