

FCC RF Test Report

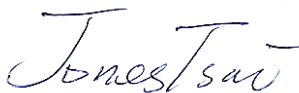
APPLICANT : Mosby LLC
EQUIPMENT : Tablet PC
MODEL NAME : GL056ZE
FCC ID : S5R-4940
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The testing was completed on Sep. 09, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

Report No. : FR332727-07C
Report Version : Rev. 02
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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR332727-07C	Rev. 01	Initial issue of report	Oct. 03, 2013
FR332727-07C	Rev. 02	Update report for revising data of Unwanted Radiated Emission	Oct. 16, 2013

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	26dB Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	$\leq 17, 24, 30$ dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	$\leq 4, 11, 17$ dBm (depend on band)	Pass	-
3.4	15.407(a)(6)	Peak Excursion Ratio	≤ 13 dB	Pass	-
3.5	15.407(b)	Unwanted Emissions	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 2.03 dB at 5470.000 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 18.90 dB at 3.902 MHz
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Mosby LLC
2825 E. Cottonwood Parkway
Suite 500
Salt Lake City, Utah 84121

1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Model Name	GL056ZE
FCC ID	S5R-4940
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE WLAN 11b/g/n (HT20), WLAN 11a/n (HT20/HT40) Bluetooth v3.0

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

1.3 Product Specification of Equipment Under Test

Product Specification subjective to this standard												
Tx/Rx Channel Frequency Range		5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5580 MHz 5660 MHz ~ 5720 MHz										
Maximum Output Power		<5180 MHz ~ 5240 MHz> 802.11a : 15.1 dBm / 0.0324 W 802.11n HT20 : 15.1 dBm / 0.0324 W 802.11n HT40 : 15.0 dBm / 0.0316 W <5260 MHz ~ 5320 MHz> 802.11a : 14.4 dBm / 0.0275 W 802.11n HT20 : 14.3 dBm / 0.0269 W 802.11n HT40 : 13.9 dBm / 0.0245 W <5500 MHz ~ 5580 MHz and 5660 MHz ~ 5720 MHz > 802.11a : 14.8 dBm / 0.0302 W 802.11n HT20 : 14.8 dBm / 0.0302 W 802.11n HT40 : 14.8 dBm / 0.0302 W										
Antenna Type		<5180 MHz ~ 5240 MHz> Ant. 1 : Fixed internal Antenna with gain 2.00 dBi Ant. 2 : Fixed internal Antenna with gain 3.20 dBi <5260 MHz ~ 5320 MHz> Ant. 1 : Fixed internal Antenna with gain 2.00 dBi Ant. 2 : Fixed internal Antenna with gain 3.40 dBi <5500 MHz ~ 5580 MHz and 5660 MHz ~ 5720 MHz > Ant. 1 : Fixed internal Antenna with gain 2.80 dBi Ant. 2 : Fixed internal Antenna with gain 3.30 dBi										
Type of Modulation		OFDM (BPSK / QPSK / 16QAM / 64QAM)										
Antenna Function Description		<table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 a MIMO</td><td>V</td><td>V</td></tr><tr><td>802.11 n MIMO</td><td>V</td><td>V</td></tr></table>			Ant. 1	Ant. 2	802.11 a MIMO	V	V	802.11 n MIMO	V	V
	Ant. 1	Ant. 2										
802.11 a MIMO	V	V										
802.11 n MIMO	V	V										

1.4 Modification of EUT

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

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH08-HY	636805/4086B

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

1.6 Applied 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 789033 D01 General UNII Test Procedures v01r03
- FCC KDB 662911 D01 Multiple Transmitter Output v02.
- 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). For 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 (Y 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 and 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

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

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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	144	5720	142	5710

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 antenna configurations as following table and the highest power data rates were chosen for full test in the following tables.

MIMO <Ant. 1+2>

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	15.1	15.0	15.0	15.0	14.9	14.9	14.9	15.0

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	15.1	14.9	15.0	14.8	14.9	14.9	14.9	14.9
Data Rate (MHz)	MCS 8	MCS 9	MCS 10	MCS 11	MCS 12	MCS 13	MCS 14	MCS15
Average Power (dBm)	14.9	14.9	14.9	15.0	15.0	14.9	14.9	14.9

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	15.0	15.0	15.0	13.9	13.9	13.9	14.0	14.0
Data Rate (MHz)	MCS 8	MCS 9	MCS 10	MCS 11	MCS 12	MCS 13	MCS 14	MCS15
Average Power (dBm)	14.9	14.9	14.9	13.9	14.0	14.0	14.1	14.0

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

2.3 Test Mode

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

Test Cases					
Conducted TCs	Test Items	Mode	Data rate	N _{TX}	Test Channel
	26dB BW Power Spectral Density	802.11a	6 Mbps	2	L/M/H/Straddle
		802.11n HT20	MCS0	2	L/M/H/Straddle
		802.11n HT40	MCS0	2	L/M/H/Straddle
	Output Power	802.11a	6 Mbps	2	L/M/H/Straddle
		802.11n HT20	MCS0	2	L/M/H/Straddle
		802.11n HT40	MCS0	2	L/M/H/Straddle
	Peak Excursion	802.11a	6 Mbps	2	L
		802.11n HT20	MCS0	2	L
		802.11n HT40	MCS0	2	L
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	2	L/H
		802.11n HT20	MCS0	2	L/H
		802.11n HT40	MCS0	2	L/H
	Radiated Spurious Emission	802.11a	6 Mbps	2	L/M/H/Straddle
		802.11n HT20	MCS0	2	L/M/H/Straddle
		802.11n HT40	MCS0	2	L/M/H/Straddle
AC Conducted Emission	Mode 1	:WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) Link + Bluetooth Link + Earphone + H Pattern + USB Cable (Charging from Adapter)			
	Mode 2	:WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) MIMO Tx + Earphone + H Pattern + USB Cable (Charging from Adapter)			
Note: The N _{TX} =2 means 2 antenna ports simultaneously transmit during test.					

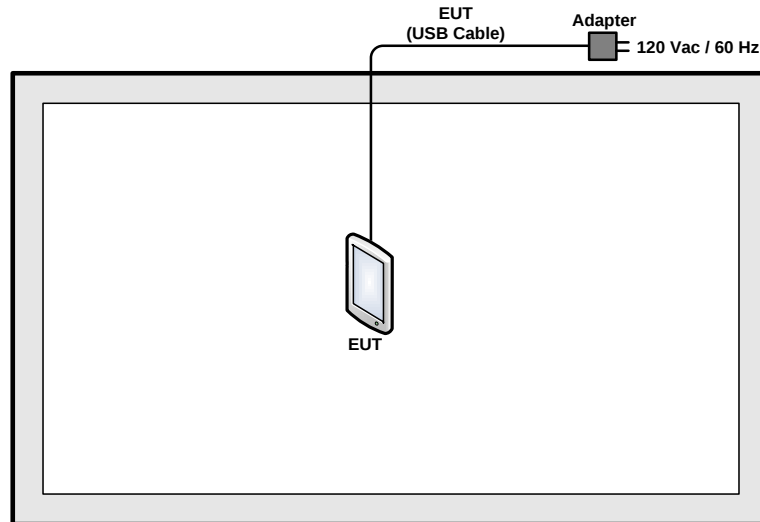
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725 MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725 MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

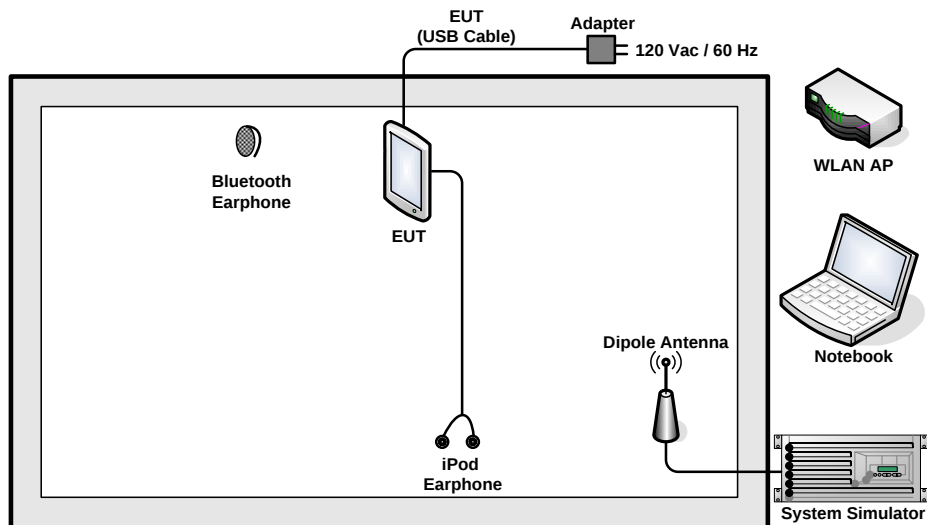
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5600 MHz and 5650-5725 MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

2.4 Connection Diagram of Test System

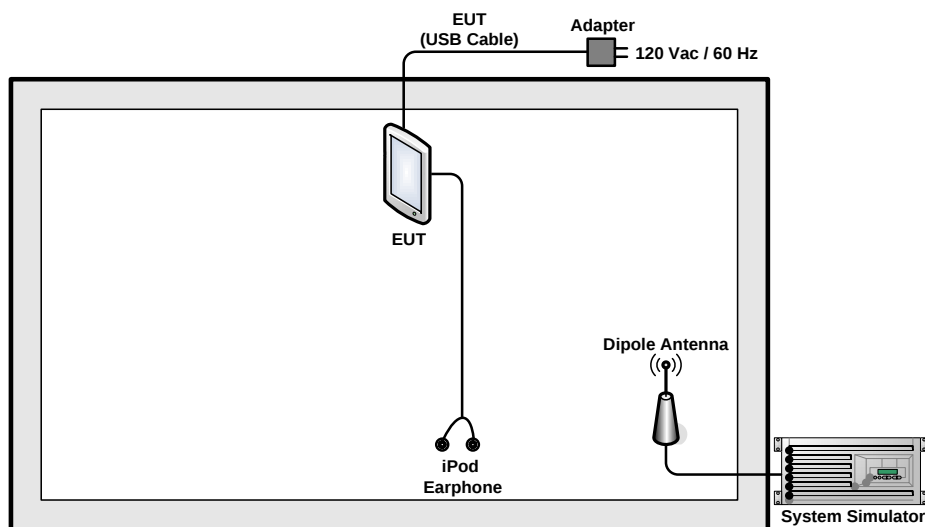
<WLAN Tx Mode>



<AC Conducted Emission Mode>



<AC Conducted Emission Mode in MIMO Tx>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	iPod Earphone	Apple	N/A	N/A	Unshielded, 1.0 m	N/A
6.	Adapter	Foxlink	A02710	Verification	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, “ADB” installed in the Notebook and make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

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 4.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 26dB Bandwidth Measurement

3.1.1 Description of 26dB 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, 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5720 MHz, 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.

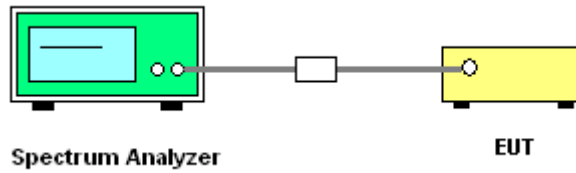
3.1.2 Measuring Instruments

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 C) 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. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 26dB Bandwidth

Test Band :	5GHz band 1,2,3	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

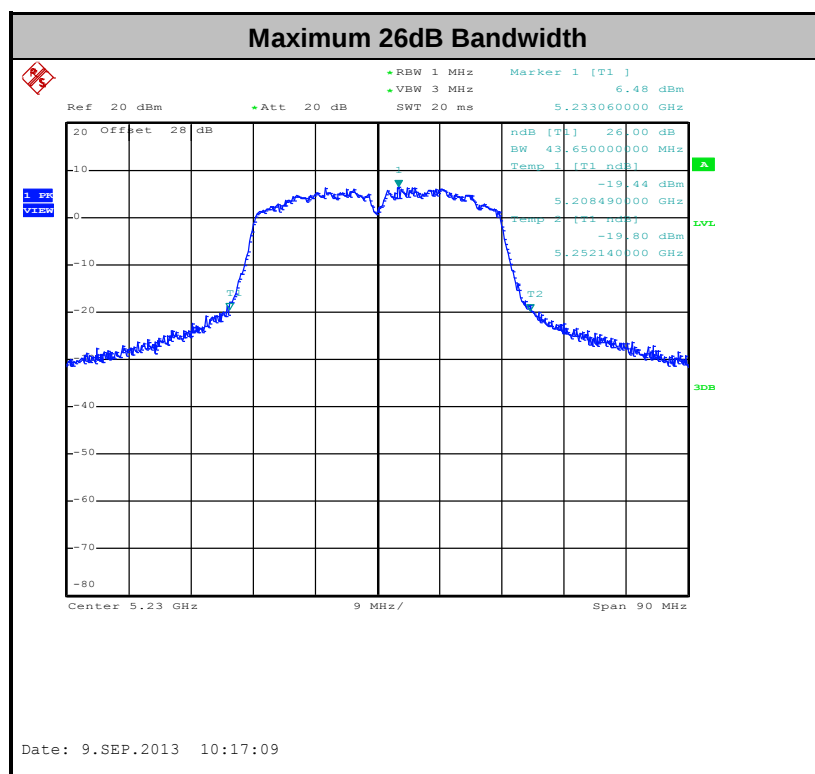
Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	26dB Bandwidth (MHz)		FCC 26dB Bandwidth Power Limit (dBm)
					Ant 1	Ant 2	
11a	6Mbps	2	36	5180	21.55	20.85	16.99
11a	6Mbps	2	44	5220	21.60	20.85	16.99
11a	6Mbps	2	48	5240	20.95	21.05	16.99
HT20	MCS0	2	36	5180	22.40	21.45	16.99
HT20	MCS0	2	44	5220	22.00	21.45	16.99
HT20	MCS0	2	48	5240	22.05	21.50	16.99
HT40	MCS0	2	38	5190	42.93	41.85	16.99
HT40	MCS0	2	46	5230	43.65	42.84	16.99

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	26dB Bandwidth (MHz)		FCC 26dB Bandwidth Power Limit (dBm)
					Ant 1	Ant 2	
11a	6Mbps	2	52	5260	21.00	20.10	23.98
11a	6Mbps	2	60	5300	20.95	20.5	23.98
11a	6Mbps	2	64	5320	20.95	20.65	23.98
HT20	MCS0	2	52	5260	22.30	21.55	23.98
HT20	MCS0	2	60	5300	22.25	21.30	23.98
HT20	MCS0	2	64	5320	22.10	20.95	23.98
HT40	MCS0	2	54	5270	43.02	42.84	23.98
HT40	MCS0	2	62	5310	43.02	42.21	23.98

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	26dB Bandwidth (MHz)		FCC 26dB Bandwidth Power Limit (dBm)
					Ant 1	Ant 2	
11a	6Mbps	2	100	5500	20.75	20.10	23.98
11a	6Mbps	2	116	5580	20.65	20.05	23.98
11a	6Mbps	2	140	5700	20.75	20.15	23.98
HT20	MCS0	2	100	5500	21.70	21.45	23.98
HT20	MCS0	2	116	5580	21.60	21.00	23.98
HT20	MCS0	2	140	5700	21.70	21.25	23.98
HT40	MCS0	2	102	5510	42.75	43.11	23.98
HT40	MCS0	2	110	5550	43.02	42.75	23.98
HT40	MCS0	2	134	5670	43.38	43.02	23.98

Test Band :	Straddle Channel	Temperature :	24~27°C
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Emission Bandwidth (MHz)		FCC Emission Bandwidth Power Limit (dBm)
					Ant 1	Ant 2	
11a	6Mbps	2	144	5720	20.35	20.20	-
				NII -2e	15.35	15.40	22.86
				DTS	5.00	4.80	23.81
HT20	MCS0	2	144	5720	21.90	21.30	-
				NII -2e	16.05	15.75	22.97
				DTS	5.85	5.55	24.44
HT40	MCS0	2	142	5710	43.20	42.12	-
				NII -2e	36.87	36.24	23.98
				DTS	6.33	5.88	24.69



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, 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5720 MHz, 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.

U-NII limits were applied for straddle channel in accordance with FCC KDB 644545 D01.

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

For normal channel, the testing follows Method PM of FCC KDB 789033 D01 General UNII Test Procedures v01r03. Method PM (Measurement using an RF average power meter):

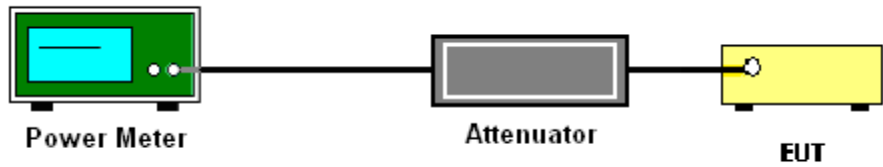
1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x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

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D01.

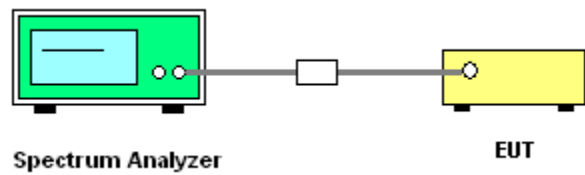
Compute power by integrating the spectrum across the 26dB occupied bandwidth of the signal using the instrument's band power measurement function.

3.2.4 Test Setup

For normal channel:



For straddle channel:



3.2.5 Test Result of Maximum Conducted Output Power

Test Band :	5GHz band 1	Temperature :	24~27°C
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Sum Power			
11a	6Mbps	2	36	5180	13.0	11.0	15.1	23.0	2.64	Pass
11a	6Mbps	2	44	5220	13.0	10.8	15.0	23.0	2.64	Pass
11a	6Mbps	2	48	5240	12.9	11.0	15.1	23.0	2.64	Pass
HT20	MCS0	2	36	5180	13.0	11.0	15.1	23.0	2.64	Pass
HT20	MCS0	2	44	5220	12.8	10.6	14.8	23.0	2.64	Pass
HT20	MCS0	2	48	5240	12.8	10.7	14.9	23.0	2.64	Pass
HT40	MCS0	2	38	5190	9.7	7.0	11.6	23.0	2.64	Pass
HT40	MCS0	2	46	5230	12.9	11.0	15.0	23.0	2.64	Pass

Note:

1. Sum Power is a calculated result from sum of the power Ant. 1 and Ant. 2.
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.

Test Band :	5GHz band 2	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Sum Power			
11a	6Mbps	2	52	5260	13.0	8.5	14.4	24.0	2.76	Pass
11a	6Mbps	2	60	5300	13.0	8.0	14.2	24.0	2.76	Pass
11a	6Mbps	2	64	5320	13.0	8.5	14.3	24.0	2.76	Pass
HT20	MCS0	2	52	5260	12.8	8.3	14.1	24.0	2.76	Pass
HT20	MCS0	2	60	5300	13.0	8.0	14.2	24.0	2.76	Pass
HT20	MCS0	2	64	5320	13.0	8.4	14.3	24.0	2.76	Pass
HT40	MCS0	2	54	5270	12.6	8.0	13.9	24.0	2.76	Pass
HT40	MCS0	2	62	5310	12.0	7.8	13.4	24.0	2.76	Pass

Note:

1. Sum Power is a calculated result from sum of the power Ant. 1 and Ant. 2.
2. For the band 5250-5350 MHz, 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..

Test Band :	5GHz band 3	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Sum Power			
11a	6Mbps	2	100	5500	13.0	10.0	14.8	24.0	3.06	Pass
11a	6Mbps	2	116	5580	12.9	10.0	14.7	24.0	3.06	Pass
11a	6Mbps	2	140	5700	12.9	9.5	14.6	24.0	3.06	Pass
HT20	MCS0	2	100	5500	13.0	10.0	14.8	24.0	3.06	Pass
HT20	MCS0	2	116	5580	12.8	9.7	14.5	24.0	3.06	Pass
HT20	MCS0	2	140	5700	12.8	9.8	14.5	24.0	3.06	Pass
HT40	MCS0	2	102	5510	13.0	10.0	14.8	24.0	3.06	Pass
HT40	MCS0	2	110	5550	12.9	9.7	14.6	24.0	3.06	Pass
HT40	MCS0	2	134	5670	12.8	9.7	14.5	24.0	3.06	Pass

Note:

1. Sum Power is a calculated result from sum of the power Ant. 1 and Ant. 2.
2. For the 5470-5600MHz and 5650-5725MHz 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.

Test Band :	Straddle Channel	Temperature :	24~27°C
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Power Limit (dBm)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Sum Power			
11a	6Mbps	2	144	5720	12.8	10.0	14.6	-	3.06	Pass
				NII -2e	11.9	9.1	13.7	22.9	3.06	Pass
				DTS	5.4	2.7	7.3	23.8	3.06	Pass
HT20	MCS0	2	144	5720	13.0	10.0	14.8	-	3.06	Pass
				NII -2e	12.1	9.0	13.8	23.0	3.06	Pass
				DTS	5.9	3.2	7.7	24.4	3.06	Pass
HT40	MCS0	2	142	5710	13.0	10.0	14.8	-	3.06	Pass
				NII -2e	12.9	9.8	14.6	24.0	3.06	Pass
				DTS	-1.1	-3.8	0.8	24.7	3.06	Pass

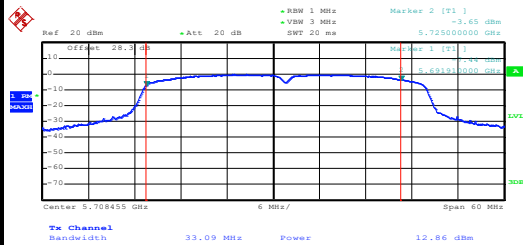
Note:

1. Sum Power is a calculated result from sum of the power Ant. 1 and Ant. 2.
2. For lower band falls into 5470-5725 MHz, 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.
3. For upper band falls into 5725-5825 MHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W (30dBm) or 17 dBm + 10log (B), where B is 26dB BW for FCC.

Maximum Straddle Channel Power

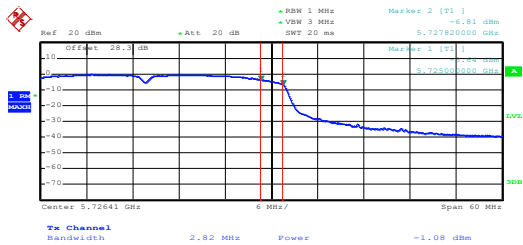
Ant. 1

NII-2e Band



Date: 6.SEP.2013 14:24:47

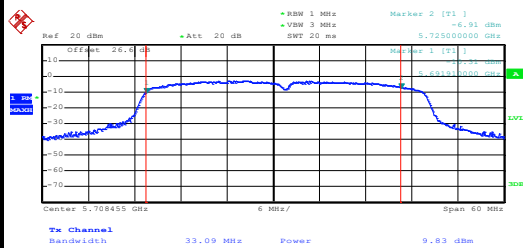
DTS Band



Date: 6.SEP.2013 14:23:10

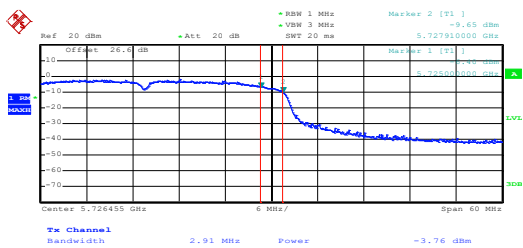
Ant. 2

NII-2e Band



Date: 6.SEP.2013 14:35:39

DTS Band



Date: 6.SEP.2013 14:32:50

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

For the bands 5250-5350 MHz, 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5720 MHz, peak power spectral density shall not exceed 11 dBm in any 1-MHz.

U-NII limits were applied for straddle channel in accordance with FCC KDB 644545 D01.

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

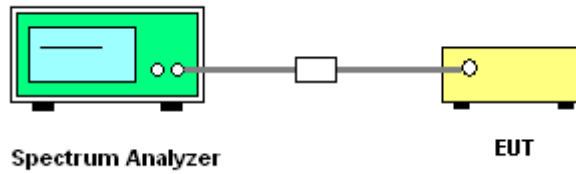
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

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.
4. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Band :	5GHz band 1	Temperature :	24~27°C
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass /Fail
					Sum PSD			
11a	6Mbps	2	36	5180	2.06	4.00	5.65	Pass
11a	6Mbps	2	44	5220	1.59	4.00	5.65	Pass
11a	6Mbps	2	48	5240	1.44	4.00	5.65	Pass
HT20	MCS0	2	36	5180	1.84	4.00	5.65	Pass
HT20	MCS0	2	44	5220	1.28	4.00	5.65	Pass
HT20	MCS0	2	48	5240	1.19	4.00	5.65	Pass
HT40	MCS0	2	38	5190	-5.15	4.00	5.65	Pass
HT40	MCS0	2	46	5230	-1.12	4.00	5.65	Pass

Note: Sum PSD is a bin-by-bin combined result of Ant. 1 and Ant. 2.

Test Band :	5GHz band 2	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass /Fail
					Sum PSD			
11a	6Mbps	2	52	5260	1.06	11.00	5.77	Pass
11a	6Mbps	2	60	5300	1.01	11.00	5.77	Pass
11a	6Mbps	2	64	5320	0.98	11.00	5.77	Pass
HT20	MCS0	2	52	5260	0.79	11.00	5.77	Pass
HT20	MCS0	2	60	5300	0.77	11.00	5.77	Pass
HT20	MCS0	2	64	5320	0.69	11.00	5.77	Pass
HT40	MCS0	2	54	5270	-2.01	11.00	5.77	Pass
HT40	MCS0	2	62	5310	-2.98	11.00	5.77	Pass

Note: Sum PSD is a bin-by-bin combined result of Ant. 1 and Ant. 2.

Test Band :	5GHz band 3	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

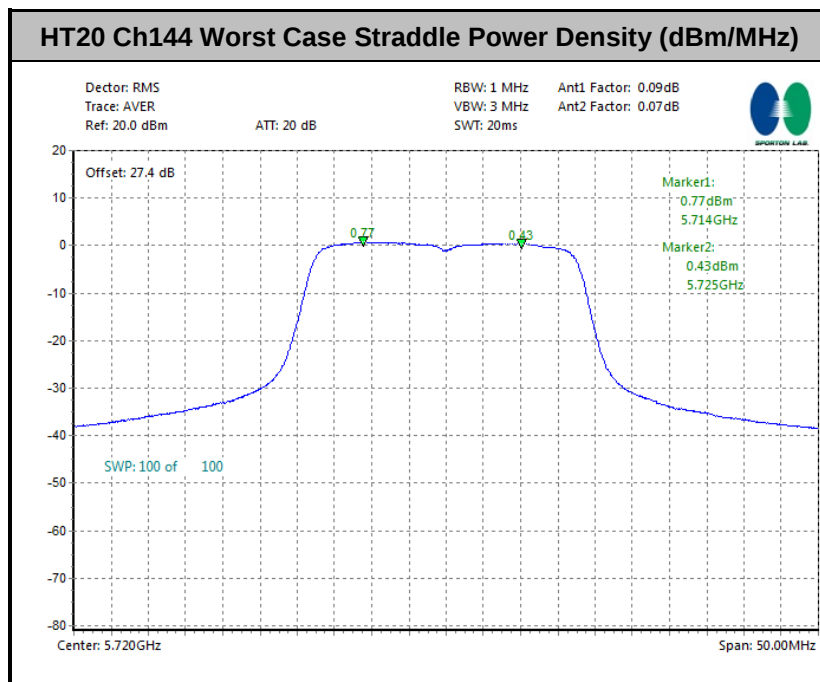
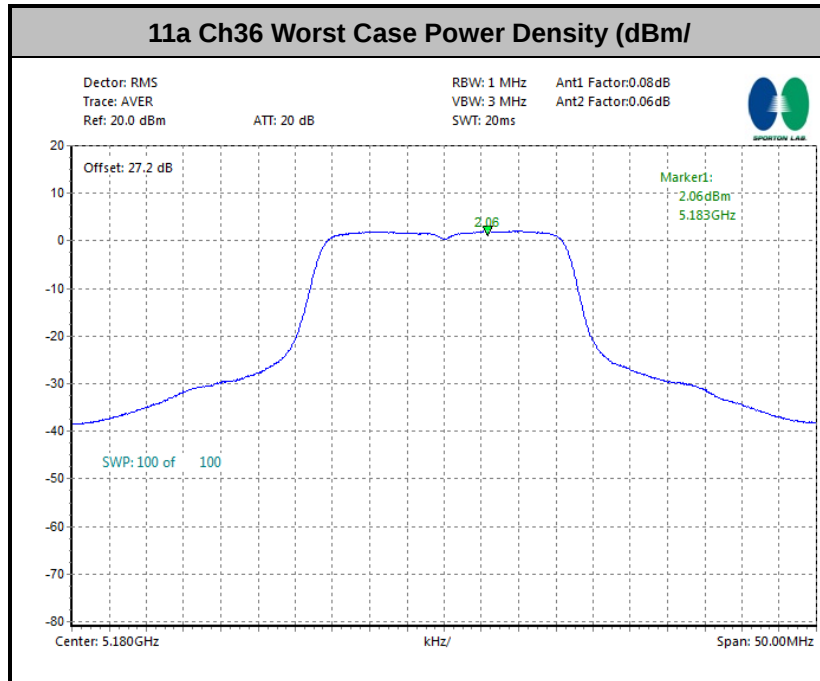
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass /Fail
					Sum PSD			
11a	6Mbps	2	100	5500	1.85	10.93	6.07	Pass
11a	6Mbps	2	116	5580	1.05	10.93	6.07	Pass
11a	6Mbps	2	140	5700	0.61	10.93	6.07	Pass
HT20	MCS0	2	100	5500	1.63	10.93	6.07	Pass
HT20	MCS0	2	116	5580	0.80	10.93	6.07	Pass
HT20	MCS0	2	140	5700	0.30	10.93	6.07	Pass
HT40	MCS0	2	102	5510	-0.91	10.93	6.07	Pass
HT40	MCS0	2	110	5550	-0.97	10.93	6.07	Pass
HT40	MCS0	2	134	5670	-1.50	10.93	6.07	Pass

Note: Sum PSD is a bin-by-bin combined result of Ant. 1 and Ant. 2.

Test Band :	Straddle Channel	Temperature :	24~27℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass /Fail
					Sum PSD			
11a	6Mbps	2	144	NII -2e	0.24	10.93	6.07	Pass
				DTS	-0.07	10.93	6.07	Pass
HT20	MCS0	2	144	NII -2e	0.77	10.93	6.07	Pass
				DTS	0.43	10.93	6.07	Pass
HT40	MCS0	2	142	NII -2e	-1.22	10.93	6.07	Pass
				DTS	-4.55	10.93	6.07	Pass

Note: Sum PSD is a bin-by-bin combined result of Ant. 1 and Ant. 2.



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.

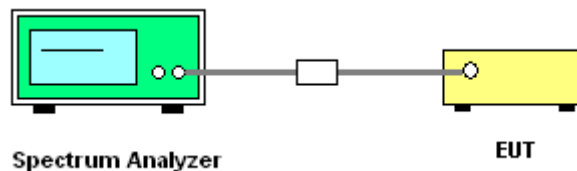
3.4.3 Test Procedures

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

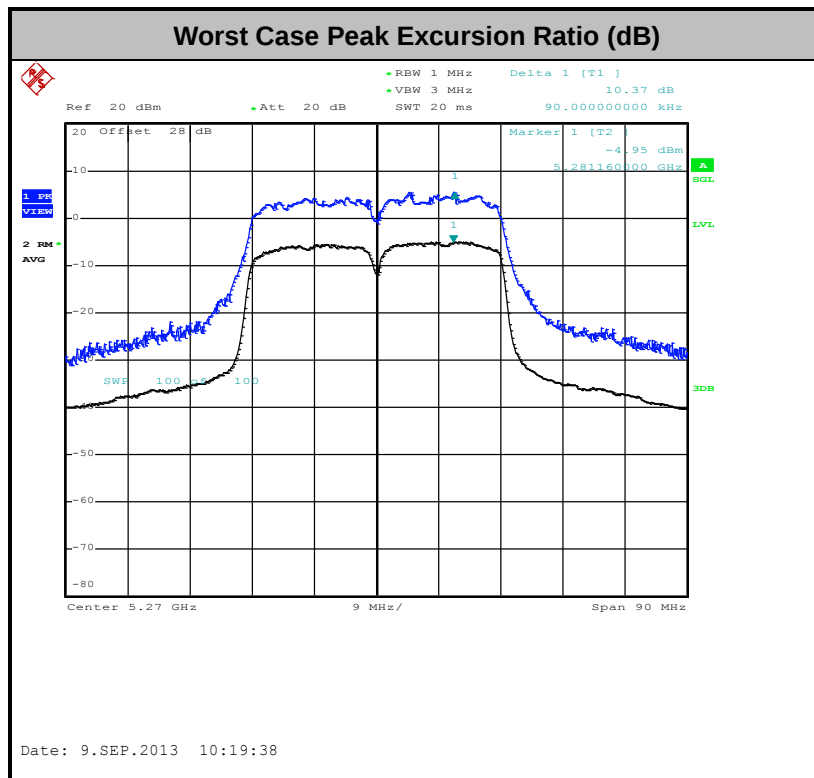
Test Band :	5GHz band 1,2,3	Temperature :	24~27°C
Test Engineer :	Stuart Lin	Relative Humidity :	45~55%

Mod.	N _{TX}	Channel	Freq. (MHz)	Peak Excursion Ratio (dB)					Max. Limits (dB)	Pass/Fail
				BPSK	QPSK	16QAM	64QAM	256QAM		
11a	2	36	5180	8.85	10.31	9.94	10.60	-	13	Pass
HT20	2	36	5180	8.71	9.55	9.95	10.76	-	13	Pass
HT40	2	38	5190	9.84	9.58	9.74	11.17	-	13	Pass

Mod.	N _{TX}	Channel	Freq. (MHz)	Peak Excursion Ratio (dB)					Max. Limits (dB)	Pass/Fail
				BPSK	QPSK	16QAM	64QAM	256QAM		
11a	2	52	5260	8.91	9.85	9.81	10.85	-	13	Pass
HT20	2	52	5260	8.58	9.92	9.99	10.61	-	13	Pass
HT40	2	54	5270	9.57	9.75	10.02	11.20	-	13	Pass

Mod.	N _{TX}	Channel	Freq. (MHz)	Peak Excursion Ratio (dB)					Max. Limits (dB)	Pass/Fail
				BPSK	QPSK	16QAM	64QAM	256QAM		
11a	2	100	5500	8.67	10.24	10.21	10.29	-	13	Pass
HT20	2	100	5500	9.18	9.40	9.49	10.93	-	13	Pass
HT40	2	102	5510	9.37	9.83	9.87	10.95	-	13	Pass

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



Note:

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

3.5 Unwanted Emissions Measurement

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

3.5.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

- (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.

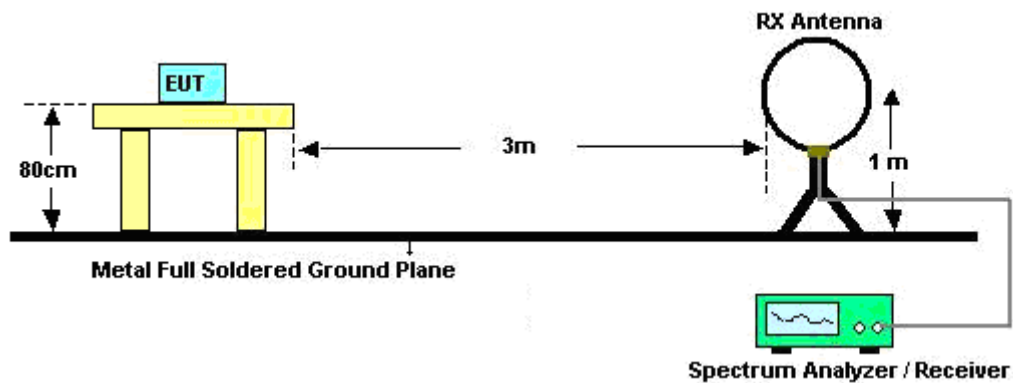
3.5.3 Test Procedures

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 $\geq$ 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.
 - For 802.11a, the VBW are set 10Hz; for 802.11n HT20 mode, the VBW are set 1kHz for Ant. 1 and 10Hz for Ant 2; for 802.11n HT40, the VBW is set to 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

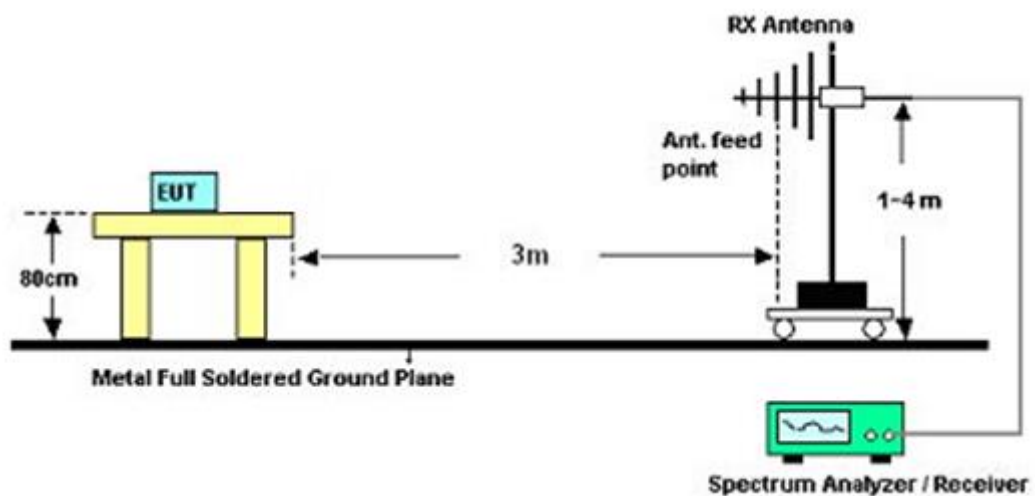
average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

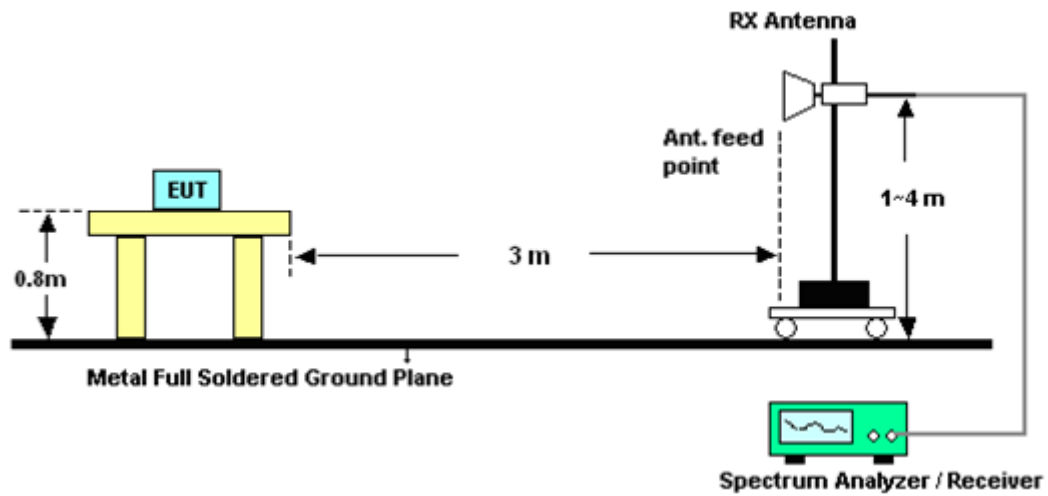
For radiated emissions below 30MHz



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 of Radiated Band Edges

MIMO<Ant. 1+ 2>

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5148.35	55.02	-18.98	74	47.13	34.18	8.65	34.94	108	180	Peak
5149.85	41.69	-12.31	54	33.8	34.18	8.65	34.94	108	180	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
5120.15	52.9	-21.1	74	44.86	34.39	8.6	34.95	101	135	Peak
5150	41.37	-12.63	54	33.24	34.42	8.65	34.94	101	135	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5133.65	52.27	-21.73	74	44.21	34.41	8.6	34.95	100	138	Peak
5120	40.88	-13.12	54	32.84	34.39	8.6	34.95	100	138	Average
5371.01	54.02	-19.98	74	45.52	34.55	8.8	34.85	100	138	Peak
5381.9	41.93	-12.07	54	33.41	34.55	8.81	34.84	100	138	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
5096.15	52.12	-21.88	74	44.31	34.22	8.55	34.96	100	324	Peak
5122.1	40.71	-13.29	54	32.85	34.21	8.6	34.95	100	324	Average
5430.63	53.31	-20.69	74	44.85	34.47	8.81	34.82	100	324	Peak
5440.09	41.75	-12.25	54	33.29	34.47	8.81	34.82	100	324	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5138.75	52.17	-21.83	74	44.11	34.41	8.6	34.95	101	138	Peak
5120	40.87	-13.13	54	32.83	34.39	8.6	34.95	101	138	Average
5364.19	53.55	-20.45	74	45.05	34.55	8.8	34.85	101	138	Peak
5381.9	41.91	-12.09	54	33.39	34.55	8.81	34.84	101	138	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
5134.55	52.04	-21.96	74	44.2	34.19	8.6	34.95	106	217	Peak
5120	40.96	-13.04	54	33.1	34.21	8.6	34.95	106	217	Average
5357.7	54.39	-19.61	74	46.14	34.3	8.8	34.85	106	217	Peak
5370.9	41.98	-12.02	54	33.7	34.33	8.8	34.85	106	217	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5401.59	54.22	-19.78	74	45.68	34.56	8.81	34.83	100	138	Peak
5382.01	42.33	-11.67	54	33.81	34.55	8.81	34.84	100	138	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5352.09	54.52	-19.48	74	46.27	34.3	8.8	34.85	114	228	Peak
5350	42.67	-11.33	54	34.42	34.3	8.8	34.85	114	228	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5439.76	54.51	-19.49	74	45.95	34.57	8.81	34.82	106	137	Peak
5459.92	43.83	-10.17	54	35.25	34.58	8.81	34.81	106	137	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5460.08	56.68	-17.32	74	48.18	34.5	8.81	34.81	100	154	Peak
5459.92	47.58	-6.42	54	39.08	34.5	8.81	34.81	100	154	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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	53.5	-20.5	74	44.63	34.69	9.07	34.89	102	140	Peak
5725	42.08	-11.92	54	33.21	34.69	9.07	34.89	102	140	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	56.65	-17.35	74	47.78	34.69	9.07	34.89	106	225	Peak
5725	42.49	-11.51	54	33.62	34.69	9.07	34.89	106	225	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5148.5	52.59	-21.41	74	44.46	34.42	8.65	34.94	101	128	Peak
5147.9	41.49	-12.51	54	33.36	34.42	8.65	34.94	101	128	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	55.24	-18.76	74	47.35	34.18	8.65	34.94	109	219	Peak
5149.7	43.2	-10.8	54	35.31	34.18	8.65	34.94	109	219	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5061.35	51.83	-22.17	74	44.02	34.35	8.44	34.98	100	136	Peak
5147.9	40.98	-13.02	54	32.85	34.42	8.65	34.94	100	136	Average
5386.3	53.54	-20.46	74	45.02	34.55	8.81	34.84	100	136	Peak
5355.94	42.11	-11.89	54	33.62	34.54	8.8	34.85	100	136	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
5147.9	52.7	-21.3	74	44.81	34.18	8.65	34.94	128	214	Peak
5147.75	40.98	-13.02	54	33.09	34.18	8.65	34.94	128	214	Average
5394	53.79	-20.21	74	45.45	34.37	8.81	34.84	128	214	Peak
5387.95	42.01	-11.99	54	33.67	34.37	8.81	34.84	128	214	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5054.75	51.66	-22.34	74	43.85	34.35	8.44	34.98	100	133	Peak
5148.2	41.12	-12.88	54	32.99	34.42	8.65	34.94	100	133	Average
5393.78	53.42	-20.58	74	44.9	34.55	8.81	34.84	100	133	Peak
5382.34	41.8	-12.2	54	33.28	34.55	8.81	34.84	100	133	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
5017.1	51.6	-22.4	74	43.97	34.29	8.33	34.99	139	215	Peak
5147.75	40.93	-13.07	54	33.04	34.18	8.65	34.94	139	215	Average
5369.47	53.64	-20.36	74	45.36	34.33	8.8	34.85	139	215	Peak
5440.09	42.15	-11.85	54	33.69	34.47	8.81	34.82	139	215	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5407.75	53.77	-20.23	74	45.23	34.56	8.81	34.83	100	161	Peak
5433.93	44.85	-9.15	54	36.29	34.57	8.81	34.82	100	161	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
5394.22	54.01	-19.99	74	45.67	34.37	8.81	34.84	114	228	Peak
5350.88	42.84	-11.16	54	34.59	34.3	8.8	34.85	114	228	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5420.4	53.46	-20.54	74	44.91	34.57	8.81	34.83	110	41	Peak
5440.24	42.04	-11.96	54	33.48	34.57	8.81	34.82	110	41	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
5433.84	54.7	-19.3	74	46.24	34.47	8.81	34.82	100	156	Peak
5434	45.12	-8.88	54	36.66	34.47	8.81	34.82	100	156	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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	58.06	-15.94	74	49.19	34.69	9.07	34.89	101	138	Peak
5725.08	44.2	-9.8	54	35.33	34.69	9.07	34.89	101	138	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	57.33	-16.67	74	48.46	34.69	9.07	34.89	138	355	Peak
5725	43.99	-10.01	54	35.12	34.69	9.07	34.89	138	355	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5148.65	53.28	-20.72	74	45.15	34.42	8.65	34.94	100	134	Peak
5149.4	42.94	-11.06	54	34.81	34.42	8.65	34.94	100	134	Average
5411.05	52.65	-21.35	74	44.11	34.56	8.81	34.83	100	134	Peak
5371.01	42.13	-11.87	54	33.63	34.55	8.8	34.85	100	134	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
5149.85	59.72	-14.28	74	51.83	34.18	8.65	34.94	107	218	Peak
5150	47.73	-6.27	54	39.84	34.18	8.65	34.94	107	218	Average
5358.91	52.91	-21.09	74	44.66	34.3	8.8	34.85	107	218	Peak
5433.82	42.42	-11.58	54	33.96	34.47	8.81	34.82	107	218	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5149.4	52.11	-21.89	74	43.98	34.42	8.65	34.94	100	136	Peak
5148.05	41.36	-12.64	54	33.23	34.42	8.65	34.94	100	136	Average
5396.31	53.17	-20.83	74	44.64	34.56	8.81	34.84	100	136	Peak
5355.94	42.25	-11.75	54	33.76	34.54	8.8	34.85	100	136	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	52.55	-21.45	74	44.66	34.18	8.65	34.94	108	210	Peak
5132.15	41.65	-12.35	54	33.81	34.19	8.6	34.95	108	210	Average
5398.51	53.24	-20.76	74	44.87	34.4	8.81	34.84	108	210	Peak
5362.21	42.02	-11.98	54	33.74	34.33	8.8	34.85	108	210	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5142.05	52.22	-21.78	74	44.1	34.42	8.65	34.95	100	136	Peak
5139.2	41.3	-12.7	54	33.24	34.41	8.6	34.95	100	136	Average
5440.09	53.08	-20.92	74	44.52	34.57	8.81	34.82	100	136	Peak
5356.16	42.75	-11.25	54	34.26	34.54	8.8	34.85	100	136	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
5105.9	51.85	-22.15	74	44.05	34.21	8.55	34.96	103	225	Peak
5147.9	41.43	-12.57	54	33.54	34.18	8.65	34.94	103	225	Average
5384.43	54.1	-19.9	74	45.76	34.37	8.81	34.84	103	225	Peak
5357.37	42.83	-11.17	54	34.58	34.3	8.8	34.85	103	225	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5122.1	52.13	-21.87	74	44.09	34.39	8.6	34.95	101	165	Peak
5147.3	41.21	-12.79	54	33.08	34.42	8.65	34.94	101	165	Average
5352.2	58.15	-15.85	74	49.66	34.54	8.8	34.85	101	165	Peak
5350	47.44	-6.56	54	38.95	34.54	8.8	34.85	101	165	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5103.95	51.9	-22.1	74	44.09	34.22	8.55	34.96	103	218	Peak
5148.05	41.31	-12.69	54	33.42	34.18	8.65	34.94	103	218	Average
5350.44	63.01	-10.99	74	54.76	34.3	8.8	34.85	103	218	Peak
5350	51.9	-2.1	54	43.65	34.3	8.8	34.85	103	218	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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	59.37	-14.63	74	50.78	34.59	8.81	34.81	119	40	Peak
5469.84	48.83	-5.17	54	40.24	34.59	8.81	34.81	119	40	Average
5737.64	52.46	-21.54	74	43.59	34.7	9.07	34.9	119	40	Peak
5745.08	42.04	-11.96	54	33.14	34.7	9.1	34.9	119	40	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
5467.28	62.78	-11.22	74	54.25	34.53	8.81	34.81	100	156	Peak
5470	51.97	-2.03	54	43.44	34.53	8.81	34.81	100	156	Average
5749.72	52.6	-21.4	74	43.7	34.7	9.1	34.9	100	156	Peak
5753.8	42.06	-11.94	54	33.15	34.71	9.1	34.9	100	156	Average

MIMO<Ant. 1+ 2>

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu		

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
5413.84	53.29	-20.71	74	44.74	34.57	8.81	34.83	103	134	Peak
5460.4	42.14	-11.86	54	33.56	34.58	8.81	34.81	103	134	Average
5734.28	53.62	-20.38	74	44.76	34.69	9.07	34.9	103	134	Peak
5745.8	42.31	-11.69	54	33.41	34.7	9.1	34.9	103	134	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
5395.28	53.43	-20.57	74	45.06	34.4	8.81	34.84	107	216	Peak
5460.08	43.23	-10.77	54	34.73	34.5	8.81	34.81	107	216	Average
5749.48	53.58	-20.42	74	44.68	34.7	9.1	34.9	107	216	Peak
5727.08	42.47	-11.53	54	33.6	34.69	9.07	34.89	107	216	Average

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

MIMO<Ant.1 +2>

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5178 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
5178	93.88	-	-	85.65	34.45	8.71	34.93	101	135	Average
5178	106.9	-	-	98.67	34.45	8.71	34.93	101	135	Peak
10359	46.5	-7.5	54	54.26	37.69	12	57.45	100	0	Peak
15540	46.86	-7.14	54	47.97	40.33	17.13	58.57	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5182 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
5182	95.74	-	-	87.81	34.15	8.71	34.93	108	180	Average
5182	108.14	-	-	100.21	34.15	8.71	34.93	108	180	Peak
10359	44.21	-9.79	54	52.51	37.15	12	57.45	100	0	Peak
15540	46.67	-7.33	54	48.61	39.5	17.13	58.57	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5222 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band, and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5222	93.83	-	-	85.5	34.47	8.77	34.91	100	135	Average
5222	105.64	-	-	97.31	34.47	8.77	34.91	100	135	Peak
10440	46.92	-7.08	54	54.56	37.75	12.04	57.43	100	0	Peak
15660	47.82	-6.18	54	48.44	40.8	17.06	58.48	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5222 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band, and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5222	95.58	-	-	87.59	34.13	8.77	34.91	106	160	Average
5222	108.57	-	-	100.58	34.13	8.77	34.91	106	160	Peak
10440	43.31	-10.69	54	51.57	37.13	12.04	57.43	100	0	Peak
15660	46.92	-7.08	54	48.84	39.5	17.06	58.48	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5242 MHz is fundamental signal which can be ignored. 2. 10479 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
5242	93.64	-	-	85.28	34.5	8.77	34.91	100	138	Average
5242	106.29	-	-	97.93	34.5	8.77	34.91	100	138	Peak
10479	46.75	-7.25	54	54.3	37.79	12.07	57.41	100	0	Peak
15720	48.12	-5.88	54	48.44	41.07	17.03	58.42	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 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
5238	93.45	-	-	85.48	34.11	8.77	34.91	100	324	Average
5238	106.11	-	-	98.14	34.11	8.77	34.91	100	324	Peak
10479	43.61	-10.39	54	51.84	37.11	12.07	57.41	100	0	Peak
15720	47.22	-6.78	54	49.11	39.5	17.03	58.42	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5262 MHz is fundamental signal which can be ignored. 2. 10521 MHz and 7012 MHz are not within a restricted band. 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
123.15	21.53	-21.97	43.5	40.5	11.61	1.3	31.88	-	-	Peak
165.81	18.22	-25.28	43.5	39.13	9.39	1.5	31.8	-	-	Peak
275.16	22.71	-23.29	46	39.97	12.51	1.93	31.7	-	-	Peak
305.6	25.46	-20.54	46	41.86	13.24	2.02	31.66	105	221	Peak
531.7	21.69	-24.31	46	32.65	17.61	2.67	31.24	-	-	Peak
589.8	24.18	-21.82	46	34.12	18.45	2.81	31.2	-	-	Peak
5262	93.4	-	-	85	34.51	8.78	34.89	101	138	Average
5262	105.71	-	-	97.31	34.51	8.78	34.89	101	138	Peak
7012	56.34	-11.96	68.3	68.37	35.69	10.21	57.93	131	148	Peak
10521	46.52	-21.78	68.3	54.01	37.81	12.1	57.4	100	0	Peak
15780	46.93	-7.07	54	47.13	41.19	16.99	58.38	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5258 MHz is fundamental signal which can be ignored. 2. 10521 MHz and 7014 MHz are not within a restricted band. 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
30.27	35.17	-4.83	40	44.93	21.66	0.64	32.06	100	169	Peak
42.42	29.14	-10.86	40	49.27	11.1	0.76	31.99	-	-	Peak
71.85	22.23	-17.77	40	47.43	5.75	1	31.95	-	-	Peak
307	23.58	-22.42	46	39.67	13.56	2.02	31.67	-	-	Peak
587	22.77	-23.23	46	32.55	18.63	2.8	31.21	-	-	Peak
673.1	23.31	-22.69	46	32.44	18.87	2.99	30.99	-	-	Peak
5258	96.31	-	-	88.33	34.1	8.77	34.89	106	217	Average
5258	108.1	-	-	100.12	34.1	8.77	34.89	106	217	Peak
7014	54.16	-14.14	68.3	66.25	35.6	10.24	57.93	112	71	Peak
10521	43.29	-25.01	68.3	51.48	37.11	12.1	57.4	100	0	Peak
15780	46.68	-7.32	54	48.53	39.54	16.99	58.38	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 7066 MHz and 10599 MHz are not within a restricted band. 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
5298	92.56	-	-	84.13	34.52	8.78	34.87	100	139	Average
5298	105.24	-	-	96.81	34.52	8.78	34.87	100	139	Peak
7066	55	-13.3	68.3	67.04	35.67	10.31	58.02	130	150	Peak
10599	44.81	-23.49	68.3	52.25	37.84	12.14	57.42	100	0	Peak
15900	47.7	-6.3	54	47.97	41.09	16.92	58.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 7066 MHz and 10599 MHz are not within a restricted band. 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
5298	94.65	-	-	86.54	34.2	8.78	34.87	102	226	Average
5298	106.81	-	-	98.7	34.2	8.78	34.87	102	226	Peak
7066	52.06	-16.24	68.3	64.17	35.6	10.31	58.02	111	64	Peak
10599	43.75	-24.55	68.3	51.85	37.18	12.14	57.42	100	0	Peak
15900	46.4	-7.6	54	47.92	39.84	16.92	58.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5322 MHz is fundamental signal which can be ignored. 2. 7092 MHz is not within a restricted band. 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
5322	92.5	-	-	84.05	34.53	8.79	34.87	100	138	Average
5322	105.26	-	-	96.81	34.53	8.79	34.87	100	138	Peak
7092	53.97	-14.33	68.3	66.01	35.67	10.35	58.06	102	187	Peak
10641	43.68	-10.32	54	51.1	37.85	12.16	57.43	100	0	Peak
15960	47.36	-6.64	54	47.67	41.03	16.89	58.23	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. 7092 MHz is not within a restricted band. 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
5318	95.89	-	-	87.74	34.23	8.79	34.87	114	228	Average
5318	107.37	-	-	99.22	34.23	8.79	34.87	114	228	Peak
7092	52.34	-15.96	68.3	64.45	35.6	10.35	58.06	110	65	Peak
10641	42.58	-11.42	54	50.64	37.21	12.16	57.43	100	0	Peak
15960	46.11	-7.89	54	47.44	40.01	16.89	58.23	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5498 MHz is fundamental signal which can be ignored. 2. 16500 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
5498	94.61	-	-	86	34.6	8.81	34.8	106	137	Average
5498	107.3	-	-	98.69	34.6	8.81	34.8	106	137	Peak
11001	43.66	-10.34	54	50.83	38	12.33	57.5	100	0	Peak
16500	47.64	-6.36	54	46.12	41.7	17.12	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5502 MHz is fundamental signal which can be ignored. 2. 16500 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
5502	96.53	-	-	87.93	34.6	8.81	34.81	100	154	Average
5502	109.11	-	-	100.51	34.6	8.81	34.81	100	154	Peak
11001	42.43	-11.57	54	50.2	37.4	12.33	57.5	100	0	Peak
16500	46.38	-7.62	54	46.06	40.5	17.12	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5578 MHz is fundamental signal which can be ignored. 2. 16740 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
5578	93.33	-	-	84.64	34.63	8.9	34.84	107	140	Average
5578	105.73	-	-	97.04	34.63	8.9	34.84	107	140	Peak
11160	44.16	-9.84	54	50.81	38.27	12.51	57.43	100	0	Peak
16740	47.11	-6.89	54	45.37	42.3	16.74	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5578 MHz is fundamental signal which can be ignored. 2. 16740 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
5578	97.04	-	-	88.35	34.63	8.9	34.84	100	213	Average
5578	108.4	-	-	99.71	34.63	8.9	34.84	100	213	Peak
11160	43.56	-10.44	54	51.01	37.47	12.51	57.43	100	0	Peak
16740	46.79	-7.21	54	46.05	41.3	16.74	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5698 MHz is fundamental signal which can be ignored. 2. 17100 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
5698	94.77	-	-	85.92	34.68	9.05	34.88	102	140	Average
5698	107.96	-	-	99.11	34.68	9.05	34.88	102	140	Peak
11400	44.72	-9.28	54	50.74	38.52	12.8	57.34	100	0	Peak
17100	48.92	-5.08	54	47.48	42.64	16.36	57.56	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5698 MHz is fundamental signal which can be ignored. 2. 17100 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
5698	96.34	-	-	87.49	34.68	9.05	34.88	106	225	Average
5698	108.49	-	-	99.64	34.68	9.05	34.88	106	225	Peak
11400	43.81	-10.19	54	50.67	37.68	12.8	57.34	100	0	Peak
17100	45.84	-8.16	54	46	41.04	16.36	57.56	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	144	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5718 MHz is fundamental signal which can be ignored. 2. 17160 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
5718	94.75	-	-	85.88	34.69	9.07	34.89	101	138	Average
5718	107.12	-	-	98.25	34.69	9.07	34.89	101	138	Peak
11439	44.83	-9.17	54	50.75	38.55	12.86	57.33	100	0	Peak
17160	47.84	-6.16	54	46.39	42.8	16.38	57.73	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	144	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5718 MHz is fundamental signal which can be ignored. 2. 17160 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
5718	96.12	-	-	87.25	34.69	9.07	34.89	107	216	Average
5718	108.54	-	-	99.67	34.69	9.07	34.89	107	216	Peak
11439	44.27	-9.73	54	51.02	37.72	12.86	57.33	100	0	Peak
17160	45.84	-8.16	54	46.26	40.93	16.38	57.73	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5178 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
5178	95.54	-	-	87.31	34.45	8.71	34.93	101	128	Average
5178	105.33	-	-	97.1	34.45	8.71	34.93	101	128	Peak
10359	44.11	-9.89	54	51.87	37.69	12	57.45	100	0	Peak
15540	48.48	-5.52	54	49.59	40.33	17.13	58.57	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5178 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
5178	97.93	-	-	90	34.15	8.71	34.93	109	219	Average
5178	107.82	-	-	99.89	34.15	8.71	34.93	109	219	Peak
10359	42.37	-11.63	54	50.67	37.15	12	57.45	100	0	Peak
15540	46.55	-7.45	54	48.49	39.5	17.13	58.57	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5218 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band, and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5218	95.96	-	-	87.64	34.47	8.77	34.92	100	135	Average
5218	106.33	-	-	98.01	34.47	8.77	34.92	100	135	Peak
10440	43.86	-10.14	54	51.5	37.75	12.04	57.43	100	0	Peak
15660	47	-7	54	47.62	40.8	17.06	58.48	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5222 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band, and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5222	97.72	-	-	89.73	34.13	8.77	34.91	106	221	Average
5222	107.81	-	-	99.82	34.13	8.77	34.91	106	221	Peak
10440	43.57	-10.43	54	51.83	37.13	12.04	57.43	100	0	Peak
15660	46.07	-7.93	54	47.99	39.5	17.06	58.48	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 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
5238	95.84	-	-	87.49	34.49	8.77	34.91	100	136	Average
5238	105.96	-	-	97.61	34.49	8.77	34.91	100	136	Peak
10479	44.18	-9.82	54	51.73	37.79	12.07	57.41	100	0	Peak
15720	48.99	-5.01	54	49.31	41.07	17.03	58.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5242 MHz is fundamental signal which can be ignored. 2. 10479 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
5242	97.87	-	-	89.91	34.1	8.77	34.91	128	214	Average
5242	108.18	-	-	100.22	34.1	8.77	34.91	128	214	Peak
10479	44.39	-9.61	54	52.62	37.11	12.07	57.41	100	0	Peak
15720	46.26	-7.74	54	48.15	39.5	17.03	58.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5258 MHz is fundamental signal which can be ignored. 2. 7012 MHz and 10521 MHz are not within a restricted band. 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
121.53	20.74	-22.76	43.5	39.81	11.53	1.29	31.89	-	-	Peak
165.54	17.6	-25.9	43.5	38.51	9.39	1.5	31.8	-	-	Peak
291.36	24.52	-21.48	46	41.46	12.76	1.97	31.67	-	-	Peak
304.9	25.78	-20.22	46	42.18	13.24	2.02	31.66	102	198	Peak
477.8	21.25	-24.75	46	33.08	16.87	2.51	31.21	-	-	Peak
594.7	23.4	-22.6	46	33.24	18.53	2.82	31.19	-	-	Peak
5258	90.42	-	-	82.04	34.5	8.77	34.89	100	133	Average
5258	104.24	-	-	95.86	34.5	8.77	34.89	100	133	Peak
7012	55.89	-12.41	68.3	67.92	35.69	10.21	57.93	131	150	Peak
10521	44.42	-23.88	68.3	51.91	37.81	12.1	57.4	100	0	Peak
15780	47.13	-6.87	54	47.33	41.19	16.99	58.38	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5258 MHz is fundamental signal which can be ignored. 2. 7012 MHz and 10521 MHz are not within a restricted band. 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
30.27	35.82	-4.18	40	45.58	21.66	0.64	32.06	100	218	Peak
42.42	29.88	-10.12	40	50.01	11.1	0.76	31.99	-	-	Peak
122.88	23.67	-19.83	43.5	43.36	10.91	1.29	31.89	-	-	Peak
302.8	23.67	-22.33	46	40.01	13.31	2.01	31.66	-	-	Peak
673.1	22.05	-23.95	46	31.18	18.87	2.99	30.99	-	-	Peak
896.4	26.15	-19.85	46	32.57	20.72	3.48	30.62	-	-	Peak
5258	96.62	-	-	88.64	34.1	8.77	34.89	139	215	Average
5258	106.47	-	-	98.49	34.1	8.77	34.89	139	215	Peak
7012	55.24	-13.06	68.3	67.36	35.6	10.21	57.93	125	312	Peak
10521	43.25	-25.05	68.3	51.44	37.11	12.1	57.4	100	0	Peak
15780	46.18	-7.82	54	48.03	39.54	16.99	58.38	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 7066 MHz and 10599 MHz are not within a restricted band. 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
5298	94.63	-	-	86.2	34.52	8.78	34.87	101	162	Average
5298	104.97	-	-	96.54	34.52	8.78	34.87	101	162	Peak
7066	54.4	-13.9	68.3	66.44	35.67	10.31	58.02	153	174	Peak
10599	44.34	-23.96	68.3	51.78	37.84	12.14	57.42	100	0	Peak
15900	48.82	-5.18	54	49.09	41.09	16.92	58.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 7066 MHz and 10599 MHz are not within a restricted band. 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
5298	96.4	-	-	88.29	34.2	8.78	34.87	137	232	Average
5298	106.5	-	-	98.39	34.2	8.78	34.87	137	232	Peak
7066	52.44	-15.86	68.3	64.55	35.6	10.31	58.02	111	64	Peak
10599	43.61	-24.69	68.3	51.71	37.18	12.14	57.42	100	0	Peak
15900	47.13	-6.87	54	48.65	39.84	16.92	58.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. 7092 MHz is not within a restricted band. 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
5318	94.74	-	-	86.29	34.53	8.79	34.87	100	161	Average
5318	104.44	-	-	95.99	34.53	8.79	34.87	100	161	Peak
7092	53.8	-14.5	68.3	65.84	35.67	10.35	58.06	141	175	Peak
10641	44.87	-9.13	54	52.29	37.85	12.16	57.43	100	0	Peak
15960	46.78	-7.22	54	47.09	41.03	16.89	58.23	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. 7092 MHz is not within a restricted band. 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
5318	97.45	-	-	89.3	34.23	8.79	34.87	114	228	Average
5318	106.9	-	-	98.75	34.23	8.79	34.87	114	228	Peak
7092	53.17	-15.13	68.3	65.28	35.6	10.35	58.06	125	236	Peak
10641	43.52	-10.48	54	51.58	37.21	12.16	57.43	100	0	Peak
15960	45.5	-8.5	54	46.83	40.01	16.89	58.23	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5502 MHz is fundamental signal which can be ignored. 2. 16500 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
5502	94.1	-	-	85.5	34.6	8.81	34.81	110	41	Average
5502	103.75	-	-	95.15	34.6	8.81	34.81	110	41	Peak
11001	43.77	-10.23	54	50.94	38	12.33	57.5	100	0	Peak
16500	47.46	-6.54	54	45.94	41.7	17.12	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5498 MHz is fundamental signal which can be ignored. 2. 16500 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
5498	99.53	-	-	90.92	34.6	8.81	34.8	100	156	Average
5498	109.96	-	-	101.35	34.6	8.81	34.8	100	156	Peak
11001	43.16	-10.84	54	50.93	37.4	12.33	57.5	100	0	Peak
16500	46.96	-7.04	54	46.64	40.5	17.12	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5582 MHz is fundamental signal which can be ignored. 2. 16740 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
5582	93.68	-	-	84.98	34.64	8.9	34.84	100	246	Average
5582	103.68	-	-	94.98	34.64	8.9	34.84	100	246	Peak
11160	43.93	-10.07	54	50.58	38.27	12.51	57.43	100	0	Peak
16740	47.57	-6.43	54	45.83	42.3	16.74	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5578 MHz is fundamental signal which can be ignored. 2. 16740 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
5578	98.45	-	-	89.76	34.63	8.9	34.84	100	159	Average
5578	108.95	-	-	100.26	34.63	8.9	34.84	100	159	Peak
11160	44.34	-9.66	54	51.79	37.47	12.51	57.43	100	0	Peak
16740	46.4	-7.6	54	45.66	41.3	16.74	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5698 MHz is fundamental signal which can be ignored. 2. 17100 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
5698	96.4	-	-	87.55	34.68	9.05	34.88	101	138	Average
5698	106.92	-	-	98.07	34.68	9.05	34.88	101	138	Peak
11400	44.35	-9.65	54	50.37	38.52	12.8	57.34	100	0	Peak
17100	47.92	-6.08	54	46.48	42.64	16.36	57.56	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5702 MHz is fundamental signal which can be ignored. 2. 17100 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
5702	95.88	-	-	87.02	34.69	9.05	34.88	138	355	Average
5702	105.26	-	-	96.4	34.69	9.05	34.88	138	355	Peak
11400	43.87	-10.13	54	50.73	37.68	12.8	57.34	100	0	Peak
17100	45.99	-8.01	54	46.15	41.04	16.36	57.56	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	144	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5718 MHz is fundamental signal which can be ignored. 2. 17160 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
5718	97.24	-	-	88.37	34.69	9.07	34.89	100	138	Average
5718	107.18	-	-	98.31	34.69	9.07	34.89	100	138	Peak
11439	42.49	-11.51	54	48.41	38.55	12.86	57.33	100	0	Peak
17160	45.86	-8.14	54	44.41	42.8	16.38	57.73	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	144	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5718 MHz is fundamental signal which can be ignored. 2. 17160 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
5718	96.68	-	-	87.81	34.69	9.07	34.89	150	354	Average
5718	106.77	-	-	97.9	34.69	9.07	34.89	150	354	Peak
11439	42.05	-11.95	54	48.8	37.72	12.86	57.33	100	0	Peak
17160	43.68	-10.32	54	44.1	40.93	16.38	57.73	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5192 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
5192	89.62	-	-	81.33	34.46	8.76	34.93	100	134	Average
5192	99.67	-	-	91.38	34.46	8.76	34.93	100	134	Peak
10380	42.01	-11.99	54	49.74	37.71	12.01	57.45	100	0	Peak
15570	45.96	-8.04	54	46.91	40.47	17.12	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5192 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
5192	93.36	-	-	85.39	34.14	8.76	34.93	107	218	Average
5192	103.33	-	-	95.36	34.14	8.76	34.93	107	218	Peak
10380	41.97	-12.03	54	50.26	37.15	12.01	57.45	100	0	Peak
15570	44.8	-9.2	54	46.72	39.5	17.12	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5228 MHz is fundamental signal which can be ignored. 2. 10461 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
5228	93.93	-	-	85.58	34.49	8.77	34.91	100	136	Average
5228	103.93	-	-	95.58	34.49	8.77	34.91	100	136	Peak
10461	42.07	-11.93	54	49.65	37.77	12.06	57.41	100	0	Peak
15690	45.12	-8.88	54	45.59	40.93	17.05	58.45	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5228 MHz is fundamental signal which can be ignored. 2. 10461 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
5228	96.98	-	-	89.01	34.11	8.77	34.91	108	210	Average
5228	107.17	-	-	99.2	34.11	8.77	34.91	108	210	Peak
10461	41.43	-12.57	54	49.67	37.11	12.06	57.41	100	0	Peak
15690	44.83	-9.17	54	46.73	39.5	17.05	58.45	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5268 MHz is fundamental signal which can be ignored. 2. 7026 MHz and 10539 MHz are not within a restricted band. 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
122.34	20.83	-22.67	43.5	39.82	11.61	1.29	31.89	-	-	Peak
275.7	23.05	-22.95	46	40.27	12.55	1.93	31.7	-	-	Peak
288.66	24.16	-21.84	46	41.18	12.69	1.96	31.67	103	267	Peak
587.7	23.95	-22.05	46	33.91	18.45	2.8	31.21	-	-	Peak
598.9	23.85	-22.15	46	33.61	18.59	2.83	31.18	-	-	Peak
695.5	21.34	-24.66	46	30.34	18.96	3.04	31	-	-	Peak
5268	92.46	-	-	84.06	34.51	8.78	34.89	100	136	Average
5268	102.01	-	-	93.61	34.51	8.78	34.89	100	136	Peak
7026	55.32	-12.98	68.3	67.32	35.69	10.24	57.93	105	199	Peak
10539	42.85	-25.45	68.3	50.35	37.81	12.1	57.41	100	0	Peak
15810	44.91	-9.09	54	45.13	41.16	16.97	58.35	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5272 MHz is fundamental signal which can be ignored. 2. 7026 MHz and 10539 MHz are not within a restricted band. 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
30	35.04	-4.96	40	44.8	21.66	0.64	32.06	100	134	Peak
42.42	34.75	-5.25	40	54.88	11.1	0.76	31.99	-	-	Peak
122.88	24.46	-19.04	43.5	44.15	10.91	1.29	31.89	-	-	Peak
529.6	22.93	-23.07	46	33.82	17.68	2.67	31.24	-	-	Peak
593.3	23.41	-22.59	46	32.99	18.79	2.82	31.19	-	-	Peak
673.1	22.79	-23.21	46	31.92	18.87	2.99	30.99	-	-	Peak
5272	95.61	-	-	87.58	34.13	8.78	34.88	103	225	Average
5272	105.49	-	-	97.46	34.13	8.78	34.88	103	225	Peak
7026	53.19	-15.11	68.3	65.28	35.6	10.24	57.93	102	69	Peak
10539	40.55	-27.75	68.3	48.73	37.13	12.1	57.41	100	0	Peak
15810	43.93	-10.07	54	45.68	39.63	16.97	58.35	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5312 MHz is fundamental signal which can be ignored. 2. 7080 MHz is not within a restricted band. 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
5312	91.74	-	-	83.29	34.53	8.79	34.87	101	165	Average
5312	101	-	-	92.55	34.53	8.79	34.87	101	165	Peak
7080	54.86	-13.44	68.3	66.94	35.67	10.31	58.06	141	147	Peak
10620	41.52	-12.48	54	48.94	37.85	12.15	57.42	100	0	Peak
15930	46.16	-7.84	54	46.46	41.06	16.9	58.26	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5312 MHz is fundamental signal which can be ignored. 2. 7080 MHz is not within a restricted band. 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
5312	95.33	-	-	87.18	34.23	8.79	34.87	103	218	Average
5312	105.03	-	-	96.88	34.23	8.79	34.87	103	218	Peak
7080	50.51	-17.79	68.3	62.66	35.6	10.31	58.06	100	69	Peak
10620	40.93	-13.07	54	49.01	37.19	12.15	57.42	100	0	Peak
15930	44.88	-9.12	54	46.31	39.93	16.9	58.26	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. 16530 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
5510	91.7	-	-	83.1	34.6	8.81	34.81	119	40	Average
5510	100.86	-	-	92.26	34.6	8.81	34.81	119	40	Peak
7346	45.47	-8.53	54	57.89	35.64	10.46	58.52	100	0	Peak
11019	41.68	-12.32	54	48.81	38.03	12.33	57.49	100	0	Peak
16530	45.8	-8.2	54	44.23	41.79	17.08	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5512 MHz is fundamental signal which can be ignored. 2. 16530 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
5512	97.28	-	-	88.68	34.6	8.81	34.81	100	156	Average
5512	106.3	-	-	97.7	34.6	8.81	34.81	100	156	Peak
7346	45.14	-8.86	54	57.67	35.53	10.46	58.52	100	0	Peak
11019	40.77	-13.23	54	48.52	37.41	12.33	57.49	100	0	Peak
16530	44.87	-9.13	54	44.48	40.61	17.08	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5552 MHz is fundamental signal which can be ignored. 2. 16650 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
5552	94.11	-	-	85.45	34.62	8.87	34.83	147	180	Average
5552	104.45	-	-	95.79	34.62	8.87	34.83	147	180	Peak
7400	42.88	-11.12	54	55.38	35.66	10.45	58.61	100	0	Peak
11100	40.74	-13.26	54	47.59	38.16	12.45	57.46	100	0	Peak
16650	46.08	-7.92	54	44.4	42.09	16.89	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5548 MHz is fundamental signal which can be ignored. 2. 16650 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
5548	97.06	-	-	88.39	34.62	8.87	34.82	100	161	Average
5548	106.63	-	-	97.96	34.62	8.87	34.82	100	161	Peak
7400	43.95	-10.05	54	56.62	35.49	10.45	58.61	100	0	Peak
11100	41.82	-12.18	54	49.39	37.44	12.45	57.46	100	0	Peak
16650	45.5	-8.5	54	44.9	41.01	16.89	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5668 MHz is fundamental signal which can be ignored. 2. 17010 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
5668	95.68	-	-	86.89	34.67	8.99	34.87	103	134	Average
5668	105.51	-	-	96.72	34.67	8.99	34.87	103	134	Peak
11340	44.6	-9.4	54	50.76	38.47	12.74	57.37	100	0	Peak
17010	48.45	-5.55	54	47.03	42.44	16.32	57.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5672 MHz is fundamental signal which can be ignored. 2. 17010 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
5672	97.4	-	-	88.58	34.67	9.02	34.87	107	216	Average
5672	107.15	-	-	98.33	34.67	9.02	34.87	107	216	Peak
11340	42.66	-11.34	54	49.69	37.6	12.74	57.37	100	0	Peak
17010	47.1	-6.9	54	46.95	41.17	16.32	57.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	142	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5712 MHz is fundamental signal which can be ignored. 2. 17130 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
5712	94.73	-	-	85.88	34.69	9.05	34.89	157	182	Average
5712	105.1	-	-	96.25	34.69	9.05	34.89	157	182	Peak
11421	45.1	-8.9	54	51.07	38.53	12.83	57.33	100	0	Peak
17130	48.55	-5.45	54	47.11	42.72	16.37	57.65	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	142	Relative Humidity :	53~54%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5712 MHz is fundamental signal which can be ignored. 2. 17130 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
5712	96.76	-	-	87.91	34.69	9.05	34.89	106	216	Average
5712	106.31	-	-	97.46	34.69	9.05	34.89	106	216	Peak
11421	43.77	-10.23	54	50.57	37.7	12.83	57.33	100	0	Peak
17130	46.68	-7.32	54	46.97	40.99	16.37	57.65	100	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.

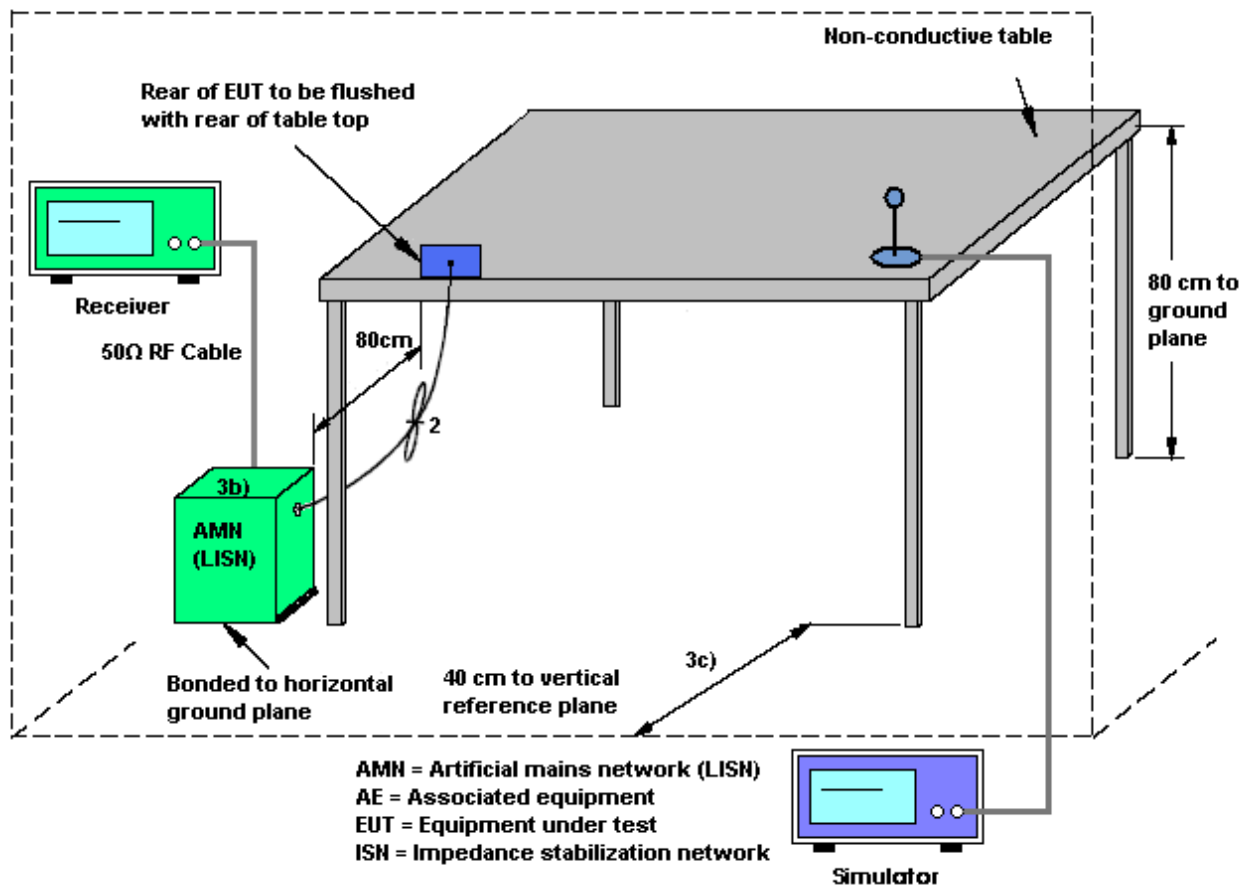
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

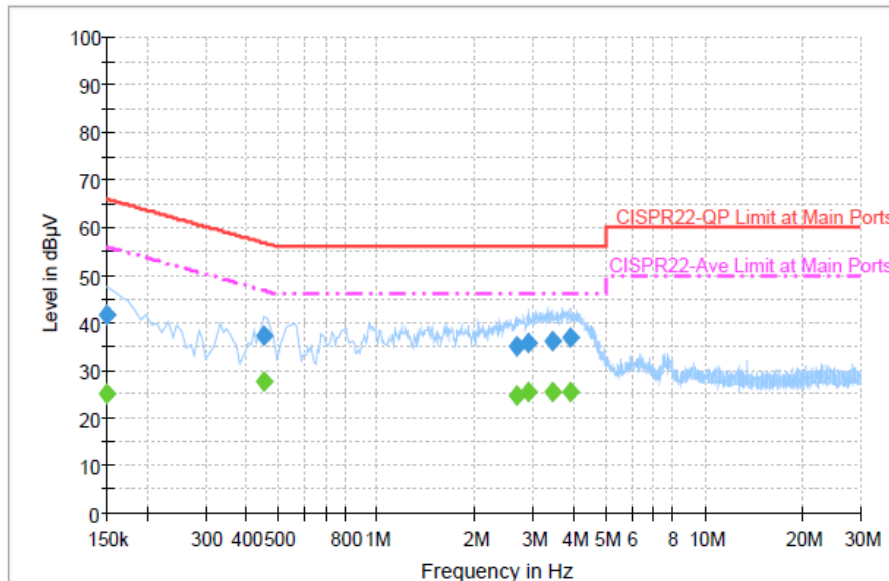
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) Link + Bluetooth Link + Earphone + H Pattern + USB Cable (Charging from Adapter)		



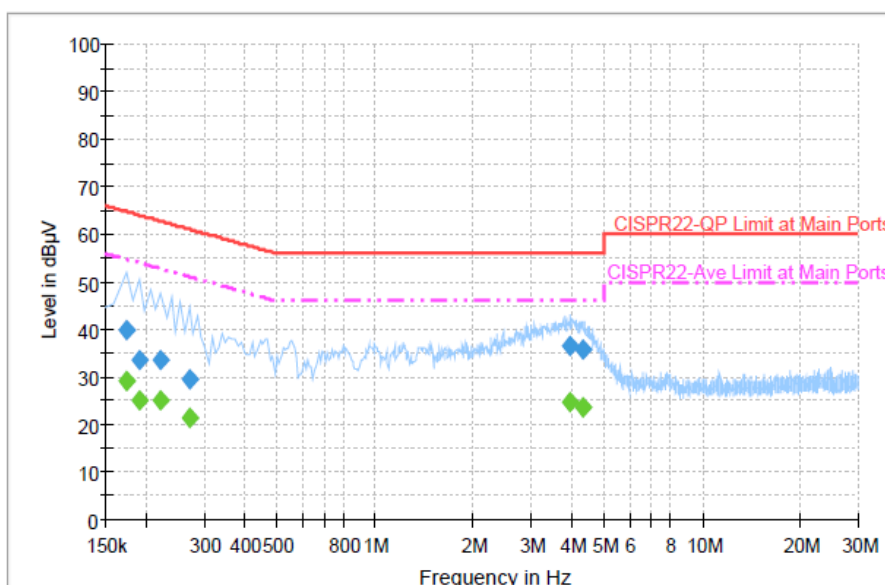
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	41.6	Off	L1	19.4	24.4	66.0
0.454000	37.2	Off	L1	19.3	19.6	56.8
2.678000	35.2	Off	L1	19.6	20.8	56.0
2.918000	35.6	Off	L1	19.6	20.4	56.0
3.446000	36.3	Off	L1	19.6	19.7	56.0
3.902000	37.1	Off	L1	19.6	18.9	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	25.0	Off	L1	19.4	31.0	56.0
0.454000	27.8	Off	L1	19.3	19.0	46.8
2.678000	24.7	Off	L1	19.6	21.3	46.0
2.918000	25.5	Off	L1	19.6	20.5	46.0
3.446000	25.5	Off	L1	19.6	20.5	46.0
3.902000	25.5	Off	L1	19.6	20.5	46.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) Link + Bluetooth Link + Earphone + H Pattern + USB Cable (Charging from Adapter)		



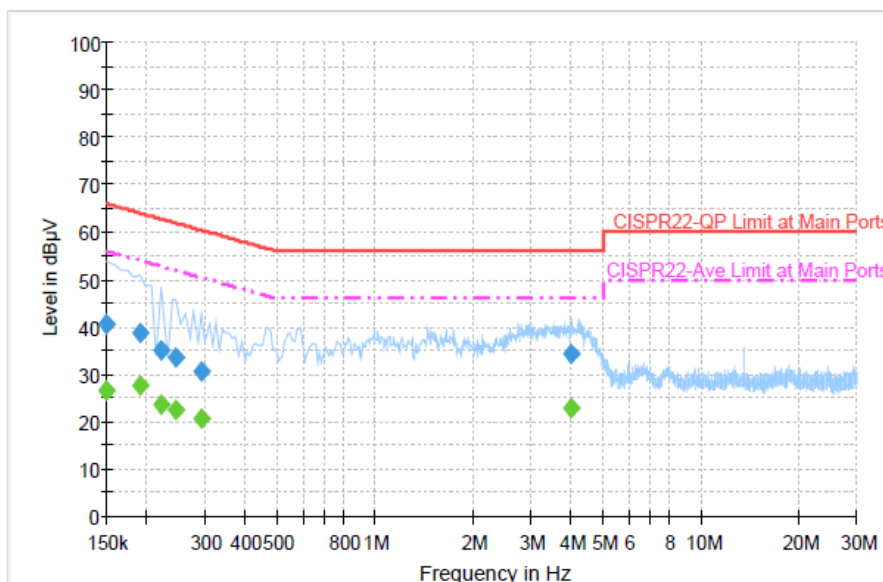
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.174000	39.9	Off	N	19.4	24.9	64.8
0.190000	33.7	Off	N	19.4	30.3	64.0
0.222000	33.7	Off	N	19.4	29.0	62.7
0.270000	29.4	Off	N	19.4	31.7	61.1
3.958000	36.4	Off	N	19.6	19.6	56.0
4.318000	35.7	Off	N	19.6	20.3	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.174000	29.3	Off	N	19.4	25.5	54.8
0.190000	25.1	Off	N	19.4	28.9	54.0
0.222000	24.9	Off	N	19.4	27.8	52.7
0.270000	21.3	Off	N	19.4	29.8	51.1
3.958000	24.7	Off	N	19.6	21.3	46.0
4.318000	23.6	Off	N	19.6	22.4	46.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) MIMO Tx + Earphone + H Pattern + USB Cable (Charging from Adapter)		



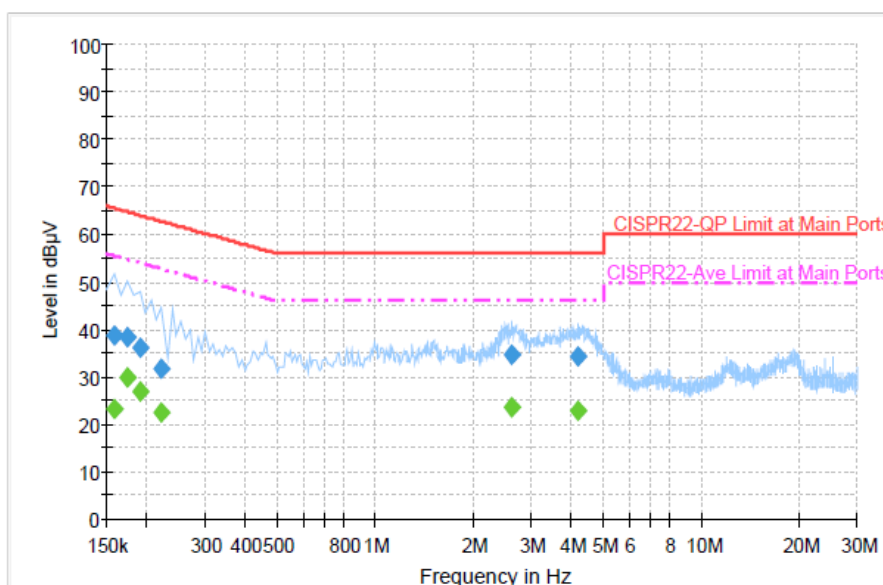
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	40.5	Off	L1	19.4	25.5	66.0
0.190000	38.6	Off	L1	19.4	25.4	64.0
0.222000	35.0	Off	L1	19.4	27.7	62.7
0.246000	33.5	Off	L1	19.4	28.4	61.9
0.294000	30.8	Off	L1	19.4	29.6	60.4
4.014000	34.4	Off	L1	19.6	21.6	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	26.5	Off	L1	19.4	29.5	56.0
0.190000	27.6	Off	L1	19.4	26.4	54.0
0.222000	23.6	Off	L1	19.4	29.1	52.7
0.246000	22.5	Off	L1	19.4	29.4	51.9
0.294000	20.8	Off	L1	19.4	29.6	50.4
4.014000	22.8	Off	L1	19.6	23.2	46.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + WLAN (5GHz, 11a, Ch36, 6Mbps) MIMO Tx + Earphone + H Pattern + USB Cable (Charging from Adapter)		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	38.9	Off	N	19.3	26.7	65.6
0.174000	38.6	Off	N	19.4	26.2	64.8
0.190000	36.2	Off	N	19.4	27.8	64.0
0.222000	31.6	Off	N	19.4	31.1	62.7
2.630000	34.7	Off	N	19.6	21.3	56.0
4.182000	34.2	Off	N	19.6	21.8	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	23.4	Off	N	19.3	32.2	55.6
0.174000	29.8	Off	N	19.4	25.0	54.8
0.190000	27.0	Off	N	19.4	27.0	54.0
0.222000	22.4	Off	N	19.4	30.3	52.7
2.630000	23.6	Off	N	19.6	22.4	46.0
4.182000	22.7	Off	N	19.6	23.3	46.0

3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.

3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Connected Construction

Non-detachable antenna is used.

3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

The EUT supports CDD mode.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	2.00	3.20	2.64	5.65	0.00	0.00
Band II	2.00	3.40	2.76	5.77	0.00	0.00
Band III	2.80	3.30	3.06	6.07	0.00	0.07

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Aug. 17, 2013 ~ Sep. 09, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Aug. 17, 2013 ~ Sep. 09, 2013	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Aug. 17, 2013 ~ Sep. 09, 2013	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 13, 2012	Aug. 30, 2013~ Sep. 04, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2012	Aug. 30, 2013~ Sep. 04, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 06, 2012	Aug. 30, 2013~ Sep. 04, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Aug. 30, 2013~ Sep. 04, 2013	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz ~ 26.5GHz	Jan. 23, 2013	Aug. 27, 2013~ Aug. 29, 2013	Jan. 22, 2014	Radiation (03CH08-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Mar. 28, 2013	Aug. 27, 2013~ Aug. 29, 2013	Mar. 27, 2014	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	000143261	1GHz~18GHz	Jan. 08, 2013	Aug. 27, 2013~ Aug. 29, 2013	Jan. 07, 2014	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18G~40G	Sep. 28, 2012	Aug. 27, 2013~ Aug. 29, 2013	Sep. 27, 2013	Radiation (03CH08-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Dec. 01, 2012	Aug. 27, 2013~ Aug. 29, 2013	Nov. 30, 2013	Radiation (03CH07-HY)
Pre Amplifier	EMC INSTRUMENT	EMC011830	980148	100MHz~18GHz	Jun. 21, 2013	Aug. 27, 2013~ Aug. 29, 2013	Jun. 20, 2014	Radiation (03CH08-HY)
Preamplifier	COM-POWER	PA-103	161075	10Hz~1000MHz Gain:32dB	Feb. 26, 2013	Aug. 27, 2013~ Aug. 29, 2013	Feb. 25, 2014	Radiation (03CH08-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Aug. 27, 2013~ Aug. 29, 2013	Jul. 03, 2014	Radiation (03CH07-HY)
Turn Table	Chaintek	Chaintek 3000	N/A	0~360 Degree	N/A	Aug. 27, 2013~ Aug. 29, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	N/A	1m~4m	N/A	Aug. 27, 2013~ Aug. 29, 2013	N/A	Radiation (03CH08-HY)

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72
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