

# Partial FCC RF Test Report

**APPLICANT** : AzureWave Technologies, Inc.  
**EQUIPMENT** : IEEE 802.11 a/b/g/n Wireless LAN and Bluetooth Combo LGA Module  
**BRAND NAME** : AzureWave  
**MODEL NAME** : AW-AM691NF  
**FCC ID** : TLZ-AM691NF  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

This is a partial report which is included the peak output power measurement, radiated band edges and spurious emission measurement test items. The product was received on Oct. 25, 2013 and testing was completed on Dec. 11, 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.

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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(b)	RSS-210 A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.2	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.23 dB at 2487.700 MHz
3.3	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-



# 1 General Description

## 1.1 Applicant

AzureWave Technologies, Inc.

8 F., No. 94, Baozhong Rd., Xindian, Taipei, Taiwan 231

## 1.2 Manufacturer

AzureWave Technologies, Inc.

8 F., No. 94, Baozhong Rd., Xindian, Taipei, Taiwan 231

## 1.3 Feature of Equipment Under Test

Product Feature	
Equipment	IEEE 802.11 a/b/g/n Wireless LAN and Bluetooth Combo LGA Module
Brand Name	AzureWave
Model Name	AW-AM691NF
FCC ID	TLZ-AM691NF
Sample 1	EUT with JTIE Antenna
Sample 2	EUT with WNC Antenna
Installed into Tablet	Brand Name: lenovo Model Name: 20337xxxxxx; 80DExxxxxx; Lenovo Miix 2 10 tabletxxxxxx; 20359xxxxxx; 80DVxxxxxx; Lenovo Miix 2 10xxxxxx(x=0-9, A-Z or blank)
EUT supports Radios application	WLAN 11a/b/g/n (HT20/HT40) Bluetooth v2.1 + EDR Bluetooth v4.0 + LE
EUT Stage	Identical Prototype

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

### 1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard																			
<b>Tx/Rx Channel Frequency Range</b>	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.																		
<b>Maximum Output Power to antenna</b>	<p><b>&lt;Ant. 1&gt;</b>  <b>&lt;2412 MHz ~ 2462 MHz &gt;</b>            802.11b : 19.88 dBm (0.0973 W)            802.11g : 23.54 dBm (0.2259 W)            802.11n HT20 : 22.81 dBm (0.1910 W)            802.11n HT40 : 21.78 dBm (0.1507 W)  <b>&lt;5745 MHz ~ 5825 MHz &gt;</b>            802.11a : 21.60 dBm (0.1445 W)            802.11n HT20 : 20.99 dBm (0.1256 W)            802.11n HT40 : 20.71 dBm (0.1178 W)</p> <p><b>&lt;Ant. 2&gt;</b>  <b>&lt;2412 MHz ~ 2462 MHz &gt;</b>            802.11b : 20.35 dBm (0.1084 W)            802.11g : 24.00 dBm (0.2512 W)            802.11n HT20 : 22.80 dBm (0.1905 W)            802.11n HT40 : 21.74 dBm (0.1493 W)  <b>&lt;5745 MHz ~ 5825 MHz &gt;</b>            802.11a : 21.96 dBm (0.1570 W)            802.11n HT20 : 20.63 dBm (0.1156 W)            802.11n HT40 : 20.36 dBm (0.1086 W)</p> <p><b>&lt;MIMO Ant. 1+2&gt;</b>  <b>&lt;2412 MHz ~ 2462 MHz &gt;</b>            802.11n HT20 : 25.75 dBm (0.3758 W)            802.11n HT40 : 24.33 dBm (0.2710 W)  <b>&lt;5745 MHz ~ 5825 MHz &gt;</b>            802.11n HT20 : 23.66 dBm (0.2323 W)            802.11n HT40 : 23.40 dBm (0.2188 W)</p>																		
<b>Type of Modulation</b>	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)																		
<b>Antenna Function for Transmitter</b>	<table border="1"> <thead> <tr> <th></th> <th>Chain Port 0 Ant. 1</th> <th>Chain Port 1 Ant. 2</th> </tr> </thead> <tbody> <tr> <td>802.11 b</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 g</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 a</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 n SISO</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 n MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Chain Port 0 Ant. 1	Chain Port 1 Ant. 2	802.11 b	V	V	802.11 g	V	V	802.11 a	V	V	802.11 n SISO	V	V	802.11 n MIMO	V	V
	Chain Port 0 Ant. 1	Chain Port 1 Ant. 2																	
802.11 b	V	V																	
802.11 g	V	V																	
802.11 a	V	V																	
802.11 n SISO	V	V																	
802.11 n MIMO	V	V																	



Antenna Information		
<b>Manufacturer</b>	JTIE	
<b>Antenna Type</b>	Main: PIFA Antenna	Aux.: PIFA Antenna
<b>Peak gain</b>	WLAN (2.4GHz) : 2.70 dBi WLAN (5GHz): 3.16 dBi	Bluetooth : -0.90 dBi WLAN (2.4GHz) : -0.90 dBi WLAN (5GHz) : 1.85 dB
<b>Manufacturer</b>	WNC	
<b>Antenna Type</b>	Main: PIFA Antenna	Aux.: PIFA Antenna
<b>Peak gain</b>	WLAN (2.4GHz) : 0.47 dBi WLAN (5GHz) : 0.81 dBi	Bluetooth : -1.27 dBi WLAN (2.4GHz) : -1.27 dBi WLAN (5GHz) : 1.09 dBi

### 1.5 Modification of EUT

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

## 1.6 Testing Site

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

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

## 1.7 Applied Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.4-2003

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.





## 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: 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 (802.11a CH157 for Ant. 2 is Z plane and the other is X plane) were recorded in this report.

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

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

### 2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	159	5795
	151	5755	161	5805
	153	5765	165	5825
	157	5785	-	-

## 2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

<Ant. 1>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	19.88	19.36	19.31	19.36

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	23.54	23.51	23.47	23.49	23.48	23.50	23.46	23.44

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.81	22.64	22.75	22.80	22.75	22.77	22.75	22.80

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.78	21.62	21.75	21.70	21.76	21.67	21.70	21.74

802.11a								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	21.60	21.51	21.55	21.51	21.59	21.55	21.56	21.57

5GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.99	20.98	20.96	20.93	20.95	20.94	20.95	20.93

5GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.71	20.55	20.66	20.68	20.55	20.63	20.70	20.65



<Ant. 2>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.35	20.31	19.72	19.78

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	24.00	23.94	23.96	23.91	23.93	23.91	23.91	23.93

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.80	22.80	22.74	22.63	22.76	22.69	22.72	22.73

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.74	21.72	21.69	21.66	21.69	21.64	21.63	21.66

802.11a								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	21.96	21.95	21.90	21.88	21.93	21.91	21.92	21.88

5GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.63	20.54	20.58	20.55	20.61	20.59	20.60	20.61

5GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.36	20.21	20.23	20.22	20.29	20.34	20.27	20.32



MIMO <Ant. 1+2>

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	25.75	25.60	25.58	25.68	25.66	25.66	25.68	25.71

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	24.33	24.10	24.19	24.16	24.31	24.29	24.20	24.19

5GHz 802.11n HT20								
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	23.66	23.48	23.58	23.60	23.56	23.59	23.61	23.64

5GHz 802.11n HT40								
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	23.40	23.31	23.34	23.37	23.34	23.36	23.31	23.37

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.

<2.4GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20 SISO	MCS0	1/6/11
		802.11n HT20 MIMO	MCS8	1/6/11
		802.11n HT40 SISO	MCS0	3/6/9
		802.11n HT40 MIMO	MCS8	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20 MIMO	MCS8	1/6/11
		802.11n HT40 MIMO	MCS8	3/6/9
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20 MIMO	MCS8	1/6/11
		802.11n HT40 MIMO	MCS8	3/6/9

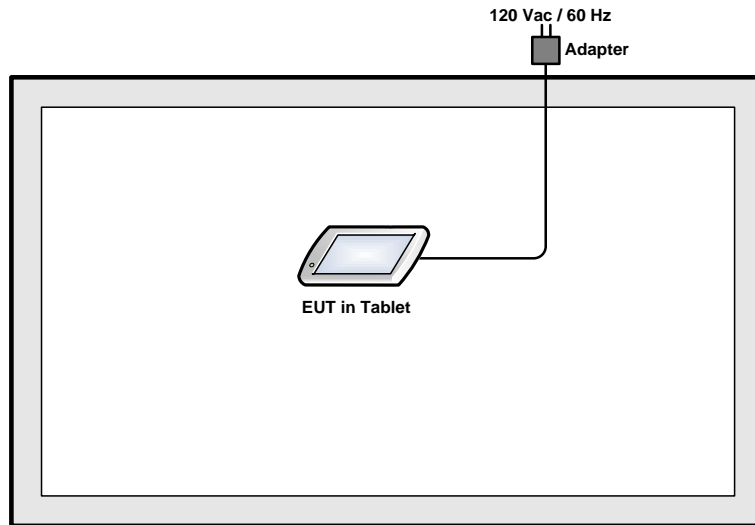


**<5GHz>**

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20 SISO	MCS0	149/157/165
		802.11n HT20 MIMO	MCS8	149/157/165
		802.11n HT40 SISO	MCS0	151/159
		802.11n HT40 MIMO	MCS8	151/159
Radiated TCs	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20 MIMO	MCS8	149/157/165
		802.11n HT40 MIMO	MCS8	151/159

**Remark:** All the test items were performed with Sample 1.

## 2.4 Connection Diagram of Test System



## 2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, "Command" installed in the Tablet make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

### 3 Test Result

#### 3.1 Peak Output Power Measurement

##### 3.1.1 Limit of Peak Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

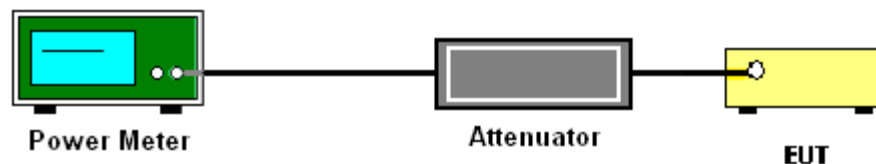
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

##### 3.1.4 Test Setup







3.1.5 Test Result of Peak Output Power

Test Band :	2.4GHz	Temperature :	22~23°C
Test Engineer :	Jet Lui	Relative Humidity :	50~51%

Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	SUM	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	19.43	19.91		30.00	30.00	2.7	-0.9	Pass
11b	1Mbps	1	6	2437	19.75	20.25		30.00	30.00	2.7	-0.9	Pass
11b	1Mbps	1	11	2462	19.88	20.35		30.00	30.00	2.7	-0.9	Pass
11g	6Mbps	1	1	2412	23.16	23.62		30.00	30.00	2.7	-0.9	Pass
11g	6Mbps	1	6	2437	23.49	23.90		30.00	30.00	2.7	-0.9	Pass
11g	6Mbps	1	11	2462	23.54	24.00		30.00	30.00	2.7	-0.9	Pass
HT20	MCS0	1	1	2412	22.55	22.51		30.00	30.00	2.7	-0.9	Pass
HT20	MCS0	1	6	2437	22.81	22.63		30.00	30.00	2.7	-0.9	Pass
HT20	MCS0	1	11	2462	22.57	22.80		30.00	30.00	2.7	-0.9	Pass
HT40	MCS0	1	3	2422	21.50	21.04		30.00	30.00	2.7	-0.9	Pass
HT40	MCS0	1	6	2437	21.63	21.38		30.00	30.00	2.7	-0.9	Pass
HT40	MCS0	1	9	2452	21.78	21.74		30.00	30.00	2.7	-0.9	Pass
HT20	MCS8	2	1	2412	19.90	20.22	23.07	30.00		4.10		Pass
HT20	MCS8	2	6	2437	22.63	22.85	25.75	30.00		4.10		Pass
HT20	MCS8	2	11	2462	17.44	18.19	20.84	30.00		4.10		Pass
HT40	MCS8	2	3	2422	21.05	21.12	24.10	30.00		4.10		Pass
HT40	MCS8	2	6	2437	21.09	21.08	24.10	30.00		4.10		Pass
HT40	MCS8	2	9	2452	21.28	21.35	24.33	30.00		4.10		Pass

Note: Measured power (dBm) has offset with cable loss.



Test Band :	5GHz	Temperature :	22~23°C
Test Engineer :	Jet Lui	Relative Humidity :	50~51%

Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	Worst +10log(2)	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	149	5745	21.06	21.64	-	30.00	30.00	3.16	1.85	Pass
11a	6Mbps	1	157	5785	21.13	21.85		30.00	30.00	3.16	1.85	Pass
11a	6Mbps	1	165	5825	21.60	21.96		30.00	30.00	3.16	1.85	Pass
HT20	MCS0	1	149	5745	20.82	20.63		30.00	30.00	3.16	1.85	Pass
HT20	MCS0	1	157	5785	20.76	20.56		30.00	30.00	3.16	1.85	Pass
HT20	MCS0	1	165	5825	20.99	20.53		30.00	30.00	3.16	1.85	Pass
HT40	MCS0	1	151	5755	20.71	20.36		30.00	30.00	3.16	1.85	Pass
HT40	MCS0	1	159	5795	20.55	20.22		30.00	30.00	3.16	1.85	Pass
HT20	MCS8	2	149	5745	20.57	20.23	23.41	30.00	30.00	5.54	5.54	Pass
HT20	MCS8	2	157	5785	20.71	20.58	23.66	30.00	30.00	5.54	5.54	Pass
HT20	MCS8	2	165	5825	20.81	20.45	23.64	30.00	30.00	5.54	5.54	Pass
HT40	MCS8	2	151	5755	20.22	19.95	23.10	30.00	30.00	5.54	5.54	Pass
HT40	MCS8	2	159	5795	20.43	20.34	23.40	30.00	30.00	5.54	5.54	Pass

Note: Measured power (dBm) has offset with cable loss.



3.1.6 Test Result of Average output Power (Reporting Only)

Test Band :	2.4GHz	Temperature :	22~23°C
Test Engineer :	Jet Lui	Relative Humidity :	50~51%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power
11b	1Mbps	1	1	2412	0.04	0.04	16.25	16.45	
11b	1Mbps	1	6	2437	0.04	0.04	16.48	16.67	
11b	1Mbps	1	11	2462	0.04	0.04	16.59	16.80	
11g	6Mbps	1	1	2412	0.20	0.20	15.93	16.39	
11g	6Mbps	1	6	2437	0.20	0.20	16.35	16.61	
11g	6Mbps	1	11	2462	0.20	0.20	16.47	16.71	
HT20	MCS0	1	1	2412	0.22	0.26	15.93	15.51	
HT20	MCS0	1	6	2437	0.22	0.26	16.00	15.76	
HT20	MCS0	1	11	2462	0.22	0.26	15.67	15.88	
HT40	MCS0	1	3	2422	0.44	0.43	13.78	13.00	
HT40	MCS0	1	6	2437	0.44	0.43	13.91	13.07	
HT40	MCS0	1	9	2452	0.44	0.43	14.00	13.98	
HT20	MCS8	2	1	2412	0.42	0.42	10.60	10.84	
HT20	MCS8	2	6	2437	0.42	0.42	15.82	16.09	18.97
HT20	MCS8	2	11	2462	0.42	0.42	7.46	8.15	10.83
HT40	MCS8	2	3	2422	0.77	0.81	13.27	13.70	16.50
HT40	MCS8	2	6	2437	0.77	0.81	13.39	13.64	16.52
HT40	MCS8	2	9	2452	0.77	0.81	13.68	13.54	16.62

Note: Measured power (dBm) has offset with cable loss and duty factor.



Test Band :	5GHz	Temperature :	22~23°C
Test Engineer :	Jet Lui	Relative Humidity :	50~51%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power
11a	6Mbps	1	149	5745	0.20	0.20	15.73	14.85	-
11a	6Mbps	1	157	5785	0.20	0.20	15.65	14.58	
11a	6Mbps	1	165	5825	0.20	0.20	16.00	14.90	
HT20	MCS0	1	149	5745	0.20	0.22	13.56	13.74	
HT20	MCS0	1	157	5785	0.20	0.22	13.53	13.72	
HT20	MCS0	1	165	5825	0.20	0.22	13.78	13.54	
HT40	MCS0	1	151	5755	0.44	0.42	13.79	13.78	
HT40	MCS0	1	159	5795	0.44	0.42	13.59	13.72	
HT20	MCS0	2	149	5745	0.43	0.40	13.80	13.22	16.53
HT20	MCS0	2	157	5785	0.43	0.40	14.17	13.75	16.97
HT20	MCS0	2	165	5825	0.43	0.40	14.00	13.24	16.65
HT40	MCS0	2	151	5755	0.76	0.82	13.72	13.27	16.51
HT40	MCS0	2	159	5795	0.76	0.82	13.87	13.40	16.65

**Note:** Measured power (dBm) has offset with cable loss and duty factor.

## 3.2 Radiated Band Edges and Spurious Emission Measurement

### 3.2.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

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

### 3.2.2 Measuring Instruments

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



### **3.2.3 Test Procedure**

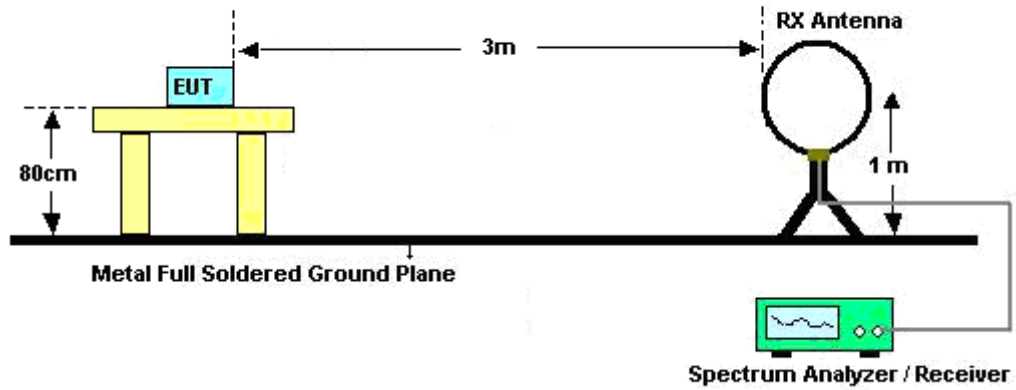
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz;  $VBW \geq RBW$ ; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.  
For average measurement:
    - $VBW = 10$  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.



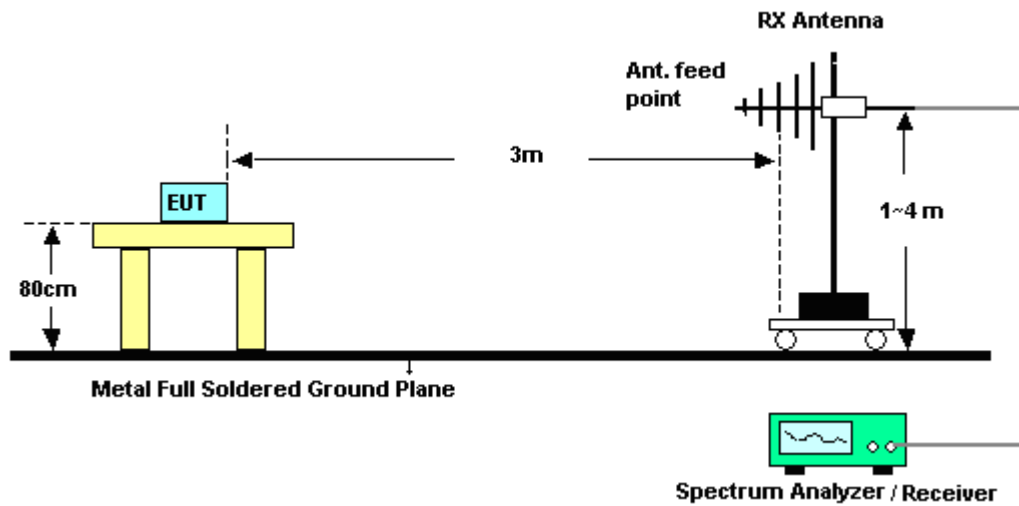
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	99.04	-	-	10Hz
1	802.11g	95.39	2070	0.483	1kHz
2	802.11g	95.39	2070	0.483	
1+2	2.4GHz 802.11n HT20 for Ant. 1	90.83	990	1.010	3kHz
1+2	2.4GHz 802.11n HT20 for Ant. 2	90.83	990	1.010	
1+2	2.4GHz 802.11n HT40 for Ant. 1	83.84	498	2.008	
1+2	2.4GHz 802.11n HT40 for Ant. 2	83.00	498	2.008	
1	802.11a	95.39	2070	0.483	1kHz
2	802.11a	95.39	2070	0.483	
1+2	5GHz 802.11n HT20 for Ant. 1	90.66	990	1.010	3kHz
1+2	5GHz 802.11n HT20 for Ant. 2	91.16	990	1.010	
1+2	5GHz 802.11n HT40 for Ant. 1	83.89	500	2.000	
1+2	5GHz 802.11n HT40 for Ant. 2	82.88	484	2.066	

### 3.2.4 Test Setup

For radiated emissions below 30MHz

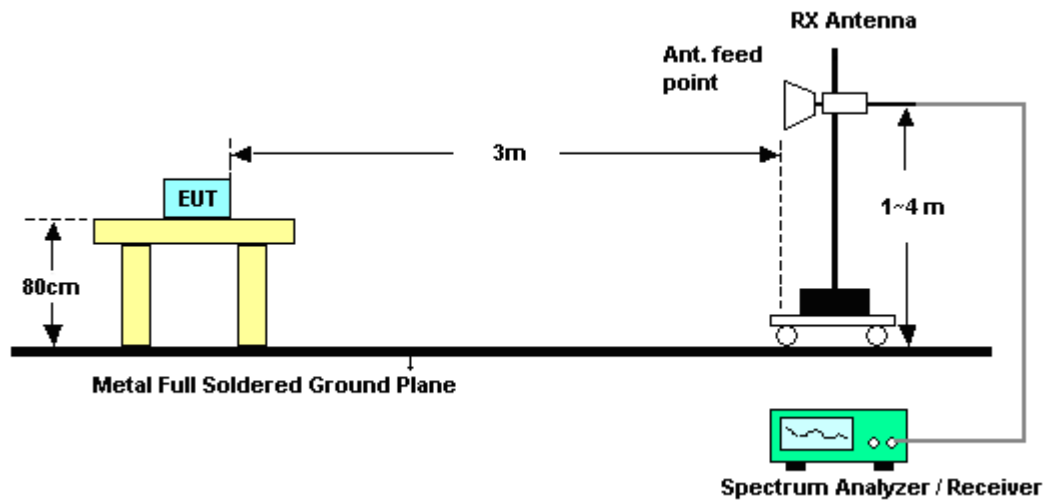


For radiated emissions from 30MHz to 1GHz





For radiated emissions above 1GHz



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

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.



3.2.6 Test Result of Radiated Spurious at Band Edges

<Ant. 1>

Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	50~51%
Test Channel :	01	Test Engineer :	Jet Lui

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
2389.83	62	-12	74	56.99	32.27	6.22	33.48	102	323	Peak
2390	51.46	-2.54	54	46.45	32.27	6.22	33.48	102	323	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
2379.03	55.54	-18.46	74	50.86	31.95	6.21	33.48	192	4	Peak
2383.17	43.5	-10.5	54	38.81	31.95	6.22	33.48	192	4	Average



Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	6	Test Engineer :	Jet Lui

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
2387.85	62.11	-11.89	74	57.1	32.27	6.22	33.48	126	324	Peak
2390	50.35	-3.65	54	45.34	32.27	6.22	33.48	126	324	Average
2485.12	61.78	-12.22	74	56.16	32.63	6.45	33.46	126	324	Peak
2483.74	48.66	-5.34	54	43.04	32.63	6.45	33.46	126	324	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
2386.23	55.93	-18.07	74	51.13	32.06	6.22	33.48	100	3	Peak
2390	44.08	-9.92	54	39.28	32.06	6.22	33.48	100	3	Average
2496.01	57.35	-16.65	74	51.66	32.7	6.45	33.46	100	3	Peak
2483.92	44.35	-9.65	54	38.77	32.59	6.45	33.46	100	3	Average



Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	11	Test Engineer :	Jet Lui

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
2490.73	60.44	-13.56	74	54.75	32.7	6.45	33.46	100	338	Peak
2483.5	47.5	-6.5	54	41.88	32.63	6.45	33.46	100	338	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
2493.82	56.86	-17.14	74	51.17	32.7	6.45	33.46	183	3	Peak
2483.5	44.03	-9.97	54	38.45	32.59	6.45	33.46	183	3	Average



Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	50~51%
Test Channel :	01	Test Engineer :	Jet Lui

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
2387.49	73.13	-0.87	74	68.12	32.27	6.22	33.48	102	320	Peak
2389.29	48.01	-5.99	54	43	32.27	6.22	33.48	102	320	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
2389.38	63.6	-10.4	74	58.8	32.06	6.22	33.48	165	7	Peak
2389.74	43.22	-10.78	54	38.42	32.06	6.22	33.48	165	7	Average



Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	6	Test Engineer :	Jet Lui

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
2387.49	73.4	-0.6	74	68.39	32.27	6.22	33.48	100	321	Peak
2389.83	50.45	-3.55	54	45.44	32.27	6.22	33.48	100	321	Average
2483.83	70.96	-3.04	74	65.34	32.63	6.45	33.46	100	321	Peak
2483.77	48.22	-5.78	54	42.6	32.63	6.45	33.46	100	321	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
2390	63.4	-10.6	74	58.6	32.06	6.22	33.48	100	5	Peak
2389.11	44.22	-9.78	54	39.42	32.06	6.22	33.48	100	5	Average
2487.28	66.1	-7.9	74	60.52	32.59	6.45	33.46	100	5	Peak
2485.45	44.69	-9.31	54	39.11	32.59	6.45	33.46	100	5	Average



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Band :</b>	High	<b>Relative Humidity :</b>	50~51%
<b>Test Channel :</b>	11	<b>Test Engineer :</b>	Jet Lui

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
2486.26	72.88	-1.12	74	67.26	32.63	6.45	33.46	100	322	Peak
2484.07	47.33	-6.67	54	41.71	32.63	6.45	33.46	100	322	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
2484.25	64.49	-9.51	74	58.91	32.59	6.45	33.46	185	5	Peak
2483.86	44.19	-9.81	54	38.61	32.59	6.45	33.46	185	5	Average



< Ant. 2 >

Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	6	Test Engineer :	Jet Lui

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
2387.58	69.9	-4.1	74	64.89	32.27	6.22	33.48	100	146	Peak
2389.92	49.32	-4.68	54	44.31	32.27	6.22	33.48	100	146	Average
2484.58	71.31	-2.69	74	65.69	32.63	6.45	33.46	100	146	Peak
2484.01	49.67	-4.33	54	44.05	32.63	6.45	33.46	100	146	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
2389.38	67.43	-6.57	74	62.63	32.06	6.22	33.48	198	203	Peak
2388.75	46.49	-7.51	54	41.69	32.06	6.22	33.48	198	203	Average
2483.83	62.6	-11.4	74	57.02	32.59	6.45	33.46	198	203	Peak
2483.77	44.78	-9.22	54	39.2	32.59	6.45	33.46	198	203	Average





<MIMO Ant. 1+2>

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	50~51%
Test Channel :	01	Test Engineer :	Jet Lui

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
2389.56	73.75	-0.25	74	68.74	32.27	6.22	33.48	100	319	Peak
2389.47	50.93	-3.07	54	45.92	32.27	6.22	33.48	100	319	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
2386.5	66.97	-7.03	74	62.17	32.06	6.22	33.48	196	193	Peak
2388.66	45.61	-8.39	54	40.81	32.06	6.22	33.48	196	193	Average



Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	6	Test Engineer :	Jet Lui

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
2388.57	72.58	-1.42	74	67.57	32.27	6.22	33.48	100	330	Peak
2388.93	51.34	-2.66	54	46.33	32.27	6.22	33.48	100	330	Average
2485.84	69.2	-4.8	74	63.58	32.63	6.45	33.46	100	330	Peak
2484.82	49.65	-4.35	54	44.03	32.63	6.45	33.46	100	330	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
2389.83	66.34	-7.66	74	61.54	32.06	6.22	33.48	197	198	Peak
2389.56	46.07	-7.93	54	41.27	32.06	6.22	33.48	197	198	Average
2490.58	61.52	-12.48	74	55.83	32.7	6.45	33.46	197	198	Peak
2483.71	45	-9	54	39.42	32.59	6.45	33.46	197	198	Average



Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	11	Test Engineer :	Jet Lui

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
2485.42	70.93	-3.07	74	65.31	32.63	6.45	33.46	100	337	Peak
2484.25	46.96	-7.04	54	41.34	32.63	6.45	33.46	100	337	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
2484.43	64.6	-9.4	74	59.02	32.59	6.45	33.46	190	18	Peak
2483.53	45.09	-8.91	54	39.51	32.59	6.45	33.46	190	18	Average



Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	50~51%
Test Channel :	03	Test Engineer :	Jet Lui

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
2387.13	72.43	-1.57	74	67.42	32.27	6.22	33.48	100	320	Peak
2389.47	48.7	-5.3	54	43.69	32.27	6.22	33.48	100	320	Average
2485.69	57.36	-16.64	74	51.74	32.63	6.45	33.46	100	320	Peak
2489.89	44.22	-9.78	54	38.53	32.7	6.45	33.46	100	320	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
2387.04	67.8	-6.2	74	63	32.06	6.22	33.48	194	197	Peak
2389.47	45.25	-8.75	54	40.45	32.06	6.22	33.48	194	197	Average
2489.2	55.99	-18.01	74	50.3	32.7	6.45	33.46	194	197	Peak
2486.14	43.79	-10.21	54	38.21	32.59	6.45	33.46	194	197	Average



Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	50~51%
Test Channel :	06	Test Engineer :	Jet Lui

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
2389.2	72.13	-1.87	74	67.12	32.27	6.22	33.48	102	334	Peak
2390	51.03	-2.97	54	46.02	32.27	6.22	33.48	102	334	Average
2484.16	68.56	-5.44	74	62.94	32.63	6.45	33.46	102	334	Peak
2483.8	48.15	-5.85	54	42.53	32.63	6.45	33.46	102	334	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2388.93	60.89	-13.11	74	56.09	32.06	6.22	33.48	102	334	Peak
2389.65	43.98	-10.02	54	39.18	32.06	6.22	33.48	102	334	Average
2483.56	63.53	-10.47	74	57.95	32.59	6.45	33.46	102	334	Peak
2484.07	44.5	-9.5	54	38.92	32.59	6.45	33.46	102	334	Average



Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	50~51%
Test Channel :	09	Test Engineer :	Jet Lui

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
2388.03	63.53	-10.47	74	58.52	32.27	6.22	33.48	100	319	Peak
2389.83	45.08	-8.92	54	40.07	32.27	6.22	33.48	100	319	Average
2487.7	73.77	-0.23	74	68.08	32.7	6.45	33.46	100	319	Peak
2484.4	50.08	-3.92	54	44.46	32.63	6.45	33.46	100	319	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
2386.86	55.9	-18.1	74	51.1	32.06	6.22	33.48	190	191	Peak
2390	43.12	-10.88	54	38.32	32.06	6.22	33.48	190	191	Average
2486.83	71.09	-2.91	74	65.51	32.59	6.45	33.46	190	191	Peak
2484.04	47.04	-6.96	54	41.46	32.59	6.45	33.46	190	191	Average

### 3.2.7 Test Result of Radiated Spurious Emission (30MHz ~ 10<sup>th</sup> Harmonic)

**Note:** Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

<Ant. 1>

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2414	106.54	-	-	101.4	32.34	6.28	33.48	102	323	Average
2414	111.79	-	-	106.65	32.34	6.28	33.48	102	323	Peak
4824	42.85	-31.15	74	59.31	34.44	8.04	58.94	100	0	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2414 MHz is Fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2414	97.91	-	-	92.95	32.16	6.28	33.48	192	4	Average
2414	102.86	-	-	97.9	32.16	6.28	33.48	192	4	Peak
4824	41.07	-32.93	74	57.53	34.44	8.04	58.94	100	0	Peak



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2439 MHz is Fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2439	108.66	-	-	103.3	32.49	6.34	33.47	126	324	Average
2439	113.81	-	-	108.45	32.49	6.34	33.47	126	324	Peak
4875	45.04	-28.96	74	61.4	34.4	8.11	58.87	100	0	Peak
7311	43.63	-30.37	74	56	35.62	10.47	58.46	100	0	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2439 MHz is Fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2439	99.97	-	-	94.72	32.38	6.34	33.47	100	3	Average
2439	105.37	-	-	100.12	32.38	6.34	33.47	100	3	Peak
4875	40.39	-33.61	74	56.75	34.4	8.11	58.87	100	0	Peak
7311	49.75	-24.25	74	62.18	35.56	10.47	58.46	100	0	Peak





<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	106.56	-	-	101.08	32.56	6.39	33.47	100	341	Average
2464	111.53	-	-	106.05	32.56	6.39	33.47	100	341	Peak
4923	44.37	-29.63	74	60.63	34.36	8.18	58.8	100	0	Peak
7386	41.75	-32.25	74	54.25	35.66	10.45	58.61	100	0	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	98.33	-	-	92.92	32.49	6.39	33.47	183	3	Average
2464	103.11	-	-	97.7	32.49	6.39	33.47	183	3	Peak
4923	42.35	-31.65	74	58.61	34.36	8.18	58.8	100	0	Peak
7386	45.23	-28.77	74	57.9	35.49	10.45	58.61	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2410	96.78	-	-	91.64	32.34	6.28	33.48	102	320	Average
2410	107.15	-	-	102.01	32.34	6.28	33.48	102	320	Peak
4824	38.05	-35.95	74	54.51	34.44	8.04	58.94	100	0	Peak

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2414	89.45	-	-	84.49	32.16	6.28	33.48	165	7	Average
2414	99.97	-	-	95.01	32.16	6.28	33.48	165	7	Peak
4824	37.18	-36.82	74	53.64	34.44	8.04	58.94	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
197.13	33.89	-9.61	43.5	55.15	8.82	1.63	31.71	-	-	Peak
223.86	37.02	-8.98	46	58.15	8.84	1.75	31.72	104	127	Peak
232.77	35.04	-10.96	46	54.94	10.05	1.78	31.73	-	-	Peak
675.9	28.38	-17.62	46	37.48	18.89	3	30.99	-	-	Peak
781.6	30.43	-15.57	46	38.29	19.85	3.22	30.93	-	-	Peak
792.1	30.77	-15.23	46	38.59	19.89	3.24	30.95	-	-	Peak
2439	103.09	-	-	97.73	32.49	6.34	33.47	100	321	Average
2439	113.55	-	-	108.19	32.49	6.34	33.47	100	321	Peak
4875	40.09	-33.91	74	56.45	34.4	8.11	58.87	100	0	Peak
7311	41.65	-32.35	74	54.02	35.62	10.47	58.46	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
191.46	33.76	-9.74	43.5	55.18	8.71	1.61	31.74	100	207	Peak
219.27	35.35	-10.65	46	56.24	9.1	1.73	31.72	-	-	Peak
225.21	34.8	-11.2	46	55.38	9.4	1.75	31.73	-	-	Peak
656.3	28.7	-17.3	46	38.03	18.7	2.95	30.98	-	-	Peak
664.7	30.04	-15.96	46	39.33	18.73	2.97	30.99	-	-	Peak
684.3	28.96	-17.04	46	38.08	18.85	3.02	30.99	-	-	Peak
2439	94.95	-	-	89.7	32.38	6.34	33.47	100	5	Average
2439	105.2	-	-	99.95	32.38	6.34	33.47	100	5	Peak
4875	39.37	-34.63	74	55.73	34.4	8.11	58.87	100	0	Peak
7311	46.21	-27.79	74	58.64	35.56	10.47	58.46	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	97.29	-	-	91.81	32.56	6.39	33.47	100	322	Average
2464	107.93	-	-	102.45	32.56	6.39	33.47	100	322	Peak
4923	39.16	-34.84	74	55.42	34.36	8.18	58.8	100	0	Peak
7386	40.14	-33.86	74	52.64	35.66	10.45	58.61	100	0	Peak

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	88.91	-	-	83.5	32.49	6.39	33.47	185	5	Average
2464	99.83	-	-	94.42	32.49	6.39	33.47	185	5	Peak
4923	39.41	-34.59	74	55.67	34.36	8.18	58.8	100	0	Peak
7386	40.1	-33.9	74	52.77	35.49	10.45	58.61	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5743	95.01	-	-	84.38	34.7	9.1	33.17	133	330	Average
5743	104.73	-	-	94.1	34.7	9.1	33.17	133	330	Peak
11490	42.93	-31.07	74	48.73	38.59	12.92	57.31	100	0	Peak

<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5743	91.2	-	-	80.57	34.7	9.1	33.17	100	118	Average
5743	100.89	-	-	90.26	34.7	9.1	33.17	100	118	Peak
11490	45.01	-28.99	74	51.62	37.78	12.92	57.31	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
194.43	34.76	-8.74	43.5	56.16	8.71	1.62	31.73	-	-	Peak
222.51	37.52	-8.48	46	58.66	8.84	1.74	31.72	100	167	Peak
225.21	37.16	-8.84	46	58.14	9	1.75	31.73	-	-	Peak
666.8	28.58	-17.42	46	37.67	18.92	2.98	30.99	-	-	Peak
783	30.44	-15.56	46	38.31	19.85	3.22	30.94	-	-	Peak
792.1	35.87	-10.13	46	43.69	19.89	3.24	30.95	-	-	Peak
5783	95.45	-	-	84.71	34.77	9.13	33.16	133	325	Average
5783	105.2	-	-	94.46	34.77	9.13	33.16	133	325	Peak
11571	46.31	-27.69	74	51.98	38.63	13	57.3	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
200.37	34.9	-8.6	43.5	55.76	9.2	1.64	31.7	101	308	Peak
217.92	34.99	-11.01	46	55.9	9.09	1.72	31.72	-	-	Peak
225.21	35.72	-10.28	46	56.3	9.4	1.75	31.73	-	-	Peak
651.4	28.78	-17.22	46	38.01	18.81	2.94	30.98	-	-	Peak
660.5	30.39	-15.61	46	39.78	18.63	2.96	30.98	-	-	Peak
684.3	28.95	-17.05	46	38.07	18.85	3.02	30.99	-	-	Peak
5783	91.89	-	-	81.19	34.73	9.13	33.16	174	116	Average
5783	101.7	-	-	91	34.73	9.13	33.16	174	116	Peak
11571	45.88	-28.12	74	52.32	37.86	13	57.3	100	0	Peak





<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5823	94.96	-	-	84	34.87	9.25	33.16	129	360	Average
5823	104.47	-	-	93.51	34.87	9.25	33.16	129	360	Peak
11649	44.28	-29.72	74	49.83	38.66	13.09	57.3	100	0	Peak

<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5823	90.03	-	-	79.17	34.77	9.25	33.16	100	344	Average
5823	100.4	-	-	89.54	34.77	9.25	33.16	100	344	Peak
11649	45.33	-28.67	74	51.63	37.91	13.09	57.3	100	0	Peak



<Ant. 2>

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
191.46	33.54	-9.96	43.5	55.06	8.61	1.61	31.74	-	-	Peak
219.27	36.05	-9.95	46	57.53	8.51	1.73	31.72	-	-	Peak
223.86	36.74	-9.26	46	57.87	8.84	1.75	31.72	100	134	Peak
673.1	28.76	-17.24	46	37.82	18.94	2.99	30.99	-	-	Peak
694.8	27.84	-18.16	46	36.89	18.91	3.04	31	-	-	Peak
792.1	32.22	-13.78	46	40.04	19.89	3.24	30.95	-	-	Peak
2438	103.14	-	-	97.78	32.49	6.34	33.47	100	146	Average
2438	113.44	-	-	108.08	32.49	6.34	33.47	100	146	Peak
4875	43.35	-30.65	74	59.71	34.4	8.11	58.87	100	0	Peak
7311	42.07	-31.93	74	54.44	35.62	10.47	58.46	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
195.78	33.87	-9.63	43.5	54.93	9.04	1.62	31.72	104	241	Peak
219.27	35	-11	46	55.89	9.1	1.73	31.72	-	-	Peak
225.21	34.78	-11.22	46	55.36	9.4	1.75	31.73	-	-	Peak
666.8	29.62	-16.38	46	38.85	18.78	2.98	30.99	-	-	Peak
675.9	31.11	-14.89	46	40.24	18.86	3	30.99	-	-	Peak
684.3	29.64	-16.36	46	38.76	18.85	3.02	30.99	-	-	Peak
2439	99.26	-	-	94.01	32.38	6.34	33.47	198	203	Average
2439	109.46	-	-	104.21	32.38	6.34	33.47	198	203	Peak
4875	40.52	-33.48	74	56.88	34.4	8.11	58.87	100	0	Peak
7311	47.19	-26.81	74	59.67	35.54	10.47	58.49	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
197.4	35.61	-7.89	43.5	56.87	8.82	1.63	31.71	100	148	Peak
225.48	36.51	-9.49	46	57.49	9	1.75	31.73	-	-	Peak
254.64	35.45	-10.55	46	52.85	12.49	1.85	31.74	-	-	Peak
684.3	30.37	-15.63	46	39.51	18.83	3.02	30.99	-	-	Peak
784.4	30.26	-15.74	46	38.11	19.86	3.23	30.94	-	-	Peak
808.9	29.41	-16.59	46	36.84	20.22	3.28	30.93	-	-	Peak
5787	93.8	-	-	83.03	34.8	9.13	33.16	165	296	Average
5787	103.76	-	-	92.99	34.8	9.13	33.16	165	296	Peak
11570	44.51	-29.49	74	50.18	38.63	13	57.3	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
192.81	34.17	-9.33	43.5	55.42	8.88	1.61	31.74	105	226	Peak
216.3	35.13	-10.87	46	56.05	9.09	1.71	31.72	-	-	Peak
228.18	34.24	-11.76	46	54.32	9.89	1.76	31.73	-	-	Peak
657	29.13	-16.87	46	38.45	18.7	2.96	30.98	-	-	Peak
673.8	31.78	-14.22	46	40.92	18.86	2.99	30.99	-	-	Peak
684.3	28.73	-17.27	46	37.85	18.85	3.02	30.99	-	-	Peak
5787	99.84	-	-	89.13	34.74	9.13	33.16	100	166	Average
5787	110.2	-	-	99.49	34.74	9.13	33.16	100	166	Peak
11570	47.53	-26.47	74	53.95	37.86	13.02	57.3	100	0	Peak



<MIMO Ant. 1+2>

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	98.67	-	-	93.53	32.34	6.28	33.48	100	319	Average
2412	109.42	-	-	104.28	32.34	6.28	33.48	100	319	Peak
4824	38.54	-35.46	74	55	34.44	8.04	58.94	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2410	93.82	-	-	88.86	32.16	6.28	33.48	196	193	Average
2410	104.31	-	-	99.35	32.16	6.28	33.48	196	193	Peak
4824	38.05	-35.95	74	54.51	34.44	8.04	58.94	100	0	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2439	102.75	-	-	97.39	32.49	6.34	33.47	100	330	Average
2439	113.82	-	-	108.46	32.49	6.34	33.47	100	330	Peak
4875	40.63	-33.37	74	56.99	34.4	8.11	58.87	100	0	Peak
7311	40.94	-33.06	74	53.31	35.62	10.47	58.46	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2439	96.47	-	-	91.22	32.38	6.34	33.47	197	198	Average
2439	107.06	-	-	101.81	32.38	6.34	33.47	197	198	Peak
4875	39.45	-34.55	74	55.81	34.4	8.11	58.87	100	0	Peak
7311	45	-29	74	57.43	35.56	10.47	58.46	100	0	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	95.61	-	-	90.13	32.56	6.39	33.47	100	337	Average
2464	106.64	-	-	101.16	32.56	6.39	33.47	100	337	Peak
4923	38.56	-35.44	74	54.82	34.36	8.18	58.8	100	0	Peak
7386	40.12	-33.88	74	52.62	35.66	10.45	58.61	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2464	90.64	-	-	85.23	32.49	6.39	33.47	190	18	Average
2464	101.09	-	-	95.68	32.49	6.39	33.47	190	18	Peak
4923	38.91	-35.09	74	55.17	34.36	8.18	58.8	100	0	Peak
7386	39.78	-34.22	74	52.45	35.49	10.45	58.61	100	0	Peak





<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2420 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2420	92.34	-	-	87.12	32.41	6.28	33.47	100	320	Average
2420	102.47	-	-	97.25	32.41	6.28	33.47	100	320	Peak
4845	38.1	-35.9	74	54.52	34.43	8.07	58.92	100	0	Peak
7266	40.2	-33.8	74	52.51	35.61	10.48	58.4	100	0	Peak

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2420 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2420	87.27	-	-	82.19	32.27	6.28	33.47	194	197	Average
2420	97.72	-	-	92.64	32.27	6.28	33.47	194	197	Peak
4845	38.5	-35.5	74	54.92	34.43	8.07	58.92	100	0	Peak
7266	40.82	-33.18	74	53.15	35.59	10.48	58.4	100	0	Peak



<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2435 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2435	95.87	-	-	90.59	32.41	6.34	33.47	102	334	Average
2435	106.31	-	-	101.03	32.41	6.34	33.47	102	334	Peak
4875	38.54	-35.46	74	54.9	34.4	8.11	58.87	100	0	Peak
7311	40.78	-33.22	74	53.15	35.62	10.47	58.46	100	0	Peak

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2439	86.4	-	-	81.15	32.38	6.34	33.47	102	334	Average
2439	97.48	-	-	92.23	32.38	6.34	33.47	102	334	Peak
4875	39.1	-34.9	74	55.46	34.4	8.11	58.87	100	0	Peak
7311	40.73	-33.27	74	53.16	35.56	10.47	58.46	100	0	Peak



<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2450 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
195.78	34.98	-8.52	43.5	56.27	8.81	1.62	31.72	102	193	Peak
216.3	34.56	-11.44	46	56.19	8.38	1.71	31.72	-	-	Peak
225.21	35.8	-10.2	46	56.78	9	1.75	31.73	-	-	Peak
660.5	28.07	-17.93	46	37.24	18.85	2.96	30.98	-	-	Peak
784.4	31	-15	46	38.85	19.86	3.23	30.94	-	-	Peak
792.1	32.85	-13.15	46	40.67	19.89	3.24	30.95	-	-	Peak
2450	94.37	-	-	89.01	32.49	6.34	33.47	100	319	Average
2450	104.69	-	-	99.33	32.49	6.34	33.47	100	319	Peak
4905	39.8	-34.2	74	56.07	34.37	8.18	58.82	100	0	Peak
7356	40.11	-33.89	74	52.56	35.64	10.46	58.55	100	0	Peak



<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2450 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
189.84	32.53	-10.97	43.5	54.14	8.55	1.6	31.76	-	-	Peak
206.04	34.26	-9.24	43.5	54.96	9.34	1.67	31.71	100	218	Peak
217.92	36.04	-9.96	46	56.95	9.09	1.72	31.72	-	-	Peak
656.3	29.2	-16.8	46	38.53	18.7	2.95	30.98	-	-	Peak
675.2	28.44	-17.56	46	37.57	18.86	3	30.99	-	-	Peak
782.3	24.7	-21.3	46	32.52	19.9	3.22	30.94	-	-	Peak
2450	88.82	-	-	83.57	32.38	6.34	33.47	190	191	Average
2450	100.34	-	-	95.09	32.38	6.34	33.47	190	191	Peak
4905	39.62	-34.38	74	55.89	34.37	8.18	58.82	100	0	Peak
7356	42.09	-31.91	74	54.67	35.51	10.46	58.55	100	0	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5746 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5746	95.73	-	-	85.1	34.7	9.1	33.17	130	280	Average
5746	105.74	-	-	95.11	34.7	9.1	33.17	130	280	Peak
11490	43.79	-30.21	74	49.59	38.59	12.92	57.31	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5743	96.19	-	-	85.56	34.7	9.1	33.17	180	253	Average
5743	105.74	-	-	95.11	34.7	9.1	33.17	180	253	Peak
11490	43.17	-30.83	74	49.78	37.78	12.92	57.31	100	0	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5786 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5786	94.15	-	-	83.38	34.8	9.13	33.16	131	360	Average
5786	103.87	-	-	93.1	34.8	9.13	33.16	131	360	Peak
11571	44.97	-29.03	74	50.64	38.63	13	57.3	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5784 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5784	97.17	-	-	86.47	34.73	9.13	33.16	162	247	Average
5784	106.83	-	-	96.13	34.73	9.13	33.16	162	247	Peak
11571	45.99	-28.01	74	52.43	37.86	13	57.3	100	0	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5827 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5827	93.06	-	-	82.1	34.87	9.25	33.16	144	360	Average
5827	103.17	-	-	92.21	34.87	9.25	33.16	144	360	Peak
11649	44.21	-29.79	74	49.76	38.66	13.09	57.3	100	0	Peak

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5827 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5827	95.15	-	-	84.29	34.77	9.25	33.16	159	273	Average
5827	105.66	-	-	94.8	34.77	9.25	33.16	159	273	Peak
11649	44.89	-29.11	74	51.19	37.91	13.09	57.3	100	0	Peak



<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5757 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5757	90.27	-	-	79.6	34.73	9.1	33.16	131	328	Average
5757	99.3	-	-	88.63	34.73	9.1	33.16	131	328	Peak
11511	41.98	-32.02	74	47.73	38.6	12.95	57.3	100	0	Peak

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5757 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5757	92.4	-	-	81.75	34.71	9.1	33.16	178	248	Average
5757	103.8	-	-	93.15	34.71	9.1	33.16	178	248	Peak
11511	42.94	-31.06	74	49.49	37.8	12.95	57.3	100	0	Peak





<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5793 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5793	90.05	-	-	79.25	34.8	9.16	33.16	132	360	Average
5793	99.64	-	-	88.84	34.8	9.16	33.16	132	360	Peak
11511	42.35	-31.65	74	48.1	38.6	12.95	57.3	100	0	Peak

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	22~23°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	50~51%
<b>Test Engineer :</b>	Jet Lui	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5793 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5793	92.12	-	-	81.38	34.74	9.16	33.16	148	273	Average
5793	102.76	-	-	92.02	34.74	9.16	33.16	148	273	Peak
11510	43.66	-30.34	74	50.21	37.8	12.95	57.3	100	0	Peak



### **3.3 Antenna Requirements**

#### **3.3.1 Standard Applicable**

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

#### **3.3.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### 3.3.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

$N_{SS}$  = the number of independent spatial streams of data;

$N_{ANT}$  = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$  if the  $k$ th antenna is being fed by spatial stream  $j$ , or zero if it is not;  
 $G_k$  is the gain in dBi of the  $k$ th antenna.

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.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
<b>2.4 GHz</b>	2.70	-0.90	4.10	4.10	0.00	0.00
<b>5 GHz</b>	3.16	1.85	5.54	5.54	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, ( min = 0 )

PSD Limit Reduction = DG(PSD) – 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	Nov. 07, 2013 ~ Dec. 11, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Nov. 07, 2013 ~ Dec. 11, 2013	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Nov. 07, 2013 ~ Dec. 11, 2013	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz – 26.5GHz	Jan. 23, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	Jan. 22, 2014	Radiation (03CH08-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Oct. 10, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	Oct. 09, 2014	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	000143261	1GHz~18GHz	Jan. 08, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	Jan. 07, 2014	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Oct. 03, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	Oct. 02, 2014	Radiation (03CH08-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	May 15, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	May 14, 2014	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Sep. 04, 2013	Nov. 17, 2013 ~ Nov. 18, 2013	Sep. 03, 2014	Radiation (03CH08-HY)
Turn Table	Chaintek	Chaintek 3000	N/A	0~360 Degree	N/A	Nov. 17, 2013 ~ Nov. 18, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	N/A	1m~4m	N/A	Nov. 17, 2013 ~ Nov. 18, 2013	N/A	Radiation (03CH08-HY)



## 5 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.30
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