

Report No.: FR3O1108-01D

# **FCC RF Test Report**

APPLICANT : Motorola Solutions, Inc.

**EQUIPMENT**: Touch Computer

BRAND NAME : Motorola MODEL NAME : TC55CH

FCC ID : UZ7TC55CH

STANDARD : FCC Part 15 Subpart E §15.407

**CLASSIFICATION**: (NII) Unlicensed National Information Infrastructure

The product was received on Jan. 08, 2014 and testing was completed on Feb. 06, 2014. 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: Louis Wu / Manager

Louis Wu

Approved by: Jones Tsai / Manager

### SPORTON INTERNATIONAL INC.

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

SPORTON INTERNATIONAL INC.

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**REVISION HISTORY** 

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR3O1108-01D	Rev. 01	Initial issue of report	Feb. 10, 2014

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**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	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 4, 11, 17 dBm (depend on band)	Pass	-
3.4	15.407(a)(6)	Peak Excursion Ratio	≤ 13dB	Pass	-
3.5	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 1.15 dB at 5149.850 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.50 dB at 13.558 MHz
3.7	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.8	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.9	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

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# 1 General Description

# 1.1 Applicant

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

### 1.2 Manufacturer

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

# 1.3 Feature of Equipment Under Test

Product Feature & Specification						
<b>Equipment</b> Touch Computer						
Brand Name	Motorola					
Model Name	TC55CH					
FCC ID	UZ7TC55CH					
Sample 1	EUT with Scanner					
Sample 2	EUT without Scanner					
FLIT comparts Dadisa amplication	CDMA/EV-DO/LTE					
EUT supports Radios application	WLAN 11abgn / Bluetooth 2.1 / 3.0 / 4.0 / NFC					
HW Version	DV2.2					
SW Version	Android 4.1.2					
FW Version	BSP 1.7					
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.

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1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard					
	5180 MHz ~ 5240 MHz				
Tx/Rx Frequency Range	5260 MHz ~ 5320 MHz				
	5500 MHz ~ 5700 MHz				
	<5180 MHz ~ 5240 MHz>				
	802.11a: 16.84 dBm / 0.0483 W				
	802.11n HT20 : 15.55 dBm / 0.0359 W				
	802.11n HT40 : 14.71 dBm / 0.0296 W				
	<5260 MHz ~ 5320 MHz>				
Maximum Output Power to Antenna	802.11a: 16.86 dBm / 0.0485 W				
Maximum Gatpat I Gwel to Antenna	802.11n HT20 : 15.73 dBm / 0.0374 W				
	802.11n HT40 : 14.82 dBm / 0.0303 W				
	<5500 MHz ~ 5700 MHz >				
	802.11a: 16.57 dBm / 0.0454 W				
	802.11n HT20 : 15.55 dBm / 0.0359 W				
	802.11n HT40 : 14.83 dBm / 0.0304 W				
	<5180 MHz ~ 5240 MHz>				
	Antenna: PIFA Antenna with gain 2.71 dBi(Battery1)				
	Antenna: PIFA Antenna with gain 2.26 dBi(Battery2)				
	<5260 MHz ~ 5320 MHz>				
Antenna Type	Antenna: PIFA Antenna with gain 2.30 dBi(Battery1)				
	Antenna: PIFA Antenna with gain 2.71 dBi(Battery2)				
	<5500 MHz ~ 5700 MHz >				
	Antenna: PIFA Antenna with gain 2.52 dBi(Battery1)				
	Antenna: PIFA Antenna with gain 2.93 dBi(Battery2)				
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)				

**Note:** The wifi antenna is not changed while using battery cover 1 or 2. The antenna gain difference is due to antenna gain measurement result by using different battery covers.

# 1.5 Modification of EUT

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

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# 1.6 Testing Site

Test Site	SPORTON INTERNATIONAL INC.					
No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,						
Test Site Location	Kwei-Shan Hsi	ang, Tao Yuan H	Isien, Taiwan, R.	O.C.		
	TEL: +886-3-3273456 / FAX: +886-3-3284978					
Toot Site No	5	Sporton Site No	FCC Registration No.			
Test Site No.	TH02-HY	CO05-HY	03CH07-HY	722060		

**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 E
- FCC KDB 789033 D01 General UNII Test Procedures v01r03
- ANSI C63.4-2003

#### Remark:

- 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.

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# 2 Test Configuration of Equipment Under Test

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

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

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

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

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

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2.2 RF Power

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

		5GHz 802.11a RF Power (dBm)							
Channel	Frequency	OFDM Data Rate							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
CH 36	5180 MHz	13.08	13.03	13.03	13.07	13.07	13.07	13.04	13.03
CH 44	5220 MHz	16.84	16.75	16.80	16.70	16.83	16.82	16.82	16.79
CH 48	5240 MHz	16.73	16.72	16.67	16.71	16.69	16.68	16.69	16.68
CH 52	5260 MHz	<mark>16.86</mark>	16.85	16.82	16.84	16.85	16.83	16.82	16.82
CH 60	5300 MHz	16.52	16.50	16.51	16.50	16.50	16.50	16.50	16.48
CH 64	5320 MHz	13.28	13.25	13.24	13.24	13.20	13.23	13.24	13.24
CH 100	5500 MHz	14.71	14.69	14.69	14.68	14.66	14.70	14.63	14.63
CH 116	5580 MHz	16.57	16.46	16.40	16.47	16.55	16.53	16.53	16.43
CH 140	5700 MHz	13.31	13.27	13.30	13.27	13.29	13.30	13.27	13.30

		5GHz 802.11a/n HT20 RF Power (dBm)							
Channel	Frequency	OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 36	5180 MHz	13.14	13.13	13.12	13.11	13.09	13.13	13.08	13.11
CH 44	5220 MHz	15.49	15.45	15.44	15.41	15.42	15.40	15.40	15.43
CH 48	5240 MHz	15.55	15.49	15.43	15.43	15.47	15.51	15.51	15.46
CH 52	5260 MHz	15.60	15.58	15.52	15.57	15.53	15.55	15.58	15.54
CH 60	5300 MHz	<mark>15.73</mark>	15.69	15.70	15.72	15.70	15.69	15.68	15.70
CH 64	5320 MHz	13.40	13.36	13.29	13.36	13.38	13.39	13.28	13.33
CH 100	5500 MHz	14.78	14.74	14.76	14.77	14.76	14.71	14.77	14.68
CH 116	5580 MHz	15.55	15.52	15.47	15.51	15.43	15.53	15.48	15.50
CH 140	5700 MHz	13.37	13.31	13.33	13.36	13.33	13.30	13.31	13.36

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		5GHz 802.11a/n HT40 RF Power (dBm)							
Channel	Frequency		OFDM Data Rate						
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 38	5190 MHz	11.80	11.74	11.57	11.57	11.56	11.58	11.67	11.70
CH 46	5230 MHz	14.71	14.62	14.69	14.69	14.68	14.65	14.60	14.68
CH 54	5270 MHz	14.82	14.74	14.78	14.80	14.75	14.81	14.81	14.76
CH 62	5310 MHz	11.17	11.05	11.09	11.02	11.12	11.16	11.16	11.06
CH 102	5510 MHz	10.46	10.44	10.38	10.37	10.44	10.42	10.36	10.36
CH 110	5550 MHz	<mark>14.83</mark>	14.81	14.69	14.74	14.75	14.82	14.71	14.77
CH 134	5670 MHz	13.96	13.94	13.91	13.94	13.91	13.86	13.93	13.87

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### 2.3 Test Mode

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

			Test Cases				
	Test Items	Mode	Data rate	Test Channel	Note	Test Plane	
	26dB BW	802.11a	6 Mbps	L/M/H	-	-	
	Power Spectral	802.11n HT20	MCS0	L/M/H	-	-	
	Density	802.11n HT40	MCS0	L/M/H	-	-	
	00 JD 0i - J	802.11a	6 Mbps	н	-	-	
On an discrete d	20dB Occupied	802.11n HT20	MCS0	н	-	-	
Conducted	Bandwidth	802.11n HT40	MCS0	н	-	-	
TCs		802.11a	6 Mbps	L/M/H	-	-	
	Output Power	802.11n HT20	MCS0	L/M/H	-	-	
		802.11n HT40	MCS0	L/M/H	-	-	
	Peak Excursion	802.11a	6 Mbps	L/M/H	-	-	
		802.11n HT20	MCS0	L/M/H	-	-	
		802.11n HT40	MCS0	L/M/H	-	-	
	Frequency Stability	802.11a	6 Mbps	L/M/H	-	-	
		802.11a	6 Mbps	L/H	Sample 1 with Battery 2		
		802.11n HT20	MCS0	L/H	Sample 1 with Battery 2		
	Radiated Band Edge			L/H	Sample 1 with Battery 2		
		802.11n HT40	MCS0	L	Sample 1 with Battery 1		
Radiated				L	Sample 2 with Battery 2	.,	
TCs		802.11a	6 Mbps	L/M/H	Sample 1 with Battery 2	Y	
	De Beterd Oweni	802.11n HT20	MCS0	L/M/H	Sample 1 with Battery 2		
	Radiated Spurious			L/M/H	Sample 1 with Battery 2		
	Emission	802.11n HT40	MCS0	L	Sample 1 with Battery 1		
				L	Sample 2 with Battery 2		

**Note:** After pre-scanned the EUT by rotating three orthogonal orientations and configuring with possible used accessories, the radiated spurious emissions were mainly tested by Sample 1 with Battery 2, and verified Radiated Band edge(s) on worst channels listed above.

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Test Cases						
AC Conducted	Mode 1 : CDMA2000 BC0 Idle + WLAN (5GHz) Link + Bluetooth Link + NFC active + USB					
Emission	Cable (Charging from Adapter) + Scanner + Battery 2 for Sample 1					

### Remark:

1. "Bluetooth Link" means EUT linked with Bluetooth headset.

2. "WLAN Link" means EUT associated with AP at 5GHz band.

3. "Scanner" means scanning and decoding a barcode by scanner.

4. "NFC active" means turning on NFC function of EUT.

	Ch. #	Band I: 5150-5250 MHz Band II: 5250-5350 MH		Band III:5470-5725MHz
	Cn. #	802.11a 802.11a		802.11a
L	Low	36	52	100
M	Middle	44	60	116
Н	High	48	64	140`

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

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

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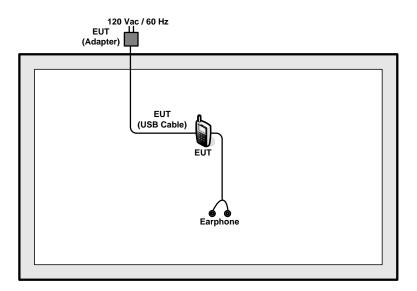
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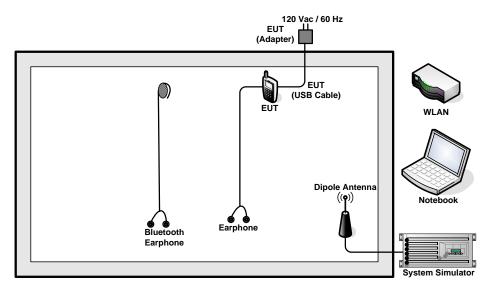
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# 2.4 Connection Diagram of Test System

#### <WLAN Tx Mode>



### <AC Conducted Emission Mode>



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# 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.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
6.	Earphone	Cotron	MAX-300	N/A	Unshielded, 1.2 m	N/A

# 2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, "QRCT" installed in the notebook 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.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).  
= 
$$4.2 + 10 = 14.2$$
 (dB)

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

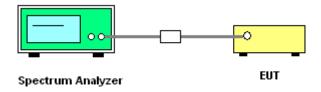
### 3.1.2 Measuring Instruments

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

#### 3.1.3 Test Procedures

- The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.
   Section D) Emission bandwidth
- 2. Set RBW = approximately 1% of the emission bandwidth.
- 3. Set the VBW > RBW.
- 4. Detector = Peak.
- 5. Trace mode = max hold
- 6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- 7. Measure and record the results in the test report.

### 3.1.4 Test Setup



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### 3.1.5 Test Result of 26dB Bandwidth Plots

Test Band :	5GHz band 1	Temperature :	21~26℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	26dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	36	5180	22.70	16.99
11a	6Mbps	1	44	5220	34.20	16.99
11a	6Mbps	1	48	5240	34.80	16.99
HT20	MCS0	1	36	5180	22.85	16.99
HT20	MCS0	1	44	5220	27.50	16.99
HT20	MCS0	1	48	5240	27.35	16.99
HT40	MCS0	1	38	5190	45.09	16.99
HT40	MCS0	1	46	5230	50.22	16.99

Test Band :	5GHz band 2	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	26dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	52	5260	35.40	23.98
11a	6Mbps	1	60	5300	33.80	23.98
11a	6Mbps	1	64	5320	22.50	23.98
HT20	MCS0	1	52	5260	30.10	23.98
HT20	MCS0	1	60	5300	28.95	23.98
HT20	MCS0	1	64	5320	22.95	23.98
HT40	MCS0	1	54	5270	47.43	23.98
HT40	MCS0	1	62	5310	46.17	23.98

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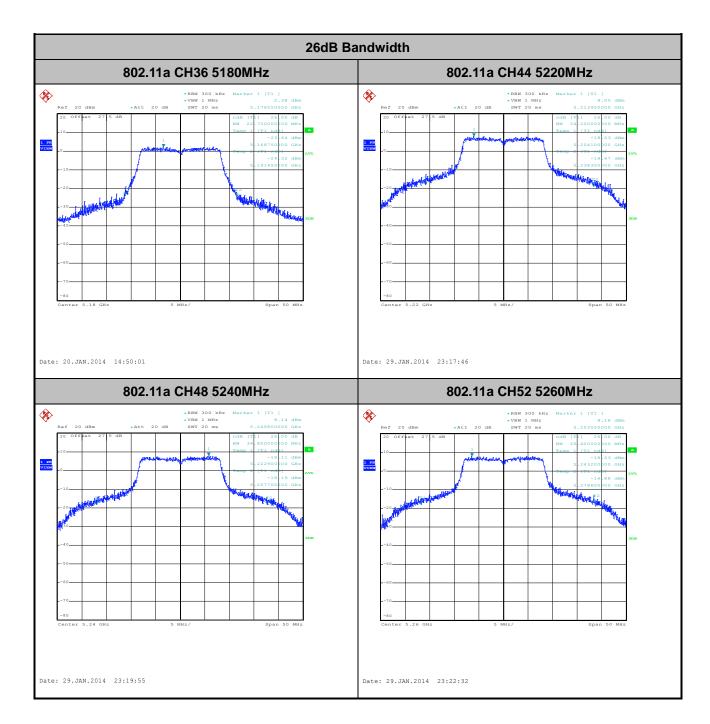
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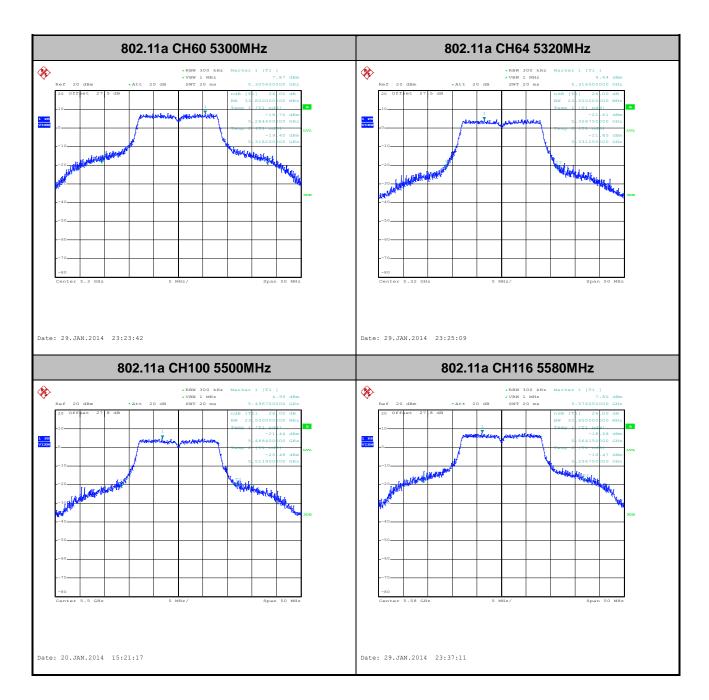
Test Band :	5GHz band 3	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity:	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	26dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)
11a	6Mbps	1	100	5500	23.50	23.98
11a	6Mbps	1	116	5580	32.60	23.98
11a	6Mbps	1	140	5700	22.80	23.98
HT20	MCS0	1	100	5500	23.95	23.98
HT20	MCS0	1	116	5580	29.40	23.98
HT20	MCS0	1	140	5700	23.55	23.98
HT40	MCS0	1	102	5510	45.00	23.98
HT40	MCS0	1	110	5550	52.65	23.98
HT40	MCS0	1	134	5670	49.14	23.98

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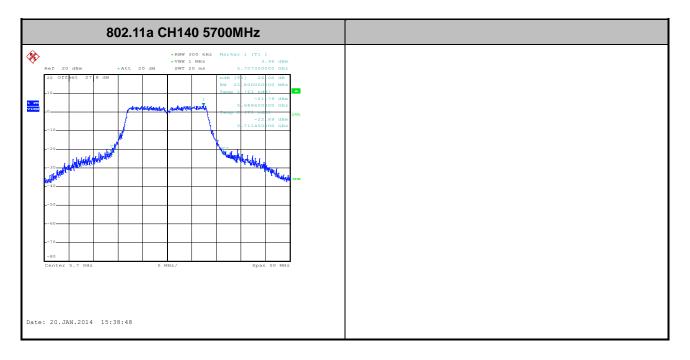


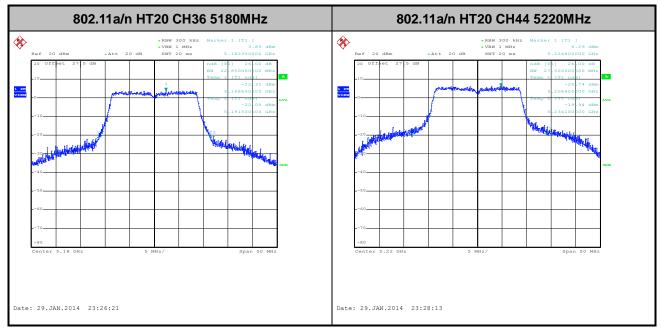
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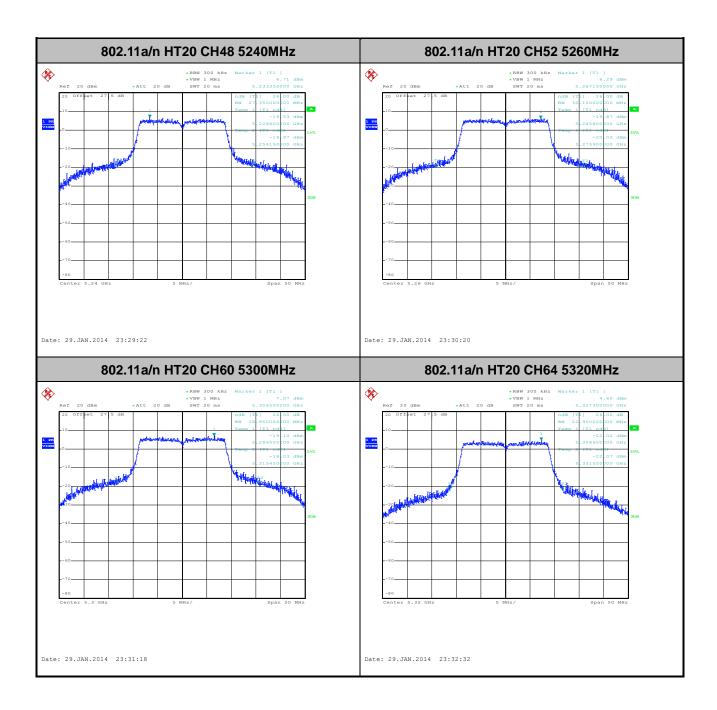






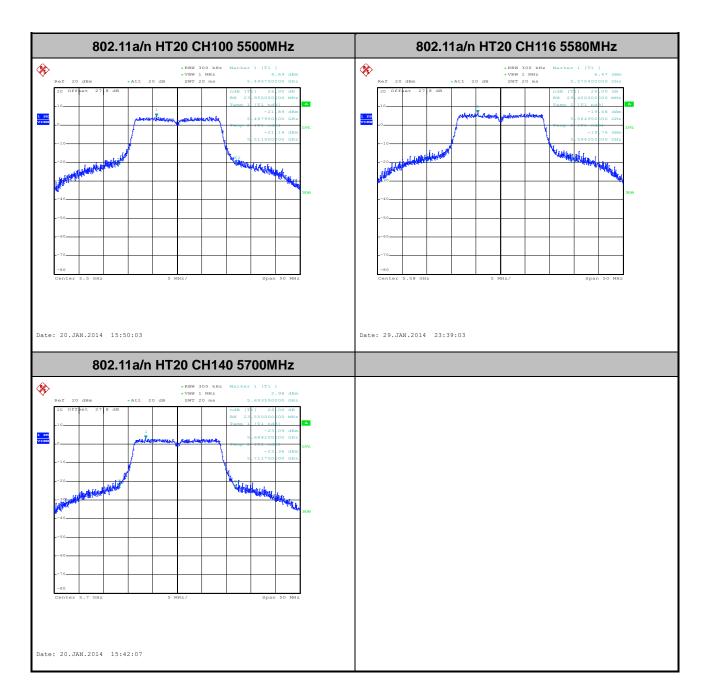
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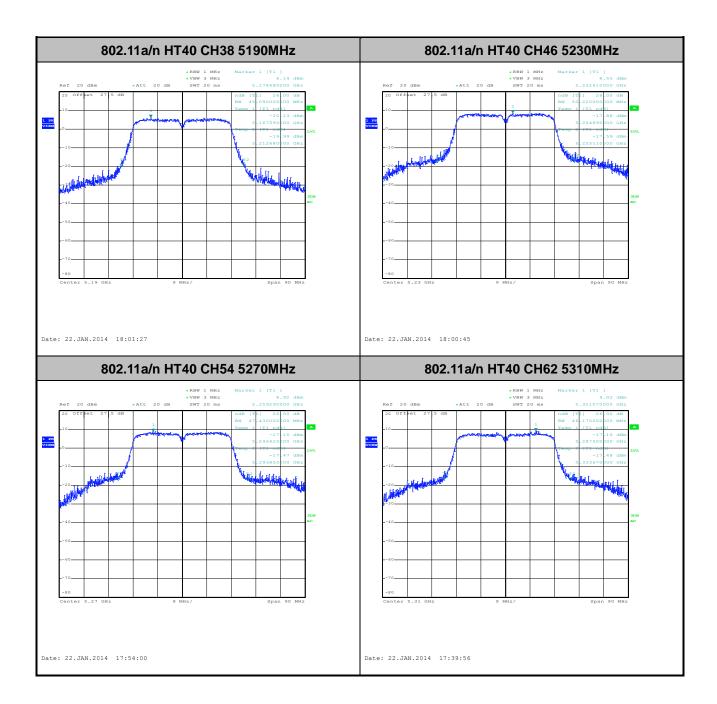


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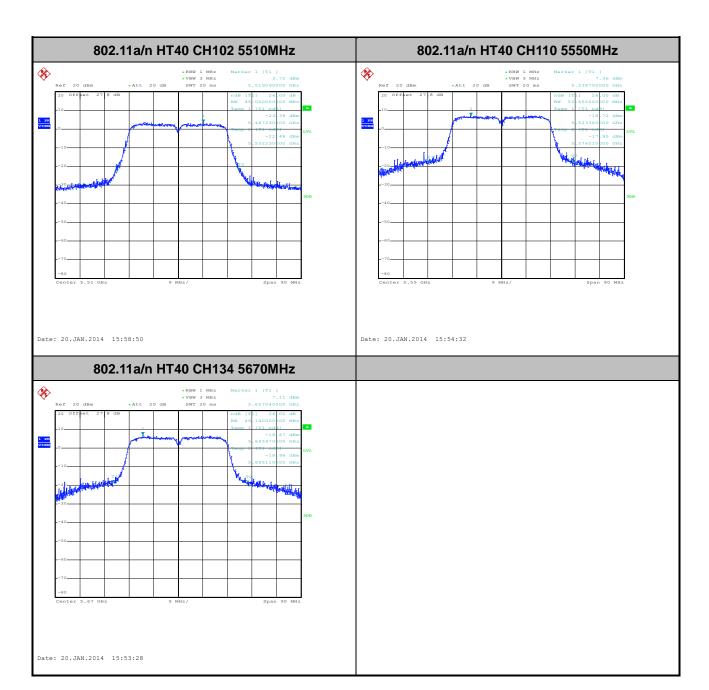


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# 3.1.6 Test Result of 20dB Occupied Bandwidth

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	20dB Bandwidth (MHz)
11a	6Mbps	1	48	5240	19.56
HT20	MCS0	1	48	5240	19.56
HT40	MCS0	1	46	5230	39.30

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### 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 dBm + 10log B, where B is the 26 dB emissions bandwidth in 1-MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

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

### 3.2.2 Measuring Instruments

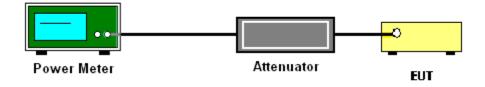
The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3 Test Procedures

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

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

### 3.2.4 Test Setup



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### 3.2.5 Test Result of Maximum Conducted Output Power

Test Band :	5GHz band 1	Temperature :	21~26℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.59	13.08	16.99	2.71		Pass
11a	6Mbps	1	44	5220	0.59	16.84	16.99	2.71		Pass
11a	6Mbps	1	48	5240	0.59	16.73	16.99	2.71		Pass
HT20	MCS0	1	36	5180	0.63	13.14	16.99	2.71		Pass
HT20	MCS0	1	44	5220	0.63	15.49	16.99	2.71	-	Pass
HT20	MCS0	1	48	5240	0.63	15.55	16.99	2.71		Pass
HT40	MCS0	1	38	5190	0.63	11.80	16.99	2.71		Pass
HT40	MCS0	1	46	5230	0.63	14.71	16.99	2.71		Pass

#### Note:

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

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Test Band :	5GHz band 2	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	52	5260	0.59	16.86	23.98	2.71		Pass
11a	6Mbps	1	60	5300	0.59	16.52	23.98	2.71		Pass
11a	6Mbps	1	64	5320	0.59	13.28	23.98	2.71		Pass
HT20	MCS0	1	52	5260	0.63	15.60	23.98	2.71		Pass
HT20	MCS0	1	60	5300	0.63	15.73	23.98	2.71	-	Pass
HT20	MCS0	1	64	5320	0.63	13.40	23.98	2.71		Pass
HT40	MCS0	1	54	5270	0.63	14.82	23.98	2.71		Pass
HT40	MCS0	1	62	5310	0.63	11.17	23.98	2.71		Pass

#### Note:

- 1. Final Output Power equals to Measured Output Power adds the duty factor.
- 2. For the 5250-5350 MHz band, 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.

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Test Band :	5GHz band 3	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	100	5500	0.59	14.71	23.98	2.93		Pass
11a	6Mbps	1	116	5580	0.59	16.57	23.98	2.93		Pass
11a	6Mbps	1	140	5700	0.59	13.31	23.98	2.93		Pass
HT20	MCS0	1	100	5500	0.63	14.78	23.98	2.93		Pass
HT20	MCS0	1	116	5580	0.63	15.55	23.98	2.93	-	Pass
HT20	MCS0	1	140	5700	0.63	13.37	23.98	2.93		Pass
HT40	MCS0	1	102	5510	0.63	10.46	23.98	2.93		Pass
HT40	MCS0	1	110	5550	0.63	14.83	23.98	2.93		Pass
HT40	MCS0	1	134	5670	0.63	13.96	23.98	2.93		Pass

#### Note:

- 1. Final Output Power equals to Measured Output Power adds the duty factor.
- 2. For the band 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.

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# 3.3 Power Spectral Density Measurement

### 3.3.1 Limit of Power Spectral Density

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

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

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

### 3.3.2 Measuring Instruments

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

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#### 3.3.3 Test Procedures

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

Section F) Peak power spectral density (PPSD).

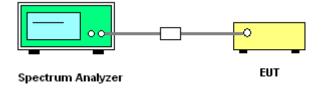
Note: Though the rule refers to "peak power spectral density", the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

#### # Method SA-2 #

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

- 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 ≥ 3 MHz.
  - Number of points in sweep ≥ 2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the
    average power during the actual transmission times. For example, add 10 log(1/0.25) = 6
    dB if the duty cycle is 25 percent.
- 2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
- 3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

#### 3.3.4 Test Setup



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# 3.3.5 Test Result of Power Spectral Density

Test Band :	5GHz band 1	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	СН	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	36	5180	0.59	-0.68	4.00	2.71	Pass
11a	6Mbps	1	44	5220	0.59	3.79	4.00	2.71	Pass
11a	6Mbps	1	48	5240	0.59	3.56	4.00	2.71	Pass
HT20	MCS0	1	36	5180	0.63	1.96	4.00	2.71	Pass
HT20	MCS0	1	44	5220	0.63	3.66	4.00	2.71	Pass
HT20	MCS0	1	48	5240	0.63	3.97	4.00	2.71	Pass
HT40	MCS0	1	38	5190	0.63	0.02	4.00	2.71	Pass
HT40	MCS0	1	46	5230	0.63	2.70	4.00	2.71	Pass

Test Band :	5GHz band 2	Temperature :	21~26℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	СН	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	52	5260	0.59	3.35	11.00	2.71	Pass
11a	6Mbps	1	60	5300	0.59	3.39	11.00	2.71	Pass
11a	6Mbps	1	64	5320	0.59	0.29	11.00	2.71	Pass
HT20	MCS0	1	52	5260	0.63	5.31	11.00	2.71	Pass
HT20	MCS0	1	60	5300	0.63	6.55	11.00	2.71	Pass
HT20	MCS0	1	64	5320	0.63	4.26	11.00	2.71	Pass
HT40	MCS0	1	54	5270	0.63	2.27	11.00	2.71	Pass
HT40	MCS0	1	62	5310	0.63	-0.53	11.00	2.71	Pass

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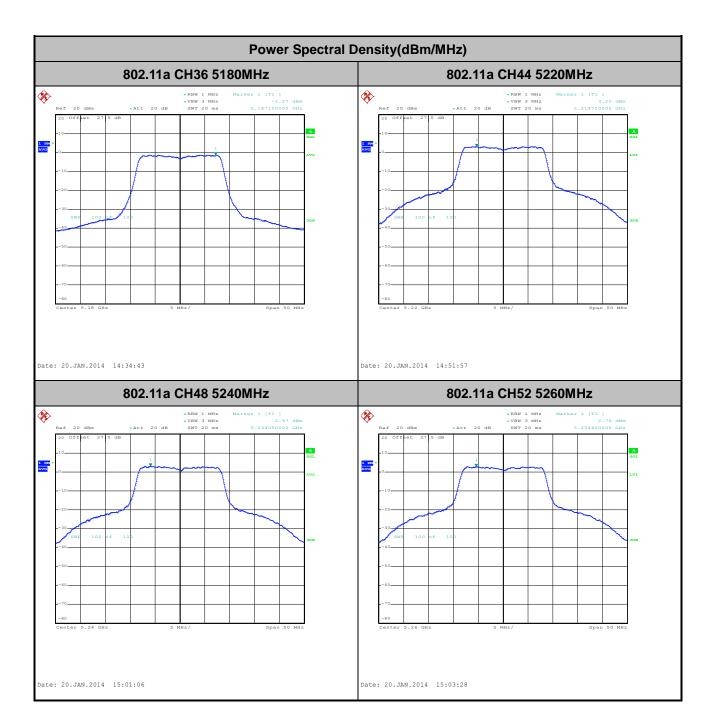
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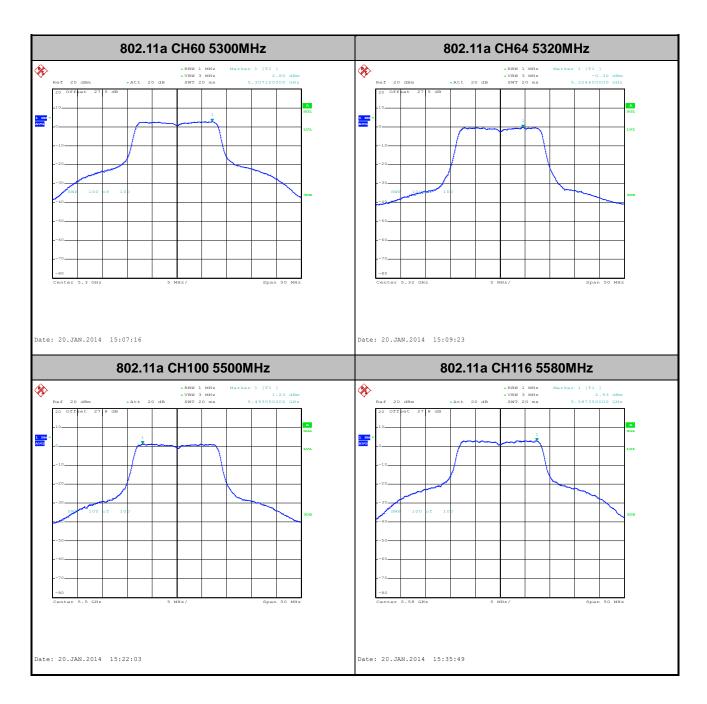
Test Band :	5GHz band 3	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod.	Data Rate	N <sub>TX</sub>	СН	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	100	5500	0.59	1.82	11.00	2.93	Pass
11a	6Mbps	1	116	5580	0.59	3.52	11.00	2.93	Pass
11a	6Mbps	1	140	5700	0.59	0.54	11.00	2.93	Pass
HT20	MCS0	1	100	5500	0.63	1.54	11.00	2.93	Pass
HT20	MCS0	1	116	5580	0.63	2.36	11.00	2.93	Pass
HT20	MCS0	1	140	5700	0.63	0.34	11.00	2.93	Pass
HT40	MCS0	1	102	5510	0.63	-5.53	11.00	2.93	Pass
HT40	MCS0	1	110	5550	0.63	-1.43	11.00	2.93	Pass
HT40	MCS0	1	134	5670	0.63	-2.17	11.00	2.93	Pass

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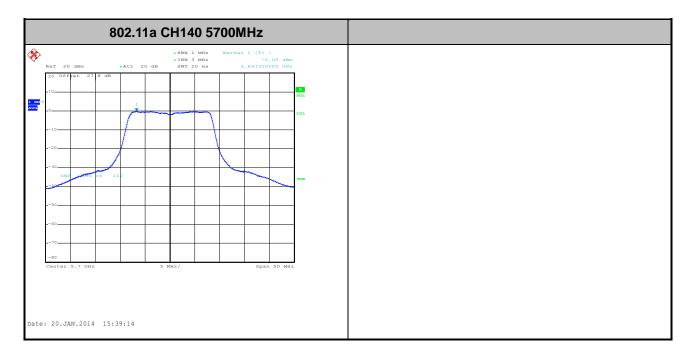


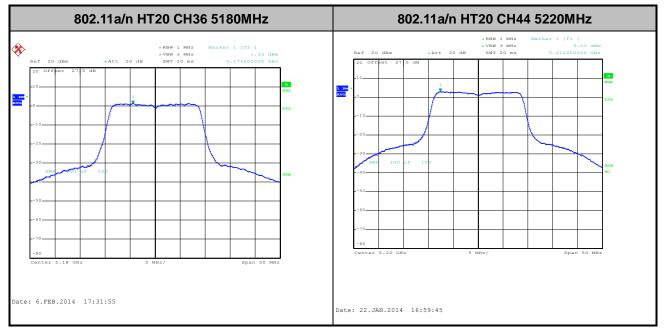
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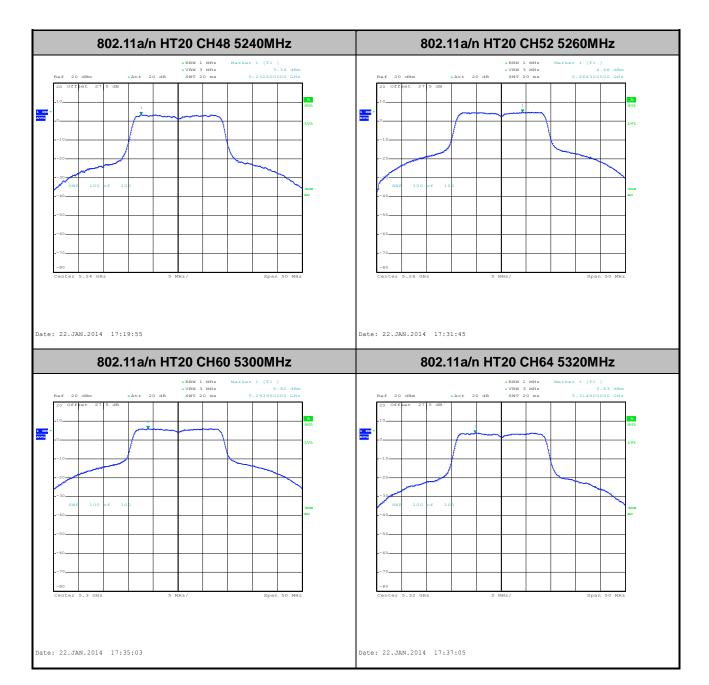




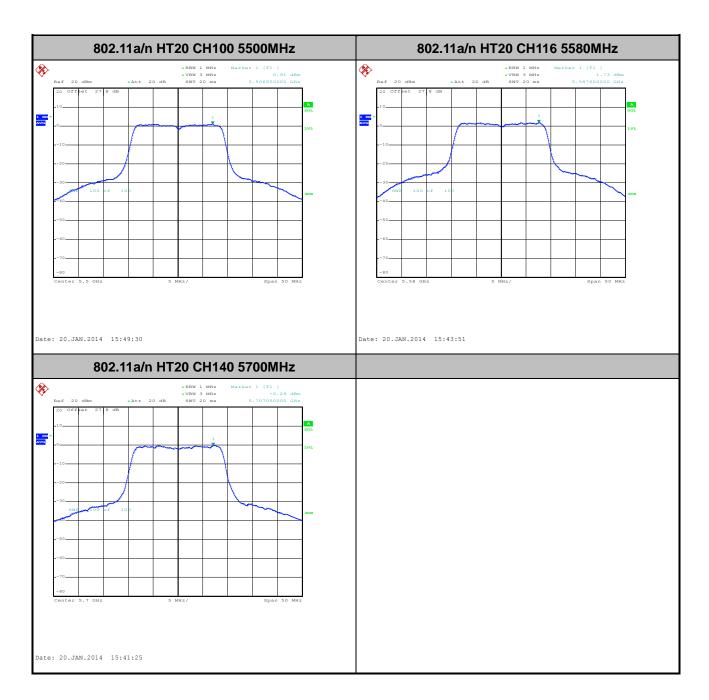


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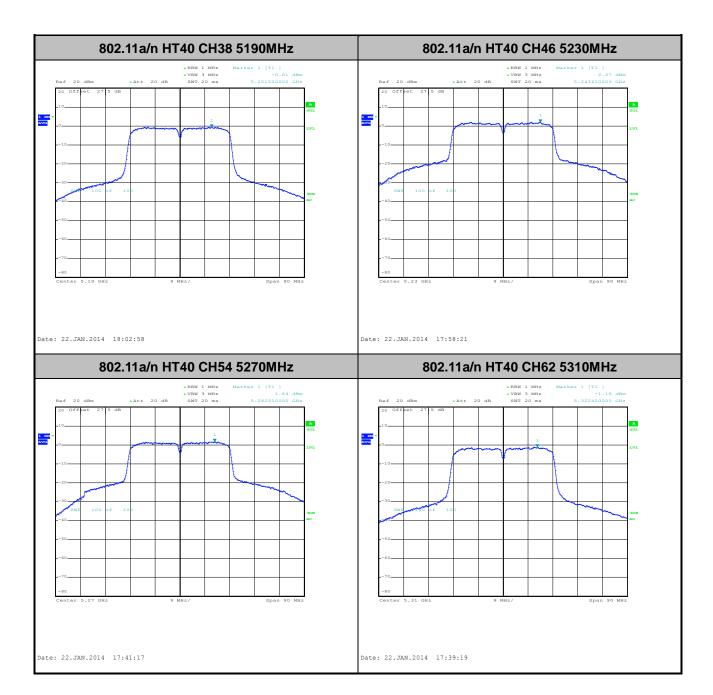




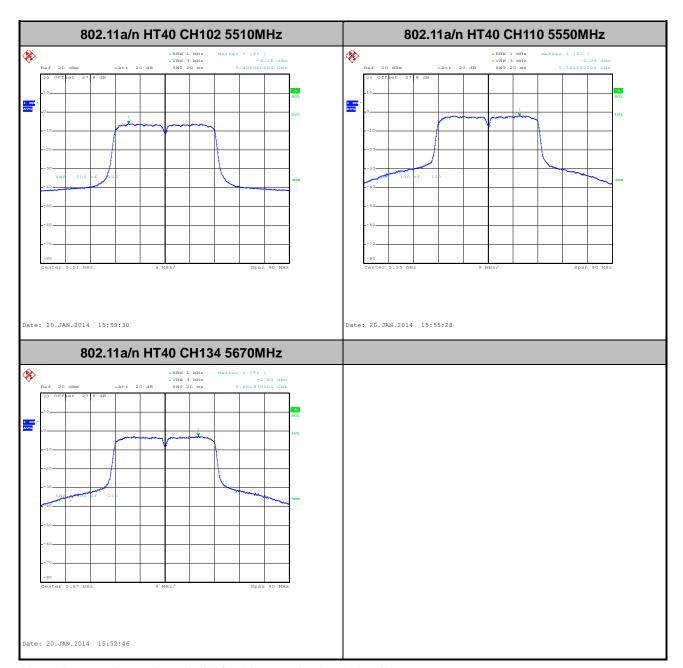
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Note: Average Power Density (dB) = Measured value+ Duty Factor

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#### 3.4 Peak Excursion Ratio Measurement

#### **Limit of Peak Excursion Ratio** 3.4.1

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.

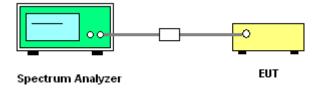
#### 3.4.3 **Test Procedures**

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 ≥ 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



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#### 3.4.5 **Test Result of Peak Excursion Ratio**

Test Band :	5GHz band 3	Temperature :	<b>21~26</b> ℃
Test Engineer :	Bill Kuo and Rover Lee	Relative Humidity :	45~54%

Mod	N	Channel	Freq.		Peak I		Max.	Pass/Fail		
Mod.	N <sub>TX</sub>	Chamer	(MHz)	BPSK	QPSK	16QAM	64QAM	256QAM		rass/i ali
11a	1	100	5500	8.59	9.65	10.08	9.07	-	13	Pass
HT20	1	100	5500	9.00	9.50	9.23	9.38	-	13	Pass
HT40	1	102	5510	9.36	9.72	9.16	8.90	-	13	Pass

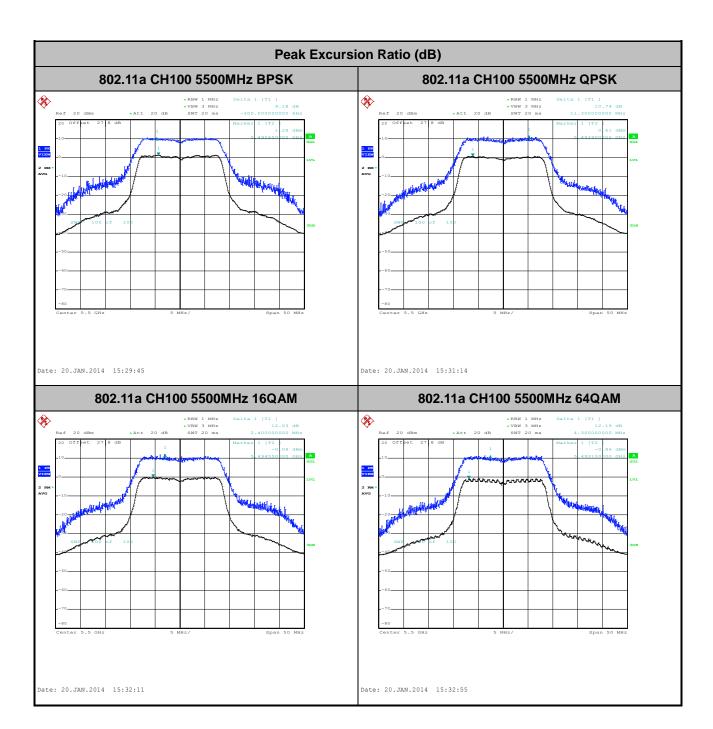
Note: All modulation measured based on the minimum data rate setting.

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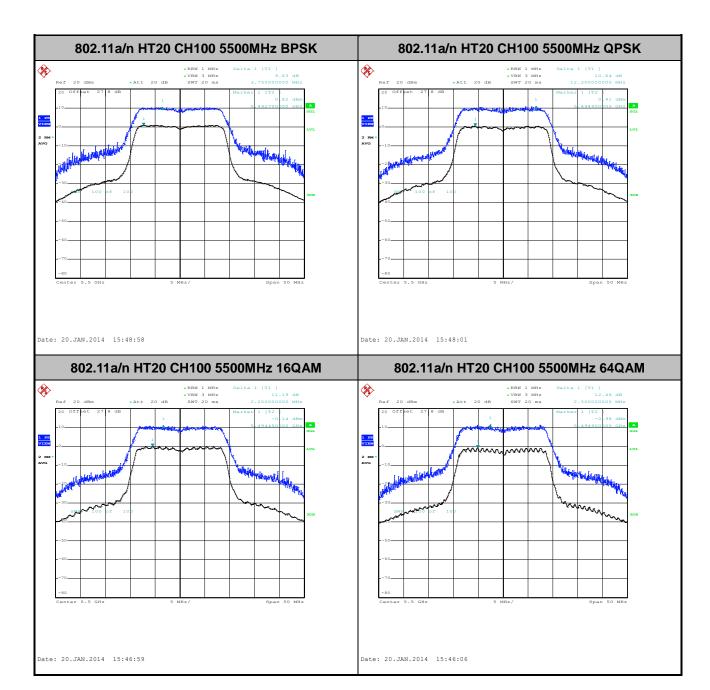
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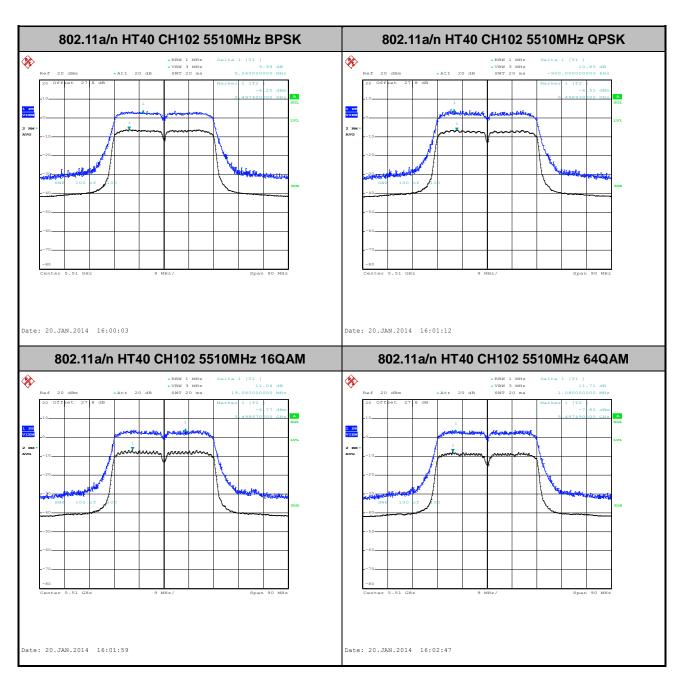
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Note: Peak Excursion Ratio (dB) = Peak - (Average + Duty Cycle Offset)

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3.5 Unwanted Radiated Emission Measurement

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

#### 3.5.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.
  - For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.
  - For transmitters operating in the 5470-5725MHz band: all emissions outside of the 5470-5725MHz 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	Field Strength	Measurement Distance		
(MHz)	(microvolts/meter)	(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.

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

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

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(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.

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3.5.3 Test Procedures

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

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- (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
  - RBW = 120 kHz
  - VBW = 300 kHz
  - Detector = Peak
  - Trace mode = max hold
- (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
  - The setting follows the H) 5) of FCC KDB 789033.
  - RBW = 1 MHz
  - VBW ≥ 3 MHz
  - Detector = Peak
  - Sweep time = auto
  - Trace mode = max hold
- (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
  - The setting follows H) 6) of FCC KDB 789033.
  - RBW = 1 MHz
  - VBW = 10 Hz, when duty cycle is no less than 98 percent.
  - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(µs)	1/T(kHz)	VBW Setting	
802.11a	87.26	1370.00	0.730	1kHz	
802.11n HT20	86.49	1280.00	0.781	1kHz	
802.11n HT40	86.49	640.00	1.563	3kHz	

- 2. The EUT was placed on a rotatable table top 0.8 meter above ground.
- 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.

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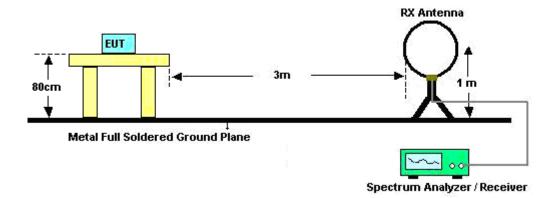
FCC ID: UZ7TC55CH



- 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



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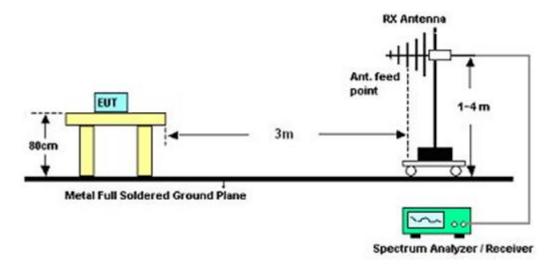
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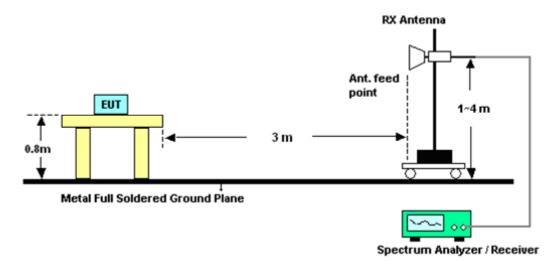


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#### For radiated emissions from 30MHz to 1GHz



#### 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.

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#### 3.5.6 Test Result

## 3.5.6.1 Test Result of Radiated Band Edges

#### <Sample 1 with Battery 2>

Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	36	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	(dB)	( dB )	( cm )	(deg)			
5148.95	70.04	-3.96	74	59.02	34.29	9.22	32.49	109	359	Peak		
5150	50.7	-3.3	54	39.68	34.29	9.22	32.49	109	359	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	(dB)	( dB )	( cm )	(deg)			
5148.95	64.93	-9.07	74	53.91	34.29	9.22	32.49	181	8	Peak		
5149.85	45.58	-8.42	54	34.56	34.29	9.22	32.49	181	8	Average		

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 Test Mode :
 802.11a
 Temperature :
 19~21°C

 Test Channel :
 48
 Relative Humidity :
 47~49%

 Test Engineer :
 Eric Shih

			ANTE	NNA POL	ARITY : HO	RIZONTA	L			
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
5147.45	59.12	-14.88	74	48.1	34.29	9.22	32.49	120	356	Peak
5149.25	41.49	-12.51	54	30.47	34.29	9.22	32.49	120	356	Average
5398.29	55.14	-18.86	74	43.83	34.94	9.65	33.28	120	356	Peak
5424.47	41.59	-12.41	54	30.4	34.98	9.69	33.48	120	356	Average

			ANT	ENNA PO	LARITY: V	ERTICAL				
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	(dB)	( dB )	( cm )	(deg)	
5120	53.92	-20.08	74	42.99	34.2	9.18	32.45	100	330	Peak
5149.7	40.62	-13.38	54	29.6	34.29	9.22	32.49	100	330	Average
5410.83	54.25	-19.75	74	43.01	34.94	9.69	33.39	100	330	Peak
5427.55	41.34	-12.66	54	30.15	34.98	9.69	33.48	100	330	Average

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Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	52	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

			ANTE	NNA POL	ARITY : HO	RIZONTA	L			
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
5071.1	55.09	-18.91	74	44.31	34.07	9.1	32.39	100	358	Peak
5071.7	41.8	-12.2	54	30.97	34.12	9.1	32.39	100	358	Average
5357.37	57.41	-16.59	74	46.17	34.81	9.61	33.18	100	358	Peak
5456.48	41.93	-12.07	54	30.65	35.07	9.78	33.57	100	358	Average

	ANTENNA POLARITY : VERTICAL												
Frequency	requency Level Over Limit Read Antenna Cable Preamp Ant Table F												
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5136.8	53.39	-20.61	74	42.41	34.25	9.18	32.45	100	320	Peak			
5144.45	40.67	-13.33	54	29.65	34.29	9.22	32.49	100	320	Average			
5396.75	54.74	-19.26	74	43.43	34.94	9.65	33.28	100	320	Peak			
5409.51	41.37	-12.63	54	30.13	34.94	9.69	33.39	100	320	Average			

Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	64	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
										Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5352.2	68.74	-5.26	74	57.55	34.81	9.56	33.18	104	10	Peak		
5350	50.4	-3.6	54	39.21	34.81	9.56	33.18	104	10	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency Level Over Limit Read Antenna Cable Preamp Ant Table Rema												
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5350	68.75	-5.25	74	57.56	34.81	9.56	33.18	170	334	Peak		
5350	45.95	-8.05	54	34.76	34.81	9.56	33.18	170	334	Average		

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Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	100	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency Level Over Limit Read Antenna Cable Preamp Ant Table Rem										Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	(dB)	( dB )	( cm )	(deg)			
5469.2	72.56	-1.44	74	61.24	35.11	9.78	33.57	101	11	Peak		
5470	49.96	-4.04	54	38.64	35.11	9.78	33.57	101	11	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Frequency Level Over Limit Read Antenna Cable Preamp Ant Table Remark											
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5468.88	69.92	-4.08	74	58.6	35.11	9.78	33.57	128	355	Peak		
5469.68	47.73	-6.27	54	36.41	35.11	9.78	33.57	128	355	Average		

Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	140	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
										Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5725.24	67.13	-6.87	74	55.91	35.33	10.04	34.15	108	10	Peak		
5725	51.07	-2.93	54	39.85	35.33	10.04	34.15	108	10	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Frequency Level Over Limit Read Antenna Cable Preamp Ant Table Rema											
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5725	63.38	-10.62	74	52.16	35.33	10.04	34.15	100	356	Peak		
5725	47.92	-6.08	54	36.7	35.33	10.04	34.15	100	356	Average		

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Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	36	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5149.1	67.64	-6.36	74	56.62	34.29	9.22	32.49	109	355	Peak		
5150	49.57	-4.43	54	38.55	34.29	9.22	32.49	109	355	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5142.95	61.73	-12.27	74	50.67	34.29	9.22	32.45	101	352	Peak		
5150	45.03	-8.97	54	34.01	34.29	9.22	32.49	101	352	Average		

Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	48	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL												
Frequency	quency Level Over Limit Read Antenna Cable Preamp Ant Table Re												
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	( deg )				
5058.5	53.8	-20.2	74	43.03	34.07	9.05	32.35	108	356	Peak			
5149.4	41.01	-12.99	54	29.99	34.29	9.22	32.49	108	356	Average			
5408.41	54.37	-19.63	74	43.13	34.94	9.69	33.39	108	356	Peak			
5388.39	41.32	-12.68	54	30.05	34.9	9.65	33.28	108	356	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5028.95	53.87	-20.13	74	43.19	33.99	9.01	32.32	100	339	Peak			
5149.4	40.45	-13.55	54	29.43	34.29	9.22	32.49	100	339	Average			
5448.12	55.01	-18.99	74	43.69	35.07	9.73	33.48	100	339	Peak			
5406.87	41.35	-12.65	54	30.11	34.94	9.69	33.39	100	339	Average			

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Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	52	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5109.35	53.91	-20.09	74	42.99	34.2	9.14	32.42	105	10	Peak			
5072.15	40.95	-13.05	54	30.12	34.12	9.1	32.39	105	10	Average			
5396.42	55.32	-18.68	74	44.01	34.94	9.65	33.28	105	10	Peak			
5445.81	42.35	-11.65	54	31.03	35.07	9.73	33.48	105	10	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5042	53.46	-20.54	74	42.77	34.03	9.01	32.35	100	320	Peak			
5146.55	40.34	-13.66	54	29.32	34.29	9.22	32.49	100	320	Average			
5439.87	54.4	-19.6	74	43.12	35.03	9.73	33.48	100	320	Peak			
5388.5	41.32	-12.68	54	30.05	34.9	9.65	33.28	100	320	Average			

Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	64	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5350	67.69	-6.31	74	56.5	34.81	9.56	33.18	122	297	Peak		
5350.22	47.78	-6.22	54	36.59	34.81	9.56	33.18	122	297	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	requency Level Over Limit Read Antenna Cable Preamp Ant Table Remark											
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5351.65	67.71	-6.29	74	56.52	34.81	9.56	33.18	100	340	Peak		
5350.22	47.39	-6.61	54	36.2	34.81	9.56	33.18	100	340	Average		

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Test Channel :	100	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	(dB)	(dB)	( cm )	(deg)			
5466.64	72.03	-1.97	74	60.71	35.11	9.78	33.57	101	358	Peak		
5469.84	50.6	-3.4	54	39.28	35.11	9.78	33.57	101	358	Average		

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5468.72	70.14	-3.86	74	58.82	35.11	9.78	33.57	103	1	Peak			
5469.36	47.53	-6.47	54	36.21	35.11	9.78	33.57	103	1	Average			

Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	140	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5725	69.35	-4.65	74	58.13	35.33	10.04	34.15	105	12	Peak		
5725	52.58	-1.42	54	41.36	35.33	10.04	34.15	105	12	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5725.08	65.08	-8.92	74	53.86	35.33	10.04	34.15	100	5	Peak		
5725	49.7	-4.3	54	38.48	35.33	10.04	34.15	100	5	Average		

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 Test Mode :
 802.11n HT40
 Temperature :
 19~21°C

 Test Channel :
 38
 Relative Humidity :
 47~49%

 Test Engineer :
 Eric Shih

	ANTENNA POLARITY : HORIZONTAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	( deg )				
5147.15	71.05	-2.95	74	60.03	34.29	9.22	32.49	122	338	Peak			
5149.85	52.85	-1.15	54	41.83	34.29	9.22	32.49	122	338	Average			
5390.04	55.05	-18.95	74	43.78	34.9	9.65	33.28	122	338	Peak			
5392.79	42.22	-11.78	54	30.95	34.9	9.65	33.28	122	338	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	(dB)	( dB )	( cm )	(deg)				
5148.65	66.93	-7.07	74	55.91	34.29	9.22	32.49	114	266	Peak			
5149.25	47.94	-6.06	54	36.92	34.29	9.22	32.49	114	266	Average			
5369.14	54.34	-19.66	74	43.06	34.85	9.61	33.18	114	266	Peak			
5386.08	42.01	-11.99	54	30.74	34.9	9.65	33.28	114	266	Average			

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 Test Mode :
 802.11n HT40
 Temperature :
 19~21°C

 Test Channel :
 46
 Relative Humidity :
 47~49%

 Test Engineer :
 Eric Shih

	ANTENNA POLARITY : HORIZONTAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5146.55	59.27	-14.73	74	48.25	34.29	9.22	32.49	120	358	Peak			
5148.95	44.48	-9.52	54	33.46	34.29	9.22	32.49	120	358	Average			
5360.01	55.3	-18.7	74	44.06	34.81	9.61	33.18	120	358	Peak			
5350	43.55	-10.45	54	32.36	34.81	9.56	33.18	120	358	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5149.4	57.11	-16.89	74	46.09	34.29	9.22	32.49	111	300	Peak			
5148.05	42.96	-11.04	54	31.94	34.29	9.22	32.49	111	300	Average			
5421.06	54.81	-19.19	74	43.53	34.98	9.69	33.39	111	300	Peak			
5350.11	42.98	-11.02	54	31.79	34.81	9.56	33.18	111	300	Average			

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 Test Mode :
 802.11n HT40
 Temperature :
 19~21°C

 Test Channel :
 54
 Relative Humidity :
 47~49%

 Test Engineer :
 Eric Shih

	ANTENNA POLARITY : HORIZONTAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5148.8	54.83	-19.17	74	43.81	34.29	9.22	32.49	119	357	Peak			
5150	44.56	-9.44	54	33.54	34.29	9.22	32.49	119	357	Average			
5351.76	59.79	-14.21	74	48.6	34.81	9.56	33.18	119	357	Peak			
5350.44	46.07	-7.93	54	34.88	34.81	9.56	33.18	119	357	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5150	53.65	-20.35	74	42.63	34.29	9.22	32.49	100	332	Peak			
5149.85	42.31	-11.69	54	31.29	34.29	9.22	32.49	100	332	Average			
5350.33	58.56	-15.44	74	47.37	34.81	9.56	33.18	100	332	Peak			
5355.94	44.6	-9.4	54	33.41	34.81	9.56	33.18	100	332	Average			

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Test Mode: 802.11n HT40 Temperature: 19~21°C

Test Channel: 62 Relative Humidity: 47~49%

Test Engineer: Eric Shih

	ANTENNA POLARITY : HORIZONTAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	( deg )				
5102	54.02	-19.98	74	43.14	34.16	9.14	32.42	181	9	Peak			
5140.7	41.34	-12.66	54	30.28	34.29	9.22	32.45	181	9	Average			
5350.88	70.26	-3.74	74	59.07	34.81	9.56	33.18	181	9	Peak			
5350.22	52.4	-1.6	54	41.21	34.81	9.56	33.18	181	9	Average			

	ANTENNA POLARITY : VERTICAL												
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark			
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos				
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)				
5138.45	53.64	-20.36	74	42.66	34.25	9.18	32.45	100	340	Peak			
5144.3	41.16	-12.84	54	30.14	34.29	9.22	32.49	100	340	Average			
5350.22	69.57	-4.43	74	58.38	34.81	9.56	33.18	100	340	Peak			
5350.33	50.94	-3.06	54	39.75	34.81	9.56	33.18	100	340	Average			

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 Test Mode :
 802.11n HT40
 Temperature :
 19~21°C

 Test Channel :
 102
 Relative Humidity :
 47~49%

 Test Engineer :
 Eric Shih

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5469.52	66.57	-7.43	74	55.25	35.11	9.78	33.57	102	10	Peak		
5470	51.32	-2.68	54	40	35.11	9.78	33.57	102	10	Average		
5758.2	54.9	-19.1	74	43.68	35.36	10.06	34.2	102	10	Peak		
5734.44	41.79	-12.21	54	30.59	35.33	10.04	34.17	102	10	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5469.68	65.79	-8.21	74	54.47	35.11	9.78	33.57	110	2	Peak		
5469.84	50.91	-3.09	54	39.59	35.11	9.78	33.57	110	2	Average		
5762.6	54.27	-19.73	74	43.05	35.36	10.06	34.2	110	2	Peak		
5749.24	41.89	-12.11	54	30.66	35.34	10.06	34.17	110	2	Average		

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Test Mode :	802.11n HT40	Temperature :	19~21°C
Test Channel :	134	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5414.16	54.74	-19.26	74	43.46	34.98	9.69	33.39	100	11	Peak		
5469.36	42.95	-11.05	54	31.63	35.11	9.78	33.57	100	11	Average		
5726.6	68.5	-5.5	74	57.28	35.33	10.04	34.15	100	11	Peak		
5725.16	51.67	-2.33	54	40.45	35.33	10.04	34.15	100	11	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5464.56	54.81	-19.19	74	43.49	35.11	9.78	33.57	111	49	Peak		
5430	42.18	-11.82	54	30.9	35.03	9.73	33.48	111	49	Average		
5725	63.66	-10.34	74	52.44	35.33	10.04	34.15	111	49	Peak		
5725.08	46.46	-7.54	54	35.24	35.33	10.04	34.15	111	49	Average		

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## <Sample 1 with Battery 1>

Test Mode :	802.11a HT40	Temperature :	19~21°C
Test Channel :	38	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	(cm)	(deg)			
5147.75	71.78	-2.22	74	60.76	34.29	9.22	32.49	117	342	Peak		
5149.55	52.44	-1.56	54	41.42	34.29	9.22	32.49	117	342	Average		
5383.66	55.05	-18.95	74	43.78	34.9	9.65	33.28	117	342	Peak		
5384.65	42.33	-11.67	54	31.06	34.9	9.65	33.28	117	342	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5150	71.13	-2.87	74	60.11	34.29	9.22	32.49	101	347	Peak		
5148.2	49.28	-4.72	54	38.26	34.29	9.22	32.49	101	347	Average		
5356.38	54.48	-19.52	74	43.24	34.81	9.61	33.18	101	347	Peak		
5362.21	42.19	-11.81	54	30.91	34.85	9.61	33.18	101	347	Average		

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## <Sample 2 with Battery 2>

Test Mode :	802.11a HT40	Temperature :	19~21°C
Test Channel :	38	Relative Humidity :	47~49%
Test Engineer :	Eric Shih		

	ANTENNA POLARITY : HORIZONTAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5149.4	66.83	-7.17	74	55.81	34.29	9.22	32.49	121	351	Peak		
5150	51.89	-2.11	54	40.87	34.29	9.22	32.49	121	351	Average		
5398.18	54.8	-19.2	74	43.49	34.94	9.65	33.28	121	351	Peak		
5372.99	42.34	-11.66	54	31.06	34.85	9.61	33.18	121	351	Average		

	ANTENNA POLARITY : VERTICAL											
Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark		
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos			
(MHz)	( dBµV/m )	( dB )	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)			
5148.2	57.91	-16.09	74	46.89	34.29	9.22	32.49	100	300	Peak		
5149.4	43.92	-10.08	54	32.9	34.29	9.22	32.49	100	300	Average		
5359.68	54.18	-19.82	74	42.94	34.81	9.61	33.18	100	300	Peak		
5371.67	42.18	-11.82	54	30.9	34.85	9.61	33.18	100	300	Average		

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

#### <Sample 1 with Battery 2>

Test Mode :	802.	11a	Temperature :	19~21°C			
Test Channel :	36	Relative Humidity		47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5176 MHz is fundamer	ntal signal which can be ignored.				
	2.	10359 MHz is not with	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84.81	27.72	-12.28	40	49.83	8.1	0.91	31.12	112	73	Peak
129.63	22.07	-21.43	43.5	40.02	12	1.15	31.1	-	-	Peak
204.42	22.16	-21.34	43.5	42.77	9.15	1.34	31.1	-	-	Peak
481.3	21.21	-24.79	46	31.99	17.63	2.38	30.79	-	-	Peak
582.1	23.63	-22.37	46	32.08	19.58	2.64	30.67	-	-	Peak
726.3	24.75	-21.25	46	30.37	21.78	3	30.4	-	-	Peak
5176	100.71	-	-	89.58	34.38	9.27	32.52	109	359	Average
5176	110.6	-	-	99.47	34.38	9.27	32.52	109	359	Peak
10359	46.6	-27.4	74	54.47	37.29	13.71	58.87	100	0	Peak
15540	47.44	-26.56	74	49.04	40.33	15.56	57.49	100	0	Peak

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1									
Test Mode :	802.	.11a Temperature :		19~21°C					
Test Channel :	36		Relative Humidity :	47~49%					
Test Engineer :	Eric	Shih	Polarization :	Vertical					
	1.	5176 MHz is fundamental signal which can be ignored.							
	2.	10359 MHz is not with	in a restricted band and	d satisfies both the average and					
Remark :		peak limits of 15.209.							
	3.	Average measurement was not performed if peak level went lower than the							
		average limit.							

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84.54	24.48	-15.52	40	46.82	7.88	0.9	31.12	101	27	Peak
127.47	21.85	-21.65	43.5	40.06	11.76	1.13	31.1	-	-	Peak
203.61	21.25	-22.25	43.5	41.88	9.14	1.33	31.1	-	-	Peak
456.1	18.55	-27.45	46	29.66	17.36	2.31	30.78	-	-	Peak
601.7	24.13	-21.87	46	32.41	19.63	2.69	30.6	-	-	Peak
927.9	27.07	-18.93	46	29.78	24.24	3.41	30.36	-	-	Peak
5176	94.57	-	-	83.44	34.38	9.27	32.52	181	8	Average
5176	104.27	-	-	93.14	34.38	9.27	32.52	181	8	Peak
10359	46.1	-27.9	74	53.97	37.29	13.71	58.87	100	0	Peak
15540	47.63	-26.37	74	49.23	40.33	15.56	57.49	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C			
Test Channel :	44		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5220 MHz is fundamental signal which can be ignored.					
	2.	10440 MHz is not within a restricted band and satisfies both the average and					
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than t					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
85.35	27.43	-12.57	40	49.52	8.1	0.91	31.1	-	-	Peak
175.53	32.77	-10.73	43.5	53.3	9.23	1.24	31	113	85	Peak
236.28	23.86	-22.14	46	42.41	10.94	1.51	31	-	-	Peak
428.8	18.24	-27.76	46	29.88	16.88	2.24	30.76	-	-	Peak
575.8	23	-23	46	31.44	19.64	2.62	30.7	-	-	Peak
836.2	25.4	-20.6	46	29.5	23.04	3.23	30.37	-	-	Peak
5220	101.88	-	-	90.62	34.46	9.35	32.55	108	2	Average
5220	111.25	-	-	99.99	34.46	9.35	32.55	108	2	Peak
10440	49.24	-24.76	74	57.06	37.35	13.71	58.88	100	0	Peak
15660	48.18	-25.82	74	49.42	40.46	15.65	57.35	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	44		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5220 MHz is fundamental signal which can be ignored.						
	2.	10440 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos (deg)	
85.08	24.34	-15.66	40	46.43	8.1	0.91	31.1	102	43	Peak
128.28	22.26	-21.24	43.5	40.38	11.84	1.14	31.1	-	-	Peak
201.99	21.29	-22.21	43.5	41.94	9.12	1.33	31.1	-	-	Peak
318.2	20.22	-25.78	46	36.03	13.38	1.81	31	-	-	Peak
591.9	24.36	-21.64	46	32.8	19.52	2.67	30.63	-	-	Peak
862.8	25.95	-20.05	46	29.89	23.14	3.29	30.37	-	-	Peak
5220	96.82	-	-	85.56	34.46	9.35	32.55	112	333	Average
5220	106.57	-	-	95.31	34.46	9.35	32.55	112	333	Peak
10440	47.35	-26.65	74	55.17	37.35	13.71	58.88	100	0	Peak
15660	48.07	-25.93	74	49.31	40.46	15.65	57.35	100	0	Peak

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B											
Test Mode :	802.	11a	Temperature :	19~21°C							
Test Channel :	48		Relative Humidity :	47~49%							
Test Engineer :	Eric	Shih	Polarization :	Horizontal							
	1.	5240 MHz is fundamer	5240 MHz is fundamental signal which can be ignored.								
	2.	10479 MHz is not withi	n a restricted band and	d satisfies both the average and							
Remark :		peak limits of 15.209.	peak limits of 15.209.								
	3.	Average measurement was not performed if peak level went lower than									

average limit.

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level	Factor	Loss (dB)	Factor ( dB )	Pos	Pos	
` '		, ,	, , ,	(dBµV)	(dB)		, , ,	( cm )	( deg )	Darah
85.62	26.19	-13.81	40	48.28	8.1	0.91	31.1	131	38	Peak
128.82	24.45	-19.05	43.5	42.49	11.92	1.14	31.1	-	-	Peak
265.17	22.18	-23.82	46	38.11	13.45	1.62	31	-	-	Peak
440	18.79	-27.21	46	30.21	17	2.28	30.7	-	-	Peak
614.3	22.68	-23.32	46	30.5	20.02	2.73	30.57	-	-	Peak
741	24.58	-21.42	46	29.75	22.19	3.04	30.4	-	-	Peak
5240	101.49	-	-	90.24	34.51	9.39	32.65	120	356	Average
5240	112.23	-	-	101.02	34.51	9.35	32.65	120	356	Peak
10479	48.06	-25.94	74	55.84	37.39	13.72	58.89	100	0	Peak
15720	48.39	-25.61	74	49.45	40.52	15.69	57.27	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	48		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5240 MHz is fundamental signal which can be ignored.						
	2.	10479 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
83.46	22.57	-17.43	40	45.14	7.66	0.9	31.13	-	-	Peak
136.92	33.65	-9.85	43.5	52.06	11.5	1.19	31.1	171	20	Peak
214.95	24.89	-18.61	43.5	45.3	9.25	1.39	31.05	-	-	Peak
414.8	19.68	-26.32	46	31.86	16.45	2.19	30.82	-	-	Peak
569.5	23.23	-22.77	46	31.62	19.73	2.6	30.72	-	-	Peak
810.3	24.91	-21.09	46	29.86	22.2	3.17	30.32	-	-	Peak
5240	97.85	-	-	86.6	34.51	9.39	32.65	100	330	Average
5240	107.54	-	-	96.29	34.51	9.39	32.65	100	330	Peak
10479	45.79	-28.21	74	53.57	37.39	13.72	58.89	100	0	Peak
15720	49.39	-24.61	74	50.45	40.52	15.69	57.27	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	52		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5260 MHz is fundamer	ntal signal which can be ignored.					
	2.	10520 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.	peak limits of 15.209.					
	3.	Average measuremen	t was not performed if	peak level went lower than the				
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
( MH= )	( dBu\//m \	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	(dB)	(dB)	(dB)	( cm )	( deg )	
86.43	22.49	-17.51	40	44.45	8.22	0.92	31.1	103	66	Peak
129.09	22.69	-20.81	43.5	40.73	11.92	1.14	31.1	-	-	Peak
203.61	20.65	-22.85	43.5	41.28	9.14	1.33	31.1	-	-	Peak
474.3	21.74	-24.26	46	32.64	17.54	2.36	30.8	-	-	Peak
645.1	23.04	-22.96	46	30.32	20.4	2.83	30.51	-	-	Peak
822.2	25.57	-20.43	46	30.14	22.58	3.2	30.35	-	-	Peak
5260	100.29	-	-	89.02	34.59	9.44	32.76	100	358	Average
5260	110.07	-	-	98.8	34.59	9.44	32.76	100	358	Peak
10520	47.72	-26.28	74	55.42	37.42	13.72	58.84	100	0	Peak
15780	50.17	-23.83	74	51.06	40.58	15.75	57.22	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	52		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5260 MHz is fundamer	ntal signal which can be ignored.					
	2.	10520 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.	peak limits of 15.209.					
	3.	Average measuremen	t was not performed if	peak level went lower than the				
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBµV/m)	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	(cm)	(deg)	
85.62	20.33	-19.67	40	42.42	8.1	0.91	31.1	133	92	Peak
129.09	22.81	-20.69	43.5	40.85	11.92	1.14	31.1	-	-	Peak
249.24	23.64	-22.36	46	40.81	12.3	1.53	31	-	-	Peak
417.6	18.16	-27.84	46	30.17	16.6	2.2	30.81	-	-	Peak
617.8	22.21	-23.79	46	29.89	20.14	2.74	30.56	-	-	Peak
962.2	26.97	-27.03	54	29.13	24.72	3.47	30.35	-	-	Peak
5260	98.22	-	-	86.95	34.59	9.44	32.76	100	320	Average
5260	108.15	-	-	96.97	34.55	9.39	32.76	100	320	Peak
10520	47.06	-26.94	74	54.76	37.42	13.72	58.84	100	0	Peak
15780	49.76	-24.24	74	50.65	40.58	15.75	57.22	100	0	Peak

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<u></u>										
Test Mode :	802.	11a	Temperature :	19~21°C						
Test Channel :	60		Relative Humidity :	47~49%						
Test Engineer :	Eric	Shih	Polarization :	Horizontal						
	1.	5298 MHz is fundamen	undamental signal which can be ignored.							
	2.	10599 MHz is not withi	in a restricted band and	d satisfies both the average and						
Remark :		peak limits of 15.209.								
	3.	Average measurement	t was not performed if	peak level went lower than the						

average limit.

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
84.54	26.13	-13.87	40	48.47	7.88	0.9	31.12	146	231	Peak
130.98	21.55	-21.95	43.5	39.6	11.9	1.15	31.1	-	-	Peak
204.69	20.89	-22.61	43.5	41.5	9.15	1.34	31.1	-	-	Peak
452.6	18.88	-27.12	46	30	17.33	2.31	30.76	-	-	Peak
638.1	22.52	-23.48	46	29.84	20.4	2.8	30.52	-	-	Peak
835.5	26.09	-19.91	46	30.23	23	3.23	30.37	-	-	Peak
5298	100.41	-	-	89.22	34.68	9.48	32.97	105	22	Average
5298	110.38	-	-	99.19	34.68	9.48	32.97	105	22	Peak
10599	44.42	-29.58	74	51.8	37.5	13.73	58.61	100	0	Peak
15900	48.18	-25.82	74	48.72	40.7	15.84	57.08	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	60		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5298 MHz is fundamer	ntal signal which can be ignored.					
	2.	10599 MHz is not withi	nin a restricted band and satisfies both the average a					
Remark :		peak limits of 15.209.	peak limits of 15.209.					
	3.	Average measurement	Average measurement was not performed if peak level went lower than the					
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
85.62	22.9	-17.1	40	44.99	8.1	0.91	31.1	123	143	Peak
129.09	21.58	-21.92	43.5	39.62	11.92	1.14	31.1	-	-	Peak
203.07	20.04	-23.46	43.5	40.68	9.13	1.33	31.1	-	-	Peak
405.7	18.15	-27.85	46	30.81	16.06	2.16	30.88	-	-	Peak
569.5	22.31	-23.69	46	30.7	19.73	2.6	30.72	-	-	Peak
768.3	25.48	-20.52	46	30.65	22.1	3.09	30.36	-	-	Peak
5298	97.66	-	-	86.47	34.68	9.48	32.97	100	334	Average
5298	107.61	-	-	96.42	34.68	9.48	32.97	100	334	Peak
10599	44.06	-29.94	74	51.44	37.5	13.73	58.61	100	0	Peak
15900	49.01	-24.99	74	49.55	40.7	15.84	57.08	100	0	Peak

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Test Mode :	802.11a	Temperature :	19~21°C
Test Channel :	64	Relative Humidity :	47~49%
Test Engineer :	Eric Shih	Polarization :	Horizontal
	1. 5318 MHz is fundame	ntal signal which can be	e ignored.
Remark :	peak level went lower than the		
	average limit.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	(cm)	( deg )	
85.08	23.2	-16.8	40	45.29	8.1	0.91	31.1	153	73	Peak
130.17	21.21	-22.29	43.5	39.16	12	1.15	31.1	-	-	Peak
203.88	20.96	-22.54	43.5	41.59	9.14	1.33	31.1	-	-	Peak
430.2	19.78	-26.22	46	31.37	16.91	2.25	30.75	-	-	Peak
601.7	22.33	-23.67	46	30.61	19.63	2.69	30.6	-	-	Peak
752.2	24.84	-21.16	46	30.08	22.1	3.06	30.4	-	-	Peak
5318	99.79	-	-	88.52	34.72	9.52	32.97	104	10	Average
5318	109.66	-	-	98.39	34.72	9.52	32.97	104	10	Peak
10641	44.2	-29.8	74	51.45	37.54	13.73	58.52	100	0	Peak
15960	48.83	-25.17	74	49.18	40.77	15.88	57	100	0	Peak

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Test Mode :	802.11a	Temperature :	19~21°C		
Test Channel :	64	Relative Humidity :	47~49%		
Test Engineer :	Eric Shih	Polarization :	Vertical		
	1. 5318 MHz is fundamer	ntal signal which can be	e ignored.		
Remark: 2. Average measurement was not performed if peak level went love.					
	average limit.				

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
84.81	21.19	-18.81	40	43.3	8.1	0.91	31.12	189	207	Peak
128.82	21.45	-22.05	43.5	39.49	11.92	1.14	31.1	-	-	Peak
205.5	19.64	-23.86	43.5	40.25	9.15	1.34	31.1	-	-	Peak
393.8	16.66	-29.34	46	29.8	15.66	2.13	30.93	-	-	Peak
575.8	24.55	-21.45	46	32.99	19.64	2.62	30.7	-	-	Peak
756.4	24.8	-21.2	46	30.02	22.1	3.07	30.39	-	-	Peak
5318	95.08	-	-	83.81	34.72	9.52	32.97	170	334	Average
5318	105.53	-	-	94.26	34.72	9.52	32.97	170	334	Peak
10641	43.7	-30.3	74	50.95	37.54	13.73	58.52	100	0	Peak
15960	48.42	-25.58	74	48.77	40.77	15.88	57	100	0	Peak

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Test Mode :	802.1	1a	Temperature :	19~21°C			
Test Channel :	100		Relative Humidity :	47~49%			
Test Engineer :	Eric S	Shih	Polarization :	Horizontal			
	1.	5502 MHz is fundamer	ntal signal which can be ignored.				
	2.	16500 MHz is not withi	in a restricted band and satisfies both the average				
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.81	23.18	-16.82	40	45.29	8.1	0.91	31.12	106	83	Peak
129.09	21.69	-21.81	43.5	39.73	11.92	1.14	31.1	-	-	Peak
201.99	20.63	-22.87	43.5	41.28	9.12	1.33	31.1	-	-	Peak
429.5	19.83	-26.17	46	31.44	16.9	2.24	30.75	-	-	Peak
588.4	21.76	-24.24	46	30.24	19.51	2.66	30.65	-	-	Peak
761.3	24.93	-21.07	46	30.13	22.1	3.08	30.38	-	-	Peak
5502	99.14	-	-	87.82	35.2	9.86	33.74	101	11	Average
5502	108.84	-	-	97.52	35.2	9.86	33.74	101	11	Peak
11001	44.53	-9.47	54	50.43	37.9	13.76	57.56	130	327	Average
11001	56.98	-17.02	74	62.88	37.9	13.76	57.56	130	327	Peak
16500	49.24	-24.76	74	47.58	41.5	16.13	55.97	100	0	Peak

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Test Mode :	802.	11a	Temperature :	19~21°C				
Test Channel :	100		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5498 MHz is fundamer	ntal signal which can be ignored.					
	2.	16500 MHz is not withi	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.	peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than th						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.54	20.55	-19.45	40	42.89	7.88	0.9	31.12	139	37	Peak
128.82	22.04	-21.46	43.5	40.08	11.92	1.14	31.1	-	-	Peak
201.99	19.74	-23.76	43.5	40.39	9.12	1.33	31.1	-	-	Peak
467.3	18.81	-27.19	46	29.8	17.47	2.34	30.8	-	-	Peak
608	23.16	-22.84	46	31.19	19.84	2.71	30.58	-	-	Peak
776.7	24.8	-21.2	46	30.02	22.03	3.1	30.35	-	-	Peak
5498	96.44	-	-	85.08	35.2	9.82	33.66	128	355	Average
5498	106.25	-	-	94.89	35.2	9.82	33.66	128	355	Peak
11001	43.12	-10.88	54	49.02	37.9	13.76	57.56	100	342	Average
11001	56.06	-17.94	74	61.96	37.9	13.76	57.56	100	342	Peak
16500	49.93	-24.07	74	48.27	41.5	16.13	55.97	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	116		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5578 MHz is fundamer	ental signal which can be ignored.					
	2.	16740 MHz is not within	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.	peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
86.16	24.85	-15.15	40	46.81	8.22	0.92	31.1	152	278	Peak
128.82	21.59	-21.91	43.5	39.63	11.92	1.14	31.1	-	-	Peak
204.15	20.3	-23.2	43.5	40.91	9.15	1.34	31.1	-	-	Peak
440.7	18.3	-27.7	46	29.72	17	2.28	30.7	-	-	Peak
575.8	21.74	-24.26	46	30.18	19.64	2.62	30.7	-	-	Peak
791.4	24.85	-21.15	46	30.13	21.91	3.13	30.32	-	-	Peak
5578	99.86	-	-	88.71	35.24	9.92	34.01	112	11	Average
5578	109.87	-	-	98.72	35.24	9.92	34.01	112	11	Peak
11163	46.81	-7.19	54	52.17	38.07	13.93	57.36	118	342	Average
11163	58.66	-15.34	74	64.02	38.07	13.93	57.36	118	342	Peak
16740	49.03	-24.97	74	47.11	41.74	16.23	56.05	100	0	Peak

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Test Mode :	802.	11a	Temperature :	19~21°C			
Test Channel :	116		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5578 MHz is fundamer	ntal signal which can be ignored.				
	2.	16740 MHz is not withi	n a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.81	20.68	-19.32	40	42.79	8.1	0.91	31.12	106	38	Peak
128.55	22.47	-21.03	43.5	40.51	11.92	1.14	31.1	-	-	Peak
204.15	19.85	-23.65	43.5	40.46	9.15	1.34	31.1	-	-	Peak
424.6	17.7	-28.3	46	29.45	16.8	2.23	30.78	-	-	Peak
575.8	22.93	-23.07	46	31.37	19.64	2.62	30.7	-	-	Peak
730.5	24.57	-21.43	46	29.96	22	3.01	30.4	-	-	Peak
5578	96.83	-	-	85.68	35.24	9.92	34.01	135	355	Average
5578	107.07	-	-	95.92	35.24	9.92	34.01	135	355	Peak
11160	43.36	-10.64	54	48.72	38.07	13.93	57.36	100	303	Average
11160	55.26	-18.74	74	60.62	38.07	13.93	57.36	100	303	Peak
16740	50.19	-23.81	74	48.27	41.74	16.23	56.05	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C			
Test Channel :	140		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5698 MHz is fundamer	ntal signal which can be ignored.				
	2.	17100 MHz is not within	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
86.16	23.4	-16.6	40	45.36	8.22	0.92	31.1	112	34	Peak
128.82	21.33	-22.17	43.5	39.37	11.92	1.14	31.1	-	-	Peak
226.83	22.57	-23.43	46	42.25	9.86	1.46	31	-	-	Peak
419	19.68	-26.32	46	31.62	16.65	2.21	30.8	-	-	Peak
585.6	22.82	-23.18	46	31.29	19.54	2.65	30.66	-	-	Peak
764.8	25.27	-20.73	46	30.46	22.1	3.08	30.37	-	-	Peak
5698	96.74	-	-	85.53	35.31	10.02	34.12	108	10	Average
5698	106.64	-	-	95.43	35.31	10.02	34.12	108	10	Peak
11400	42.4	-11.6	54	46.96	38.3	14.21	57.07	122	305	Average
11400	54.1	-19.9	74	58.66	38.3	14.21	57.07	122	305	Peak
17100	50.84	-23.16	74	48.6	41.94	16.46	56.16	100	0	Peak

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Test Mode :	802.	.11a	Temperature :	19~21°C				
Test Channel :	140		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5702 MHz is fundamen	ntal signal which can b	e ignored.				
	2.	17100 MHz is not within a restricted band and satisfies both the aver						
Remark :		peak limits of 15.209.						
	3.	Average measurement	Average measurement was not performed if peak level went lower than the					
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.81	20.94	-19.06	40	43.05	8.1	0.91	31.12	138	94	Peak
129.63	21.21	-22.29	43.5	39.16	12	1.15	31.1	-	-	Peak
204.15	20.08	-23.42	43.5	40.69	9.15	1.34	31.1	-	-	Peak
429.5	19.28	-26.72	46	30.89	16.9	2.24	30.75	-	-	Peak
556.9	21.03	-24.97	46	29.29	19.94	2.57	30.77	-	-	Peak
745.2	25.36	-20.64	46	30.56	22.15	3.05	30.4	-	-	Peak
5702	94.69	-	-	83.47	35.32	10.02	34.12	100	356	Average
5702	104.54	-	-	93.32	35.32	10.02	34.12	100	356	Peak
11400	50.25	-23.75	74	54.81	38.3	14.21	57.07	100	0	Peak
17100	50.48	-23.52	74	48.24	41.94	16.46	56.16	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C				
Test Channel :	36		Relative Humidity :	47~49%				
Test Engineer :	Eric Shih		Polarization :	Horizontal				
	1.	5182 MHz is fundamer	ntal signal which can be ignored.					
	2.	10359 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	. Average measurement was not performed if peak level went lower that						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBµV/m)	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	(cm)	( deg )	
86.16	23.34	-16.66	40	45.3	8.22	0.92	31.1	152	28	Peak
130.98	21.55	-21.95	43.5	39.6	11.9	1.15	31.1	-	-	Peak
203.88	20.56	-22.94	43.5	41.19	9.14	1.33	31.1	-	-	Peak
419	19.08	-26.92	46	31.02	16.65	2.21	30.8	-	-	Peak
601.7	23.17	-22.83	46	31.45	19.63	2.69	30.6	-	-	Peak
747.3	25.57	-20.43	46	30.79	22.13	3.05	30.4	-	-	Peak
5182	98.54	-	-	87.41	34.38	9.27	32.52	109	355	Average
5182	108.53	-	-	97.4	34.38	9.27	32.52	109	355	Peak
10359	45.14	-28.86	74	53.01	37.29	13.71	58.87	100	0	Peak
15540	46.71	-27.29	74	48.31	40.33	15.56	57.49	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C				
Test Channel :	36		Relative Humidity :	47~49%				
Test Engineer :	Eric Shih		Polarization :	Vertical				
	e ignored.							
	2.	10359 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
55.38	29.06	-10.94	40	53.13	6.4	0.73	31.2	134	23	Peak
84	20.46	-19.54	40	42.8	7.88	0.9	31.12	-	-	Peak
128.55	22.04	-21.46	43.5	40.08	11.92	1.14	31.1	-	-	Peak
450.5	18.92	-27.08	46	30.06	17.31	2.3	30.75	-	-	Peak
595.4	22.87	-23.13	46	31.26	19.55	2.68	30.62	-	-	Peak
727.7	24.65	-21.35	46	30.2	21.84	3.01	30.4	-	-	Peak
5182	93.89	-	-	82.76	34.38	9.27	32.52	101	352	Average
5182	103.42	-	-	92.29	34.38	9.27	32.52	101	352	Peak
10359	45.75	-28.25	74	53.62	37.29	13.71	58.87	100	0	Peak
15540	47.57	-26.43	74	49.17	40.33	15.56	57.49	100	0	Peak

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## Test Mode: 19~21°C 802.11n HT20 Temperature : Test Channel: 44 47~49% Relative Humidity: Eric Shih Test Engineer: Polarization: Horizontal 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. Remark: 3. Average measurement was not performed if peak level went lower than the

average limit.

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBµV/m )		( dBµV/m )		( dB )	(dB)	( dB )	(cm)	( deg )	
84	23.8	-16.2	40	46.14	7.88	0.9	31.12	135	23	Peak
128.82	23.19	-20.31	43.5	41.23	11.92	1.14	31.1	-	-	Peak
203.34	20.78	-22.72	43.5	41.41	9.14	1.33	31.1	-	-	Peak
433.7	20.62	-25.38	46	32.15	16.94	2.26	30.73	-	-	Peak
626.2	22.26	-23.74	46	29.71	20.33	2.77	30.55	-	-	Peak
779.5	24.62	-21.38	46	29.85	22	3.11	30.34	-	-	Peak
5222	99.24	-	-	88.08	34.46	9.35	32.65	120	355	Average
5222	109.35	-	-	98.19	34.46	9.35	32.65	120	355	Peak
10440	47.21	-26.79	74	55.03	37.35	13.71	58.88	100	0	Peak
15660	47.7	-26.3	74	48.94	40.46	15.65	57.35	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C				
Test Channel :	44		Relative Humidity :	47~49%				
Test Engineer :	Eric Shih		Polarization :	Vertical				
	1.	5218 MHz is fundamer	5218 MHz is fundamental signal which can be ignored.					
	2.	10440 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
84.81	20.5	-19.5	<u>( αΒμν/π )  </u> 40	42.61	8.1	0.91	31.12	147	29	Peak
128.55	20.5	-23	43.5	38.54	11.92	1.14	31.1	-	-	Peak
202.8	19.55	-23.95	43.5	40.19	9.13	1.33	31.1	-	-	Peak
430.2	18.77	-27.23	46	30.36	16.91	2.25	30.75	-	-	Peak
566	22.57	-23.43	46	30.89	19.81	2.6	30.73	-	-	Peak
783.7	24.92	-21.08	46	30.18	21.96	3.11	30.33	-	-	Peak
5218	95.2	-	-	83.94	34.46	9.35	32.55	100	1	Average
5218	104.91	-	-	93.65	34.46	9.35	32.55	100	1	Peak
10440	46.27	-27.73	74	54.09	37.35	13.71	58.88	100	0	Peak
15660	48.07	-25.93	74	49.31	40.46	15.65	57.35	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C				
Test Channel :	48		Relative Humidity :	47~49%				
Test Engineer :	Eric Shih		Polarization :	Horizontal				
	1.	5238 MHz is fundamer	ntal signal which can be ignored.					
	2.	10479 MHz is not withi	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	3. Average measurement was not performed if peak level went lower th						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
85.62	24.71	-15.29	40	46.8	8.1	0.91	31.1	176	98	Peak
128.82	22.33	-21.17	43.5	40.37	11.92	1.14	31.1	-	-	Peak
280.83	21.4	-24.6	46	37.83	12.83	1.64	30.9	-	-	Peak
440	18.69	-27.31	46	30.11	17	2.28	30.7	-	-	Peak
632.5	22.44	-23.56	46	29.79	20.4	2.79	30.54	-	-	Peak
813.8	24.83	-21.17	46	29.66	22.32	3.18	30.33	-	-	Peak
5238	99.38	-	-	88.13	34.51	9.39	32.65	108	356	Average
5238	109.52	-	-	98.27	34.51	9.39	32.65	108	356	Peak
10479	45.48	-28.52	74	53.26	37.39	13.72	58.89	100	0	Peak
15720	48.52	-25.48	74	49.58	40.52	15.69	57.27	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C			
Test Channel :	48		Relative Humidity :	47~49%			
Test Engineer :	Eric Shih		Polarization :	Vertical			
	1.	5238 MHz is fundamen	ntal signal which can be ignored.				
	2.	10479 MHz is not within	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3. Average measurement was not performed if peak level went lower the						
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84	20.99	-19.01	40	43.33	7.88	0.9	31.12	133	75	Peak
129.09	21.77	-21.73	43.5	39.81	11.92	1.14	31.1	-	-	Peak
212.52	20.26	-23.24	43.5	40.75	9.22	1.37	31.08	-	-	Peak
414.8	17.32	-28.68	46	29.5	16.45	2.19	30.82	-	-	Peak
559.7	21.79	-24.21	46	29.97	20	2.58	30.76	-	-	Peak
739.6	24.68	-21.32	46	29.84	22.2	3.04	30.4	-	-	Peak
5238	96.4	-	-	85.15	34.51	9.39	32.65	100	339	Average
5238	106.03	-	-	94.78	34.51	9.39	32.65	100	339	Peak
10479	45.81	-28.19	74	53.59	37.39	13.72	58.89	100	0	Peak
15720	47.66	-26.34	74	48.72	40.52	15.69	57.27	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C				
Test Channel :	52		Relative Humidity :	47~49%				
Test Engineer :	Eric Shih		Polarization :	Horizontal				
	1.	e ignored.						
	2.	10521 MHz is not within	in a restricted band and	d and satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.81	23.06	-16.94	40	45.17	8.1	0.91	31.12	124	21	Peak
128.55	21.65	-21.85	43.5	39.69	11.92	1.14	31.1	-	-	Peak
203.61	20.2	-23.3	43.5	40.83	9.14	1.33	31.1	-	-	Peak
419	19.88	-26.12	46	31.82	16.65	2.21	30.8	-	-	Peak
573	22.42	-23.58	46	30.85	19.67	2.61	30.71	-	-	Peak
844.6	25.83	-20.17	46	29.71	23.25	3.26	30.39	-	-	Peak
5258	101.31	-	-	90.13	34.55	9.39	32.76	105	10	Average
5258	110.76	-	-	99.58	34.55	9.39	32.76	105	10	Peak
10521	46.73	-27.27	74	54.43	37.42	13.72	58.84	100	0	Peak
15780	48.37	-25.63	74	49.26	40.58	15.75	57.22	100	0	Peak

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Test Mode :	802.	11n HT20	Temperature :	19~21°C			
Test Channel :	52		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5258 MHz is fundamer	ntal signal which can be ignored.				
	2.	10521 MHz is not within	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower that					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84.81	20.53	-19.47	40	42.64	8.1	0.91	31.12	176	38	Peak
129.09	23.47	-20.03	43.5	41.51	11.92	1.14	31.1	-	-	Peak
201.72	19.14	-24.36	43.5	39.79	9.12	1.33	31.1	-	-	Peak
400.1	18.55	-27.45	46	31.38	15.93	2.14	30.9	-	-	Peak
556.2	21.48	-24.52	46	29.76	19.92	2.57	30.77	-	-	Peak
760.6	24.82	-21.18	46	30.02	22.1	3.08	30.38	-	-	Peak
5258	95.84	-	-	84.66	34.55	9.39	32.76	100	320	Average
5258	105.5	-	-	94.32	34.55	9.39	32.76	100	320	Peak
10521	45.61	-28.39	74	53.31	37.42	13.72	58.84	100	0	Peak
15780	49.72	-24.28	74	50.61	40.58	15.75	57.22	100	0	Peak

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<b>-</b>								
Test Mode :	802.	11n HT20	Temperature :	19~21°C				
Test Channel :	60		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5302 MHz is fundamen	e ignored.					
	2.	10599 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measuremen	t was not performed if	peak level went lower than the				

average limit.

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
82.92	22.65	-17.35	40	45.24	7.66	0.9	31.15	134	65	Peak
128.82	21.53	-21.97	43.5	39.57	11.92	1.14	31.1	-	-	Peak
204.42	20.54	-22.96	43.5	41.15	9.15	1.34	31.1	-	-	Peak
429.5	18.48	-27.52	46	30.09	16.9	2.24	30.75	-	-	Peak
647.2	22.69	-23.31	46	29.97	20.4	2.83	30.51	-	-	Peak
754.3	24.97	-21.03	46	30.19	22.1	3.07	30.39	-	-	Peak
5302	99.62	-	-	88.43	34.68	9.48	32.97	117	357	Average
5302	109.56	-	-	98.37	34.68	9.48	32.97	117	357	Peak
10599	46.39	-27.61	74	53.77	37.5	13.73	58.61	100	0	Peak
15900	48.09	-25.91	74	48.63	40.7	15.84	57.08	100	0	Peak

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Test Mode :	802.	.11n HT20	Temperature :	19~21°C				
Test Channel :	60		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5298 MHz is fundamer	ntal signal which can be ignored.					
	2.	10599 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
3. Average measurement was not performed if peak level went low								
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.27	20.41	-19.59	40	42.75	7.88	0.9	31.12	108	29	Peak
128.55	22.05	-21.45	43.5	40.09	11.92	1.14	31.1	-	-	Peak
203.34	18.92	-24.58	43.5	39.55	9.14	1.33	31.1	-	-	Peak
412	17.55	-28.45	46	29.91	16.3	2.18	30.84	-	-	Peak
642.3	22.47	-23.53	46	29.77	20.4	2.82	30.52	-	-	Peak
755	25.19	-20.81	46	30.41	22.1	3.07	30.39	-	-	Peak
5298	96.23	-	-	85.04	34.68	9.48	32.97	121	340	Average
5298	105.83	-	-	94.64	34.68	9.48	32.97	121	340	Peak
10599	45.63	-28.37	74	53.01	37.5	13.73	58.61	100	0	Peak
15900	48.79	-25.21	74	49.33	40.7	15.84	57.08	100	0	Peak

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Test Mode :	802.	11n HT20	Temperature :	19~21°C
Test Channel :	64		Relative Humidity :	47~49%
Test Engineer :	Eric	Shih	Polarization :	Horizontal
	1.	5322 MHz is fundamer	ntal signal which can b	e ignored.
Remark :	2.	peak level went lower than the		
		average limit.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84	22.79	-17.21	40	45.13	7.88	0.9	31.12	111	42	Peak
130.17	21.45	-22.05	43.5	39.4	12	1.15	31.1	-	-	Peak
202.53	19.77	-23.73	43.5	40.41	9.13	1.33	31.1	-	-	Peak
430.2	18.63	-27.37	46	30.22	16.91	2.25	30.75	-	-	Peak
589.1	21.37	-24.63	46	29.84	19.51	2.66	30.64	-	-	Peak
736.8	25.6	-20.4	46	30.83	22.14	3.03	30.4	-	-	Peak
5322	96.08	-	-	84.81	34.72	9.52	32.97	122	297	Average
5322	105.71	-	-	94.44	34.72	9.52	32.97	122	297	Peak
10641	47.02	-26.98	74	54.27	37.54	13.73	58.52	100	0	Peak
15960	48.22	-25.78	74	48.57	40.77	15.88	57	100	0	Peak

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Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	64	Relative Humidity :	47~49%
Test Engineer :	Eric Shih	Polarization :	Vertical
	1. 5318 MHz is fundamer	ntal signal which can be	e ignored.
Remark :	2. Average measurement	t was not performed if	peak level went lower than the
	average limit.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	(dB)	( dB )	(cm)	( deg )	
85.08	21.3	-18.7	40	43.39	8.1	0.91	31.1	154	155	Peak
130.17	21.12	-22.38	43.5	39.07	12	1.15	31.1	-	-	Peak
203.07	19.33	-24.17	43.5	39.97	9.13	1.33	31.1	-	-	Peak
397.3	17.75	-28.25	46	30.7	15.82	2.14	30.91	-	-	Peak
569.5	22.74	-23.26	46	31.13	19.73	2.6	30.72	-	-	Peak
783.7	24.69	-21.31	46	29.95	21.96	3.11	30.33	-	-	Peak
5318	95.52	-	-	84.25	34.72	9.52	32.97	100	340	Average
5318	106.39	-	-	95.12	34.72	9.52	32.97	100	340	Peak
10641	47.02	-26.98	74	54.27	37.54	13.73	58.52	100	0	Peak
15960	48.73	-25.27	74	49.08	40.77	15.88	57	100	0	Peak

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Test Mode :	802.	11n HT20	Temperature :	19~21°C				
Test Channel :	100		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5502 MHz is fundamer	ntal signal which can be ignored.					
	2.	16500 MHz is not withi	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower to						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	( deg )	
83.73	22.41	-17.59	40	44.98	7.66	0.9	31.13	111	20	Peak
129.09	23.34	-20.16	43.5	41.38	11.92	1.14	31.1	-	-	Peak
203.07	21.07	-22.43	43.5	41.71	9.13	1.33	31.1	-	-	Peak
407.8	17.85	-28.15	46	30.42	16.12	2.17	30.86	-	-	Peak
575.1	21.89	-24.11	46	30.32	19.65	2.62	30.7	-	-	Peak
757.8	24.71	-21.29	46	29.92	22.1	3.07	30.38	-	-	Peak
5502	98.5	-	-	87.18	35.2	9.86	33.74	101	358	Average
5502	108.21	-	-	96.89	35.2	9.86	33.74	101	358	Peak
11001	46.04	-7.96	54	51.94	37.9	13.76	57.56	100	298	Average
11001	59.13	-14.87	74	65.03	37.9	13.76	57.56	100	298	Peak
16500	48.89	-25.11	74	47.23	41.5	16.13	55.97	100	0	Peak

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Test Mode :	802.11n HT20		Temperature :	19~21°C
Test Channel :	100		Relative Humidity :	47~49%
Test Engineer :	Eric	Shih	Polarization :	Vertical
	1.	5498 MHz is fundamer	ntal signal which can be	e ignored.
	2.	16500 MHz is not withi	in a restricted band and	d satisfies both the average and
Remark :		peak limits of 15.209.		
	peak level went lower than the			
		average limit.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
85.89	21.05	-18.95	40	43.01	8.22	0.92	31.1	142	296	Peak
128.82	21.66	-21.84	43.5	39.7	11.92	1.14	31.1	-	-	Peak
204.15	19.63	-23.87	43.5	40.24	9.15	1.34	31.1	-	-	Peak
407.8	17.6	-28.4	46	30.17	16.12	2.17	30.86	-	-	Peak
553.4	22.27	-23.73	46	30.61	19.88	2.56	30.78	-	-	Peak
844.6	26.22	-19.78	46	30.1	23.25	3.26	30.39	-	-	Peak
5498	95.67	-	-	84.31	35.2	9.82	33.66	103	1	Average
5498	105.27	-	-	93.91	35.2	9.82	33.66	103	1	Peak
11001	43.64	-10.36	54	49.54	37.9	13.76	57.56	139	1	Average
11001	51.64	-22.36	74	57.54	37.9	13.76	57.56	139	1	Peak
16500	49.28	-24.72	74	47.62	41.5	16.13	55.97	100	0	Peak

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Test Mode :	802.11n HT20	Temperature :	19~21°C
Test Channel :	116	Relative Humidity :	47~49%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	peak limits of 15.209.	in a restricted band and	e ignored.  d satisfies both the average and peak level went lower than the

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84.54	22.6	-17.4	40	44.94	7.88	0.9	31.12	206	314	Peak
128.82	23.01	-20.49	43.5	41.05	11.92	1.14	31.1	-	-	Peak
204.15	20.13	-23.37	43.5	40.74	9.15	1.34	31.1	-	-	Peak
441.4	18.57	-27.43	46	29.96	17.03	2.28	30.7	-	-	Peak
582.1	21.59	-24.41	46	30.04	19.58	2.64	30.67	-	-	Peak
750.1	25.72	-20.28	46	30.96	22.1	3.06	30.4	-	-	Peak
5578	100.09	-	-	88.94	35.24	9.92	34.01	111	10	Average
5578	109.98	-	-	98.83	35.24	9.92	34.01	111	10	Peak
11160	47.96	-6.04	54	53.32	38.07	13.93	57.36	100	344	Average
11160	58.14	-15.86	74	63.5	38.07	13.93	57.36	100	344	Peak
16740	49.86	-24.14	74	47.94	41.74	16.23	56.05	100	0	Peak

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Test Mode :	802.	.11n HT20	Temperature :	19~21°C			
Test Channel :	116		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5578 MHz is fundamer	ental signal which can be ignored.				
	2.	16740 MHz is not with	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84	20.25	-19.75	40	42.59	7.88	0.9	31.12	172	49	Peak
127.74	21.07	-22.43	43.5	39.19	11.84	1.14	31.1	-	-	Peak
200.64	18.77	-24.73	43.5	39.44	9.11	1.32	31.1	-	-	Peak
433	18.62	-27.38	46	30.18	16.93	2.25	30.74	-	-	Peak
601.7	22.76	-23.24	46	31.04	19.63	2.69	30.6	-	-	Peak
827.1	25.29	-20.71	46	29.71	22.72	3.21	30.35	-	-	Peak
5578	96.29	-	-	85.14	35.24	9.92	34.01	102	352	Average
5578	106.36	-	-	95.21	35.24	9.92	34.01	102	352	Peak
11160	43.6	-10.4	54	48.96	38.07	13.93	57.36	100	325	Average
11160	52	-22	74	57.36	38.07	13.93	57.36	100	325	Peak
16740	49.35	-24.65	74	47.43	41.74	16.23	56.05	100	0	Peak

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Test Mode :	802.	11n HT20	Temperature :	19~21°C			
Test Channel :	140		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5698 MHz is fundamer	ental signal which can be ignored.				
	2.	17100 MHz is not within a restricted band and satisfies both the average and					
Remark :		peak limits of 15.209.					
	peak level went lower than the						
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( $dB\mu V/m$ )	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
86.16	23.03	-16.97	40	44.99	8.22	0.92	31.1	155	31	Peak
129.63	21.55	-21.95	43.5	39.5	12	1.15	31.1	-	-	Peak
203.88	19.84	-23.66	43.5	40.47	9.14	1.33	31.1	-	-	Peak
429.5	18.58	-27.42	46	30.19	16.9	2.24	30.75	-	-	Peak
604.5	22.62	-23.38	46	30.79	19.72	2.7	30.59	-	-	Peak
720.7	23.37	-22.63	46	29.33	21.45	2.99	30.4	-	-	Peak
5698	96.29	-	-	85.08	35.31	10.02	34.12	105	12	Average
5698	106.2	-	-	94.99	35.31	10.02	34.12	105	12	Peak
11400	46.51	-7.49	54	51.07	38.3	14.21	57.07	107	295	Average
11400	56.29	-17.71	74	60.85	38.3	14.21	57.07	107	295	Peak
17100	50.46	-23.54	74	48.22	41.94	16.46	56.16	100	0	Peak

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Test Mode :	802.	11n HT20	Temperature :	19~21°C			
Test Channel :	140		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5702 MHz is fundamer	ntal signal which can be ignored.				
	2.	17100 MHz is not within	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement	t was not performed if p	peak level went lower than the			
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
85.08	20.59	-19.41	40	42.68	8.1	0.91	31.1	199	234	Peak
128.82	21.01	-22.49	43.5	39.05	11.92	1.14	31.1	-	-	Peak
200.91	19.15	-24.35	43.5	39.82	9.11	1.32	31.1	-	-	Peak
427.4	18.38	-27.62	46	30.04	16.86	2.24	30.76	-	-	Peak
711.6	23.11	-22.89	46	29.46	21.08	2.97	30.4	-	-	Peak
801.2	24.84	-21.16	46	29.98	22.02	3.14	30.3	-	-	Peak
5702	94.77	-	-	83.55	35.32	10.02	34.12	100	5	Average
5702	104.51	-	-	93.29	35.32	10.02	34.12	100	5	Peak
11400	42.32	-11.68	54	46.88	38.3	14.21	57.07	100	352	Average
11400	51.12	-22.88	74	55.68	38.3	14.21	57.07	100	352	Peak
17100	50.14	-23.86	74	47.9	41.94	16.46	56.16	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C			
Test Channel :	38		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5188 MHz is fundamer	ental signal which can be ignored.				
	2.	2. 10380 MHz is not within a restricted band and satisfies both the average					
Remark :		peak limits of 15.209.					
	3.	peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
85.89	23.02	-16.98	40	44.98	8.22	0.92	31.1	142	70	Peak
128.82	21.33	-22.17	43.5	39.37	11.92	1.14	31.1	-	-	Peak
241.68	20.68	-25.32	46	38.65	11.5	1.53	31	-	-	Peak
429.5	19.08	-26.92	46	30.69	16.9	2.24	30.75	-	-	Peak
612.2	22.04	-23.96	46	29.93	19.96	2.73	30.58	-	-	Peak
822.9	25.13	-20.87	46	29.7	22.58	3.2	30.35	-	-	Peak
5188	92.69	-	-	81.56	34.38	9.27	32.52	122	338	Average
5188	102.09	-	-	90.96	34.38	9.27	32.52	122	338	Peak
10380	46.44	-27.56	74	54.29	37.31	13.71	58.87	100	0	Peak
15570	47.29	-26.71	74	48.79	40.37	15.58	57.45	100	0	Peak

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Ē				
Test Mode :	802.	11n HT40	Temperature :	19~21°C
Test Channel :	38		Relative Humidity :	47~49%
Test Engineer :	Eric	Shih	Polarization :	Vertical
	1.	5188 MHz is fundamen	ntal signal which can be	e ignored.
	2.	10380 MHz is not with	in a restricted band and	d satisfies both the average and
Remark :		peak limits of 15.209.		
	3.	Average measuremen	t was not performed if	peak level went lower than the

average limit.

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos ( deg )	
84.81	20.29	-19.71	40	42.4	8.1	0.91	31.12	208	37	Peak
128.82	20.53	-22.97	43.5	38.57	11.92	1.14	31.1	-	-	Peak
203.34	19.19	-24.31	43.5	39.82	9.14	1.33	31.1	-	-	Peak
400.1	16.32	-29.68	46	29.15	15.93	2.14	30.9	-	-	Peak
548.5	20.96	-25.04	46	29.53	19.68	2.55	30.8	-	-	Peak
729.1	24.29	-21.71	46	29.73	21.95	3.01	30.4	-	-	Peak
5188	88.36	-	-	77.23	34.38	9.27	32.52	114	266	Average
5188	97.79	-	-	86.66	34.38	9.27	32.52	114	266	Peak
10380	44.6	-29.4	74	52.45	37.31	13.71	58.87	100	0	Peak
15570	47.77	-26.23	74	49.27	40.37	15.58	57.45	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C				
Test Channel :	46		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	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						
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
85.89	23.21	-16.79	40	45.17	8.22	0.92	31.1	133	54	Peak
129.9	21.18	-22.32	43.5	39.13	12	1.15	31.1	-	-	Peak
203.88	20.53	-22.97	43.5	41.16	9.14	1.33	31.1	-	-	Peak
408.5	18.6	-27.4	46	31.14	16.15	2.17	30.86	-	-	Peak
611.5	21.72	-24.28	46	29.65	19.93	2.72	30.58	-	-	Peak
850.9	25.69	-20.31	46	29.53	23.29	3.27	30.4	-	-	Peak
5228	95.51	-	-	84.3	34.51	9.35	32.65	120	358	Average
5228	105.3	-	-	94.09	34.51	9.35	32.65	120	358	Peak
10461	45.05	-28.95	74	52.84	37.37	13.72	58.88	100	0	Peak
15690	48.29	-25.71	74	49.44	40.49	15.67	57.31	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C				
Test Channel :	46		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5228 MHz is fundamental signal which can be ignored.						
	2.	10461 MHz is not with	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.54	20.47	-19.53	40	42.81	7.88	0.9	31.12	177	34	Peak
124.77	20.83	-22.67	43.5	39.21	11.6	1.12	31.1	-	-	Peak
201.72	19.29	-24.21	43.5	39.94	9.12	1.33	31.1	-	-	Peak
412	17.46	-28.54	46	29.82	16.3	2.18	30.84	-	-	Peak
573	22.23	-23.77	46	30.66	19.67	2.61	30.71	-	-	Peak
722.1	24.32	-21.68	46	30.17	21.56	2.99	30.4	-	-	Peak
5228	92.28	-	-	81.07	34.51	9.35	32.65	111	300	Average
5228	101.82	-	-	90.61	34.51	9.35	32.65	111	300	Peak
10461	44.11	-29.89	74	51.9	37.37	13.72	58.88	100	0	Peak
15690	48.94	-25.06	74	50.09	40.49	15.67	57.31	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C				
Test Channel :	54		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5268 MHz is fundamental signal which can be ignored.						
	2.	10539 MHz is not within a restricted band and satisfies both the average and						
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than t						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
85.62	23.37	-16.63	40	45.46	8.1	0.91	31.1	218	34	Peak
130.71	22.43	-21.07	43.5	40.48	11.9	1.15	31.1	-	-	Peak
203.34	20.53	-22.97	43.5	41.16	9.14	1.33	31.1	-	-	Peak
429.5	19.69	-26.31	46	31.3	16.9	2.24	30.75	-	-	Peak
575.8	22.43	-23.57	46	30.87	19.64	2.62	30.7	-	-	Peak
777.4	24.86	-21.14	46	30.09	22.02	3.1	30.35	-	-	Peak
5268	96.01	-	-	84.74	34.59	9.44	32.76	119	357	Average
5268	106.13	-	-	94.86	34.59	9.44	32.76	119	357	Peak
10539	44.67	-29.33	74	52.32	37.43	13.72	58.8	100	0	Peak
15810	47.96	-26.04	74	48.76	40.61	15.77	57.18	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C				
Test Channel :	54		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5272 MHz is fundamental signal which can be ignored.						
	2.	10539 MHz is not within a restricted band and satisfies both the average and						
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	•
85.62	21.09	-18.91	40	43.18	8.1	0.91	31.1	141	72	Peak
124.77	20.93	-22.57	43.5	39.31	11.6	1.12	31.1	-	-	Peak
202.53	19.61	-23.89	43.5	40.25	9.13	1.33	31.1	-	-	Peak
419	19.11	-26.89	46	31.05	16.65	2.21	30.8	-	-	Peak
585.6	22.77	-23.23	46	31.24	19.54	2.65	30.66	-	-	Peak
850.2	26.69	-19.31	46	30.53	23.29	3.27	30.4	-	-	Peak
5272	93.73	-	-	82.56	34.59	9.44	32.86	100	332	Average
5272	103.14	-	-	91.97	34.59	9.44	32.86	100	332	Peak
10539	44.04	-29.96	74	51.69	37.43	13.72	58.8	100	0	Peak
15810	47.8	-26.2	74	48.6	40.61	15.77	57.18	100	0	Peak

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Test Mode :	802.11n HT40	Temperature :	19~21°C					
Test Channel :	62	Relative Humidity :	47~49%					
Test Engineer :	Eric Shih	Polarization :	Horizontal					
	1. 5308 MHz is fundamer	ntal signal which can be	e ignored.					
Remark :	2. Average measurement	t was not performed if	peak level went lower than the					
	average limit.	average limit.						

Frequency	Level	Over Limit	Limit Line	Read	Antenna Factor	Cable	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	Level (dBµV)	(dB)	Loss (dB)	(dB)	(cm)	( deg )	
84.81	21.02	-18.98	40	43.13	8.1	0.91	31.12	112	77	Peak
131.25	18.03	-25.47	43.5	36.08	11.9	1.15	31.1	-	-	Peak
202.53	19.94	-23.56	43.5	40.58	9.13	1.33	31.1	-	-	Peak
461.7	18.69	-27.31	46	29.74	17.42	2.33	30.8	-	-	Peak
631.1	22.46	-23.54	46	29.82	20.4	2.78	30.54	-	-	Peak
853.7	25.98	-20.02	46	29.83	23.26	3.28	30.39	-	-	Peak
5308	92.58	-	-	81.35	34.68	9.52	32.97	181	9	Average
5308	101.69	-	-	90.46	34.68	9.52	32.97	181	9	Peak
10620	46.85	-27.15	74	54.17	37.52	13.73	58.57	100	0	Peak
15930	48.34	-25.66	74	48.79	40.73	15.86	57.04	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C				
Test Channel :	62		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5308 MHz is fundamental signal which can be ignored.						
Remark :	2.	Average measurement	t was not performed if	peak level went lower than the				
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	( dBµV/m )	(dB)	( dBµV/m )	(dBµV)	( dB )	( dB )	( dB )	(cm)	( deg )	
87.51	22.5	-17.5	40	44.34	8.34	0.92	31.1	157	52	Peak
129.09	21.58	-21.92	43.5	39.62	11.92	1.14	31.1	-	-	Peak
202.8	20.13	-23.37	43.5	40.77	9.13	1.33	31.1	-	-	Peak
429.5	18.54	-27.46	46	30.15	16.9	2.24	30.75	-	-	Peak
598.2	21.95	-24.05	46	30.3	19.58	2.68	30.61	-	-	Peak
825	24.57	-21.43	46	29.05	22.66	3.21	30.35	-	-	Peak
5308	91.3	-	-	80.07	34.68	9.52	32.97	100	340	Average
5308	100.28	-	-	89.05	34.68	9.52	32.97	100	340	Peak
10620	45.16	-28.84	74	52.48	37.52	13.73	58.57	100	0	Peak
15930	48.72	-25.28	74	49.17	40.73	15.86	57.04	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C
Test Channel :	102		Relative Humidity :	47~49%
Test Engineer :	Eric	Shih	Polarization :	Horizontal
	1. 2.	5512 MHz is fundamental 16530MHz is not within	J	e ignored. satisfies both the average and
Remark :	3.	peak limits of 15.209.  Average measurement average limit.	t was not performed if p	peak level went lower than the

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	(dBµV/m)	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
85.62	20.96	-19.04	40	43.05	8.1	0.91	31.1	132	27	Peak
128.82	20.66	-22.84	43.5	38.7	11.92	1.14	31.1	-	-	Peak
203.61	19.31	-24.19	43.5	39.94	9.14	1.33	31.1	-	-	Peak
419	18.87	-27.13	46	30.81	16.65	2.21	30.8	-	-	Peak
679.4	22.82	-23.18	46	29.87	20.49	2.9	30.44	-	-	Peak
763.4	25.29	-20.71	46	30.48	22.1	3.08	30.37	-	-	Peak
5512	93.38	-	-	82.06	35.2	9.86	33.74	101	11	Average
5512	103.08	-	-	91.76	35.2	9.86	33.74	101	11	Peak
11019	49.24	-4.76	54	55.1	37.92	13.76	57.54	100	103	Average
11019	53.54	-20.46	74	59.4	37.92	13.76	57.54	100	103	Peak
16530	48.46	-25.54	74	46.77	41.53	16.14	55.98	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C			
Test Channel :	102		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5512 MHz is fundamen	ntal signal which can be ignored.				
	2.	16530 MHz is not within	n a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
85.89	21.64	-18.36	40	43.6	8.22	0.92	31.1	176	88	Peak
157.44	21.43	-22.07	43.5	40.77	10.62	1.22	31.18	-	-	Peak
201.72	19.24	-24.26	43.5	39.89	9.12	1.33	31.1	-	-	Peak
421.1	18.19	-27.81	46	30.06	16.72	2.21	30.8	-	-	Peak
591.9	22.93	-23.07	46	31.37	19.52	2.67	30.63	-	-	Peak
738.2	24.87	-21.13	46	30.08	22.16	3.03	30.4	-	-	Peak
5512	89.98	-	-	78.66	35.2	9.86	33.74	110	2	Average
5512	98.64	-	-	87.32	35.2	9.86	33.74	110	2	Peak
11020	50.55	-23.45	74	56.38	37.92	13.79	57.54	100	0	Peak
16530	48.59	-25.41	74	46.9	41.53	16.14	55.98	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C			
Test Channel :	110		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Horizontal			
	1.	5548 MHz is fundamer	ental signal which can be ignored.				
	2.	2. 16650 MHz is not within a restricted band and satisfies both the					
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than the					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
84.54	22.46	-17.54	40	44.8	7.88	0.9	31.12	146	2	Peak
128.82	19.74	-23.76	43.5	37.78	11.92	1.14	31.1	-	-	Peak
203.88	20.52	-22.98	43.5	41.15	9.14	1.33	31.1	-	-	Peak
415.5	18.59	-27.41	46	30.77	16.45	2.19	30.82	-	-	Peak
609.4	21.67	-24.33	46	29.66	19.87	2.72	30.58	-	-	Peak
755.7	24.55	-21.45	46	29.77	22.1	3.07	30.39	-	-	Peak
5548	98.64	-	-	87.34	35.23	9.9	33.83	113	14	Average
5548	108.35	-	-	97.05	35.23	9.9	33.83	113	14	Peak
11100	49.05	-4.95	54	54.62	38	13.87	57.44	100	126	Average
11100	58.3	-15.7	74	63.87	38	13.87	57.44	100	126	Peak
16650	47.89	-26.11	74	46.06	41.66	16.19	56.02	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C			
Test Channel :	110		Relative Humidity :	47~49%			
Test Engineer :	Eric	Shih	Polarization :	Vertical			
	1.	5548 MHz is fundamer	ntal signal which can be ignored.				
	2.	16650 MHz is not withi	in a restricted band and	d satisfies both the average and			
Remark :		peak limits of 15.209.					
	3.	Average measurement was not performed if peak level went lower than to					
		average limit.					

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	( dBµV/m )	(dBµV)	( dB )	(dB)	( dB )	(cm)	(deg)	
84.81	22.3	-17.7	40	44.41	8.1	0.91	31.12	168	50	Peak
128.82	21.6	-21.9	43.5	39.64	11.92	1.14	31.1	-	-	Peak
202.8	19.52	-23.98	43.5	40.16	9.13	1.33	31.1	-	-	Peak
430.2	18.15	-27.85	46	29.74	16.91	2.25	30.75	-	-	Peak
563.2	21.89	-24.11	46	30.16	19.89	2.59	30.75	-	-	Peak
794.9	24.38	-21.62	46	29.61	21.95	3.13	30.31	-	-	Peak
5548	93.27	-	-	81.97	35.23	9.9	33.83	124	355	Average
5548	103.09	-	-	91.79	35.23	9.9	33.83	124	355	Peak
11100	42.6	-11.4	54	48.17	38	13.87	57.44	100	362	Average
11100	51.78	-22.22	74	57.35	38	13.87	57.44	100	362	Peak
16650	48.26	-25.74	74	46.43	41.66	16.19	56.02	100	0	Peak

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Test Mode :	802.	.11n HT40	Temperature :	19~21°C				
Test Channel :	134		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5668 MHz is fundamer	ntal signal which can be ignored.					
	2.	17010 MHz is not within	nin a restricted band and satisfies both the average an					
Remark :		peak limits of 15.209.						
	3.	Average measurement	t was not performed if p	peak level went lower than the				
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	(dBµV)	( dB )	( dB )	( dB )	( cm )	(deg)	
83.73	20.84	-19.16	40	43.41	7.66	0.9	31.13	168	35	Peak
130.17	18.14	-25.36	43.5	36.09	12	1.15	31.1	-	-	Peak
202.8	21.06	-22.44	43.5	41.7	9.13	1.33	31.1	-	-	Peak
408.5	18.47	-27.53	46	31.01	16.15	2.17	30.86	-	-	Peak
587.7	21.53	-24.47	46	30.01	19.52	2.65	30.65	-	-	Peak
762.7	25.31	-20.69	46	30.5	22.1	3.08	30.37	-	-	Peak
5668	99.36	-	-	88.17	35.3	9.98	34.09	100	11	Average
5668	108.28	-	-	97.09	35.3	9.98	34.09	100	11	Peak
11340	46.34	-7.66	54	51.1	38.23	14.16	57.15	100	292	Average
11340	56.66	-17.34	74	61.42	38.23	14.16	57.15	100	292	Peak
17010	49.3	-24.7	74	47.1	41.99	16.34	56.13	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C				
Test Channel :	134		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Vertical				
	1.	5668 MHz is fundamen	ntal signal which can be ignored.					
	2.	17010 MHz is not within	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement	t was not performed if p	peak level went lower than the				
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
84.27	22.29	-17.71	40	44.63	7.88	0.9	31.12	171	42	Peak
128.55	21.38	-22.12	43.5	39.42	11.92	1.14	31.1	-	-	Peak
202.26	19.87	-23.63	43.5	40.51	9.13	1.33	31.1	-	-	Peak
451.2	19.29	-26.71	46	30.43	17.31	2.3	30.75	-	-	Peak
579.3	22.77	-23.23	46	31.21	19.61	2.63	30.68	-	-	Peak
731.2	24.49	-21.51	46	29.85	22.02	3.02	30.4	-	-	Peak
5668	92.3	-	-	81.11	35.3	9.98	34.09	111	49	Average
5668	101.43	-	-	90.24	35.3	9.98	34.09	111	49	Peak
11340	50.56	-23.44	74	55.32	38.23	14.16	57.15	100	0	Peak
17010	49.1	-24.9	74	46.9	41.99	16.34	56.13	100	0	Peak

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## <Sample 1 with Battery 1>

Test Mode :	802.	.11n HT40	Temperature :	19~21°C				
Test Channel :	38		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5190 MHz is fundamer	ntal signal which can be ignored.					
	2.	10380 MHz is not withi	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos (cm)	Pos (deg)	
84.81	21.37	-18.63	40	43.48	8.1	0.91	31.12	133	76	Peak
128.82	19.13	-24.37	43.5	37.17	11.92	1.14	31.1	_	_	Peak
205.5	19.86	-23.64	43.5	40.47	9.15	1.34	31.1	_	_	Peak
461	18.42	-27.58	46	29.49	17.41	2.32	30.8	_	_	Peak
648.6	23.57	-22.43	46	30.83	20.4	2.84	30.5	-	-	Peak
752.9	24.46	-21.54	46	29.69	22.1	3.06	30.39	-	-	Peak
5190	94.53	_	-	83.36	34.38	9.31	32.52	117	342	Average
5190	103.54	-	-	92.37	34.38	9.31	32.52	117	342	Peak
10380	44.22	-29.78	74	52.07	37.31	13.71	58.87	100	0	Peak
15570	48.16	-25.84	74	49.66	40.37	15.58	57.45	100	0	Peak

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Test Mode :	802.	11n HT40	Temperature :	19~21°C
Test Channel :	38		Relative Humidity :	47~49%
Test Engineer :	Eric	Shih	Polarization :	Vertical
	1.	5190 MHz is fundamer	ntal signal which can be	e ignored.
	2.	10380 MHz is not within	in a restricted band and	d satisfies both the average and
Remark :		peak limits of 15.209.		
	3.	Average measurement	t was not performed if p	beak level went lower than the
		average limit.		

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit (dB)	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor (dB)	Pos (cm)	Pos ( deg )	
83.46	23	-17	40	45.57	7.66	0.9	31.13	185	47	83.46
129.63	22.11	-21.39	43.5	40.06	12	1.15	31.1	-	-	Peak
201.99	20.02	-23.48	43.5	40.67	9.12	1.33	31.1	-	-	Peak
409.9	17.1	-28.9	46	29.57	16.2	2.18	30.85	-	-	Peak
582.1	22.45	-23.55	46	30.9	19.58	2.64	30.67	-	-	Peak
853	25.49	-20.51	46	29.34	23.27	3.27	30.39	-	-	Peak
5190	90.32	-	-	79.15	34.38	9.31	32.52	101	347	Average
5190	99.73	-	-	88.56	34.38	9.31	32.52	101	347	Peak
10380	44.27	-29.73	74	52.12	37.31	13.71	58.87	100	0	Peak
15570	47.63	-26.37	74	49.13	40.37	15.58	57.45	100	0	Peak

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## <Sample 2 with Battery 2>

Test Mode :	802.	11n HT40	Temperature :	19~21°C				
Test Channel :	38		Relative Humidity :	47~49%				
Test Engineer :	Eric	Shih	Polarization :	Horizontal				
	1.	5190 MHz is fundamental signal which can be ignored.						
	2.	10380 MHz is not withi	in a restricted band and	d satisfies both the average and				
Remark :		peak limits of 15.209.						
	3.	Average measurement was not performed if peak level went lower than the						
		average limit.						

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
(MHz)	( dBµV/m )	Limit ( dB )	Line ( dBµV/m )	Level (dBµV)	Factor ( dB )	Loss (dB)	Factor ( dB )	Pos ( cm )	Pos ( deg )	
84.81	22.75	-17.25	40	44.86	8.1	0.91	31.12	103	28	Peak
130.17	18.72	-24.78	43.5	36.67	12	1.15	31.1	-	-	Peak
222.24	18.79	-27.21	46	38.9	9.46	1.43	31	-	-	Peak
513.5	19.61	-26.39	46	29.68	18.1	2.48	30.65	-	-	Peak
672.4	22.78	-23.22	46	29.93	20.42	2.88	30.45	-	-	Peak
827.8	26.44	-19.56	46	30.86	22.72	3.21	30.35	-	-	Peak
5190	96.46	-	-	85.29	34.38	9.31	32.52	121	351	Average
5190	106.15	-	-	94.98	34.38	9.31	32.52	121	351	Peak
10380	44.19	-29.81	74	52.04	37.31	13.71	58.87	100	0	Peak
15570	47.79	-26.21	74	49.29	40.37	15.58	57.45	100	0	Peak

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#### Test Mode: 19~21°C 802.11n HT40 Temperature : 38 47~49% Test Channel: Relative Humidity: Eric Shih Test Engineer: Polarization: Vertical 1. 5190 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. Remark: 3. Average measurement was not performed if peak level went lower than the

average limit.

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	( dBµV/m )	(dB)	( dBµV/m )		(dB)	(dB)	(dB)	(cm)	( deg )	,
84.81	20.78	-19.22	40	42.89	8.1	0.91	31.12	172	357	Peak
129.09	21.59	-21.91	43.5	39.63	11.92	1.14	31.1	-	-	Peak
202.8	19.57	-23.93	43.5	40.21	9.13	1.33	31.1	-	-	Peak
405	17.06	-28.94	46	29.72	16.06	2.16	30.88	-	-	Peak
604.5	23.31	-22.69	46	31.48	19.72	2.7	30.59	-	-	Peak
738.9	24.53	-21.47	46	29.72	22.18	3.03	30.4	-	-	Peak
5190	90.29	-	-	79.12	34.38	9.31	32.52	100	300	Average
5190	99.29	-	-	88.12	34.38	9.31	32.52	100	300	Peak
10380	44.94	-29.06	74	52.79	37.31	13.71	58.87	100	0	Peak
15570	47.07	-26.93	74	48.57	40.37	15.58	57.45	100	0	Peak

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### 3.6 AC Conducted Emission Measurement

#### **Limit of AC Conducted Emission** 3.6.1

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.

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

<sup>\*</sup>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

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 1. 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.

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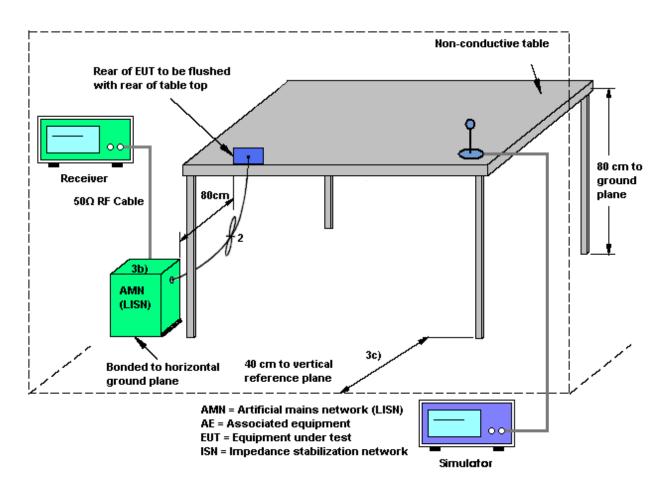
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## 3.6.4 Test Setup

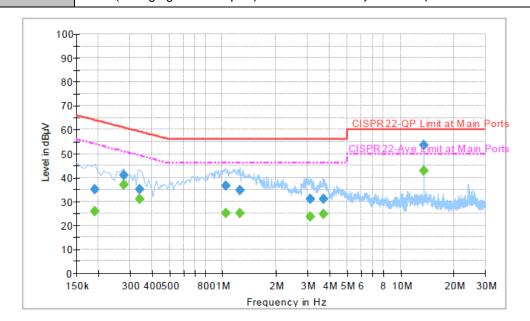


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3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃				
Test Engineer :	Cosmo Xu	Relative Humidity :	46~48%				
Test Voltage :	120Vac / 60Hz	Phase: Line					
Franctica Trace	CDMA2000 BC0 Idle + WLAN (5GHz) Link + Bluetooth Link + NFC active + USB						
Function Type :	Cable (Charging from Adapt	Cable (Charging from Adapter) + Scanner + Battery 2 for Sample 1					



### Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	35.0	Off	L1	19.4	29.0	64.0
0.278000	41.0	Off	L1	19.3	19.9	60.9
0.342000	35.0	Off	L1	19.4	24.2	59.2
1.038000	36.5	Off	L1	19.4	19.5	56.0
1.254000	34.9	Off	L1	19.5	21.1	56.0
3.110000	30.9	Off	L1	19.6	25.1	56.0
3.702000	31.0	Off	L1	19.6	25.0	56.0
13.558000	53.5	Off	L1	19.8	6.5	60.0

### Final Result : Average

rınai Kesuit	. Average					
Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	i iitei	Lille	(dB)	(dB)	(dBµV)
0.190000	26.0	Off	L1	19.4	28.0	54.0
0.278000	37.0	Off	L1	19.3	13.9	50.9
0.342000	31.0	Off	L1	19.4	18.2	49.2
1.038000	25.0	Off	L1	19.4	21.0	46.0
1.254000	25.0	Off	L1	19.5	21.0	46.0
3.110000	23.7	Off	L1	19.6	22.3	46.0
3.702000	24.8	Off	L1	19.6	21.2	46.0
13.558000	42.8	Off	L1	19.8	7.2	50.0

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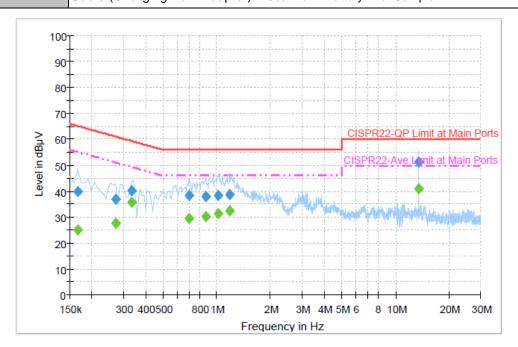


 Test Mode :
 Mode 1
 Temperature :
 20~22°C

 Test Engineer :
 Cosmo Xu
 Relative Humidity :
 46~48%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Neutral

Function Type: CDMA2000 BC0 Idle + WLAN (5GHz) Link + Bluetooth Link + NFC active + USB Cable (Charging from Adapter) + Scanner + Battery 2 for Sample 1



#### Final Result: QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	40.0	Off	N	19.4	25.2	65.2
0.270000	36.8	Off	N	19.4	24.3	61.1
0.334000	40.1	Off	N	19.4	19.3	59.4
0.702000	38.5	Off	N	19.5	17.5	56.0
0.870000	38.0	Off	N	19.5	18.0	56.0
1.022000	38.4	Off	N	19.4	17.6	56.0
1.174000	38.9	Off	N	19.5	17.1	56.0
13.558000	51.2	Off	N	19.9	8.8	60.0

### Final Result : Average

IIIai Nesuit	. Avelage					
Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	Filler	Lille	(dB)	(dB)	(dBµV)
0.166000	25.0	Off	N	19.4	30.2	55.2
0.270000	27.5	Off	N	19.4	23.6	51.1
0.334000	35.9	Off	N	19.4	13.5	49.4
0.702000	29.5	Off	N	19.5	16.5	46.0
0.870000	30.2	Off	N	19.5	15.8	46.0
1.022000	31.2	Off	N	19.4	14.8	46.0
1.174000	32.3	Off	N	19.5	13.7	46.0
13.558000	41.0	Off	N	19.9	9.0	50.0

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## 3.7 Frequency Stability Measurement

## 3.7.1 Limit of Frequency Stability

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

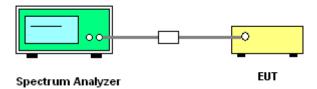
## 3.7.2 Measuring Instruments

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

#### 3.7.3 Test Procedures

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

### 3.7.4 Test Setup



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# 3.7.5 Test Result of Frequency Stability

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (Hz)	Frequency Deviation (Hz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	36	5180	5180050000	50000	9.65	20	3.55
11a	6Mbps	1	36	5180	5180050000	50000	9.65	20	4.26
11a	6Mbps	1	36	5180	5180050000	50000	9.65	20	3.7
11a	6Mbps	1	36	5180	5180050000	50000	9.65	-30	3.7
11a	6Mbps	1	36	5180	5180050000	50000	9.65	50	3.7

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (Hz)	Frequency Deviation (Hz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	64	5320	5320050000	50000	9.40	20	3.55
11a	6Mbps	1	64	5320	5320050000	50000	9.40	20	4.26
11a	6Mbps	1	64	5320	5320050000	50000	9.40	20	3.7
11a	6Mbps	1	64	5320	5320050000	50000	9.40	-30	3.7
11a	6Mbps	1	64	5320	5320050000	50000	9.40	50	3.7

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	Center Frequency (Hz)	Frequency Deviation (Hz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
11a	6Mbps	1	100	5500	5500050000	50000	9.09	20	3.55
11a	6Mbps	1	100	5500	5500050000	50000	9.09	20	4.26
11a	6Mbps	1	100	5500	5500050000	50000	9.09	20	3.7
11a	6Mbps	1	100	5500	5500050000	50000	9.09	-30	3.7
11a	6Mbps	1	100	5500	5500050000	50000	9.09	50	3.7

**Note:** Center Frequency = (Low Frequency + High Frequency) / 2.

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3.8 Automatically Discontinue Transmission

3.8.1 **Limit of Automatically Discontinue Transmission** 

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

authorization to describe how this requirement is met.

3.8.2 Measuring Instruments

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

3.8.3 **Test Result of Automatically Discontinue Transmission** 

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

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## 3.9 Antenna Requirements

#### 3.9.1 **Standard Applicable**

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

#### 3.9.2 **Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

#### 3.9.3 **Antenna Gain**

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

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4 List of Measuring Equipments

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	Jan. 16, 2014~ Feb. 06, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Mar. 13, 2013	Jan. 16, 2014~ Feb. 06, 2014	Mar. 12, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014~ Feb. 06, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014~ Feb. 06, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz~30GHz	Nov. 20, 2013	Jan. 22, 2014~ Jan. 27, 2014	Nov. 19, 2014	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 06, 2013	Jan. 22, 2014~ Jan. 27, 2014	Sep. 05, 2014	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Jan. 22, 2014~ Jan. 27, 2014	Jul. 03, 2014	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz~1GHz	Oct. 10, 2013	Jan. 22, 2014~ Jan. 27, 2014	Oct. 09, 2014	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 22, 2013	Jan. 22, 2014~ Jan. 27, 2014	Aug. 21, 2014	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917025 1	15GHz~40GHz	Oct. 03, 2013	Jan. 22, 2014~ Jan. 27, 2014	Oct. 02, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	30MHz~1GHz	Feb. 26, 2013	Jan. 22, 2014~ Jan. 27, 2014	Feb. 25, 2014	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Aug. 12, 2013	Jan. 22, 2014~ Jan. 27, 2014	Aug. 11, 2014	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	159088	DC~18G High Gain	Feb. 27, 2013	Jan. 22, 2014~ Jan. 27, 2014	Feb. 26, 2014	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jan. 22, 2014~ Jan. 27, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Jan. 22, 2014~ Jan. 27, 2014	N/A	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz~2.75GHz	Nov. 15, 2013	Jan. 16, 2014	Nov. 14, 2014	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 12, 2013	Jan. 16, 2014	Dec. 11, 2014	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 04, 2013	Jan. 16, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jan. 16, 2014	N/A	Conduction (CO05-HY)

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# 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	2.26
Confidence of 95% (U = 2Uc(y))	2.26

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

Measuring Uncertainty for a Level of	4.50
Confidence of 95% (U = 2Uc(y))	4.50

### **Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)**

Measuring Uncertainty for a Level of	F 10
Confidence of 95% (U = 2Uc(y))	5.10

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