

# **FCC Test Report**

Report No.: RF151224C14-5

FCC ID: 2AHS3-TGL800S

Test Model: TG-L800S

Received Date: Dec. 24, 2015

Test Date: Jan. 01, 2016 ~ Jan. 11, 2016

**Issued Date:** Mar. 29, 2016

Applicant: TG&Co. Inc.

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### **Release Control Record**

Issue No.	Description	Date Issued
RF151224C14-5	Original Release	Mar. 29, 2016



#### 1 Certificate of Conformity

**Product:** Smart Phone

**Brand: TGLUNA** 

Test Model: TG-L800S

Sample Status: Identical Prototype

Applicant: TG&Co. Inc.

Test Date: Jan. 01, 2016 ~ Jan. 11, 2016

**Standards:** 47 CFR FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : , Date: Mar. 29, 2016

Ivonne Wu / Supervisor

Approved by : , Date: Mar. 29, 2016

Stanley Wu / Assistant Manager



## 2 Summary of Test Results

	47 CFR FCC Part 15, Subpart E (Section 15.407)				
FCC Clause	Test Item	Result	Remarks		
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.32 dB at 0.15400 MHz.		
15.407(b) Radiated Emissions & Band Edge (1/2/3/4/6) Measurement		Pass	Meet the requirement of limit. Minimum passing margin is -5.83 dB at 5861.00 MHz.		
15.407(a)(1/2 /3)			Meet the requirement of limit.		
			Meet the requirement of limit.		
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)		
15.407(g)	15.407(g) Frequency Stability		Meet the requirement of limit.		
15.203 Antenna Requirement		Pass	No antenna connector is used.		

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
Radiated Effissions above 1 GHz	18 GHz ~ 40 GHz	1.94 dB

### 2.2 Modification Record

There were no modifications required for compliance.



### 3 General Information

# 3.1 General Description of EUT

Product	Smart Phone		
Brand	TGLUNA		
Test Model	TG-L800S		
Status of EUT	Identical Prototype		
	5.0 Vdc (adapter or host equipment)		
Power Supply Rating	3.8 Vdc (Li-ion battery)		
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK		
Modulation Technology	OFDM		
	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps		
Transfer Rate	802.11n: up to MCS7		
	802.11ac: up to V9		
Onevetina Francisco	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz,		
Operating Frequency	5745 ~ 5805 MHz		
	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20)		
	2 for 802.11n (HT40)		
	1 for 802.11ac (VHT80)		
	5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20)		
	2 for 802.11n (HT40)		
Number of Channel	1 for 802.11ac (VHT80)		
Number of Chamiler	5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20)		
	5 for 802.11n (HT40)		
	2 for 802.11ac (VHT80)		
	5745 ~ 5805 MHz: 4 for 802.11a, 802.11n (HT20)		
	2 for 802.11n (HT40)		
	1 for 802.11ac (VHT80)		
	17.18 mW for 5180 ~ 5240 MHz		
Output Power	16.94 mW for 5260 ~ 5320 MHz		
Output i Owei	18.16 mW for 5500 ~ 5700 MHz		
	17.26 mW for 5745 ~ 5805 MHz		
	PIFA antenna with -6 dBi gain (5180 ~ 5240 MHz)		
Antenna Type	PIFA antenna with -6 dBi gain (5260 ~ 5320 MHz)		
Antenna Type	PIFA antenna with -6 dBi gain (5500 ~ 5700 MHz)		
	PIFA antenna with -6 dBi gain (5745 ~ 5805 MHz)		
Antenna Connector	N/A		
Accessory Device	Refer to Note as below		
Data Cable Supplied	Refer to Note as below		



#### Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	DEE VAN ENTERPRISE CO., LTD.		I/P: 100-240Vac, 50/60Hz, 300mA O/P: 5Vdc, 2000mA
Adapter 2	Chicony		I/P: 100-240Vac, 50/60Hz, 300mA O/P: 5Vdc, 2000mA
Battery	ATL	HE302	3.8Vdc, 2900mAh
USB Cable 1	FOXCONN	CUBB01M-FA002-DH	1.0m shielded cable w/o core
USB Cable 2	FOXCONN	CUND003B-T215W-EH	1.0m shielded cable w/o core
USB Cable 3	FOXCONN	CUND003B-T215-EH	1.0m shielded cable w/o core
LCD Panel	INNOLUX	PD055SC-02D	5.5"
Photo Camera	Foxconn	CFH39	13M
Video Camera	Lite on	3BF801P1A	8M
Main Broad	AT&S	SB0PHX1B05-X	
WWAN/BT/WLAN Module	QUALCOMM	WCN3680	

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.



### 3.2 Description of Test Modes

### FOR 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

### 2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

### 1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	
42	5210	

### FOR 5260 ~ 5320 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
56	5280	64	5320

### 2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

### 1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290



#### FOR 5500 ~ 5700 MHz

11 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
104	5520	128	5640
108	108 5540 132		5660
112	5560	136	5680
116	5580	140	5700
120	5600		

5 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	126	5630
110	5550	134	5670
118	5590		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	
106	5530	122	5610	

#### FOR 5745 ~ 5805 MHz:

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785
153	5765	161	5805

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	
151	5755	159	5795	

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775



3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure		Applica	able To		Description			
Mode	RE≥1G	RE<1G	PLC	APCM	Description			
-	V	V	V	V	-			

Where

**RE≥1G:** Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

**APCM:** Antenna Port Conducted Measurement

#### NOTE:

### Radiated Emission Test (Above 1 GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a		36 to 48	36, 44, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-	802.11n (HT40)	5180-5240	38 to 46	38, 46	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	V0
-	802.11a		52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)	5000 5000	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-	802.11n (HT40)	5260-5320	54 to 62	54, 62	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	V0
-	802.11a		100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)	5500 5700	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-	802.11n (HT40)	5500-5700	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	V0
-	802.11a		149 to 161	149, 157, 161	OFDM	BPSK	6.0
-	802.11n (HT20)	57.45.5005	149 to 161	149, 157, 161	OFDM	BPSK	MCS0
-	802.11n (HT40)	5745-5805	151 to 159	151, 159	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		155	155	OFDM	BPSK	V0

#### Radiated Emission Test (Below 1 GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11n (HT20)	5180-5240	36 to 48	36	OFDM	BPSK	MCS0
-	802.11n (HT40)	5260-5320	54 to 62	62	OFDM	BPSK	MCS0
-	802.11ac (VHT80)	5500-5700	106 to 122	122	OFDM	BPSK	V0
	802.11a	5745-5805	149 to 165	157	OFDM	BPSK	6.0

<sup>1.</sup> The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane** for 5180-5240 MHz & 5260-5320 MHz & 5500-5700 MHz, and **Z-plane** for 5745-5805 MHz.

<sup>2. &</sup>quot;-" means no effect.



#### **Power Line Conducted Emission Test:**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5745-5805	149 to 161	157	OFDM	BPSK	6.0

### **Antenna Port Conducted Measurement:**

This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a		36 to 48	36, 44, 48	OFDM	BPSK	6.0
-	802.11n (HT20)	5400 5040	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-	802.11n (HT40)	5180-5240 ·	38 to 46	38, 46	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	V0
-	802.11a		52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-	802.11n (HT40)	5260-5320	54 to 62	54, 62	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	V0
-	802.11a		100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)	5500 5700	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-	802.11n (HT40)	5500-5700	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	V0
-	802.11a		149 to 161	149, 157, 161	OFDM	BPSK	6.0
-	802.11n (HT20)	5745 5005	149 to 161	149, 157, 161	OFDM	BPSK	MCS0
-	802.11n (HT40)	5745-5805	151 to 159	151, 159	OFDM	BPSK	MCS0
-	802.11ac (VHT80)		155	155	OFDM	BPSK	V0

### **Test Condition:**

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Anson Lin
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Anson Lin
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian
APCM	25 deg. C, 65 % RH	3.8 Vdc	Taylor Liu



### 3.3 Duty Cycle of Test Signal

#### **MODULATION TYPE: BPSK**

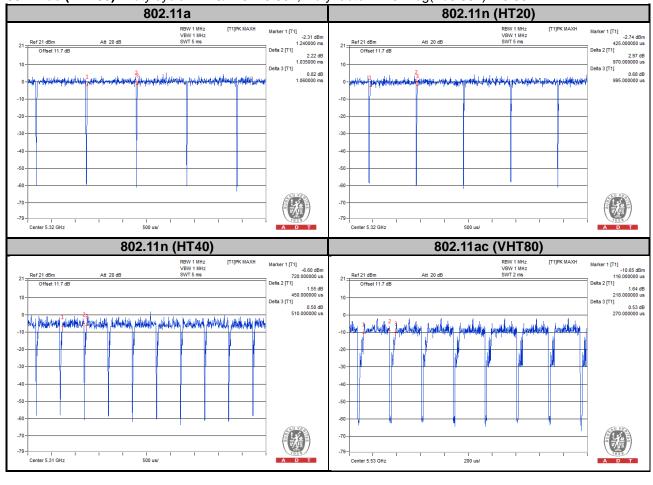
Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a**: Duty cycle = 1.035/1.060 = 0.976, Duty factor = 10 \* log(1/0.976) = 0.10

**802.11n (HT20):** Duty cycle = 970/995 = 0.975, Duty factor =  $10 * \log(1/0.975) = 0.11$ 

**802.11n (HT40):** Duty cycle = 450/510 = 0.882, Duty factor =  $10 * \log(1/0.882) = 0.54$ 

**802.11ac (VHT80):** Duty cycle = 218/270 = 0.807, Duty factor = 10 \* log(1/0.807) = 0.93





#### **MODULATION TYPE: QPSK**

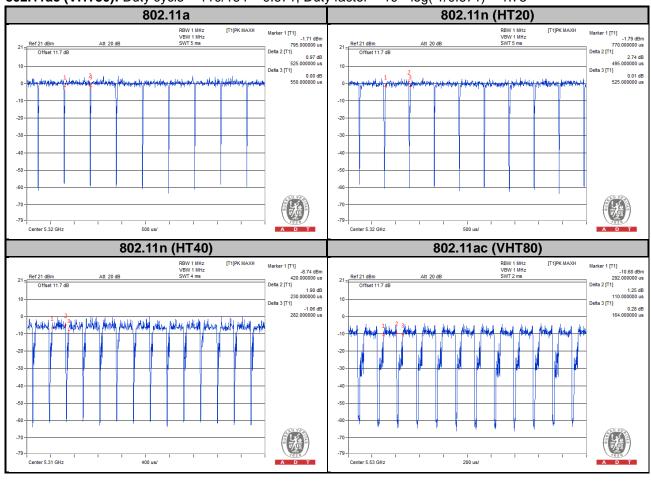
Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a**: Duty cycle = 525/550 = 0.955, Duty factor = 10 \* log(1/0.955) = 0.20

**802.11n (HT20):** Duty cycle = 495/525 = 0.943, Duty factor =  $10 * \log(1/0.943) = 0.26$ 

**802.11n (HT40):** Duty cycle = 230/282 = 0.816, Duty factor =  $10 * \log(1/0.816) = 0.89$ 

**802.11ac (VHT80):** Duty cycle = 110/164 = 0.671, Duty factor = 10 \* log(1/0.671) = 1.73





#### **MODULATION TYPE: 16QAM**

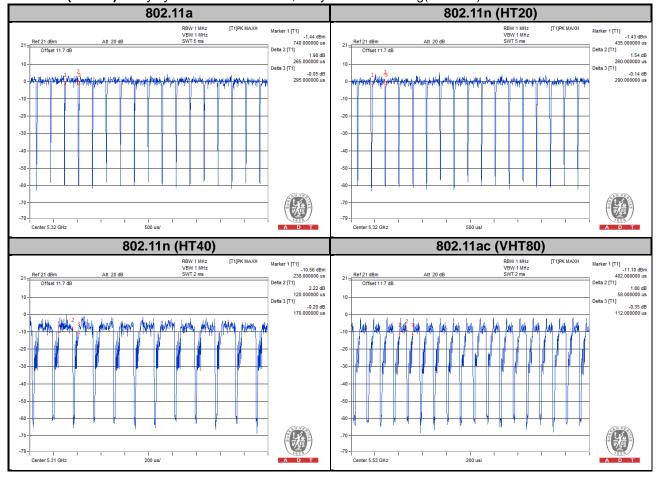
Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a**: Duty cycle = 265/295 = 0.898, Duty factor = 10 \* log(1/0.898) = 0.47

**802.11n (HT20):** Duty cycle = 260/290 = 0.897, Duty factor =  $10 * \log(1/0.897) = 0.47$ 

**802.11n (HT40):** Duty cycle = 120/170 = 0.706, Duty factor =  $10 * \log(1/0.706) = 1.51$ 

**802.11ac (VHT80):** Duty cycle = 58/112 = 0.518, Duty factor = 10 \* log(1/0.518) = 2.86





#### **MODULATION TYPE: 64QAM**

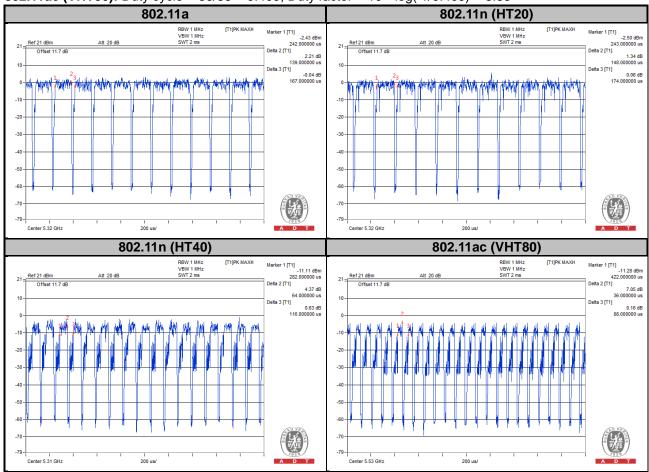
Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a**: Duty cycle = 139/167 = 0.832, Duty factor = 10 \* log(1/0.832) = 0.80

**802.11n (HT20):** Duty cycle = 148/174 = 0.851, Duty factor =  $10 * \log(1/0.851) = 0.70$ 

**802.11n (HT40):** Duty cycle = 64/116 = 0.552, Duty factor =  $10 * \log(1/0.552) = 2.58$ 

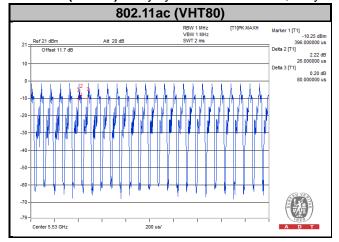
**802.11ac (VHT80):** Duty cycle = 36/88 = 0.409, Duty factor = 10 \* log(1/0.409) = 3.88



#### **MODULATION TYPE: 256QAM**

Duty cycle of test signal is < 98 %, duty factor is required.

**802.11ac (VHT80):** Duty cycle = 26/80 = 0.325, Duty factor = 10 \* log(1/0.325) = 4.88





### 3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

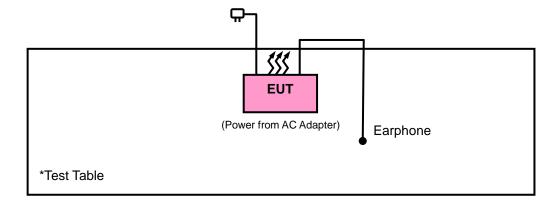
No.	Product	Brand	Model No.	Serial No.	FCC ID	
1.	Earphone	N/A	N/A	N/A	N/A	

No.	Signal Cable Description Of The Above Support Units
1.	N/A

#### Note:

1. All power cords of the above support units are non-shielded (1.8m).

### 3.4.1 Configuration of System under Test





### 3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407) 789033 D02 General UNII Test Procedures New Rules v01r02 644545 D01 Guidance for IEEE 802 11ac v01r02

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



#### 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

#### NOTE:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level  $(dBuV/m) = 20 \log Emission level (uV/m)$ .
- 3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

#### 4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limi	t		
789033 D02 General UNII Test	Field Strength at 3 m			
Procedures New Rules v01	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)		
Applicable To	EIRP Limit	Equivalent Field Strength at 3 m		
15.407(b)(1)				
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)		
15.407(b)(3)				
15.407(b)(4)	PK: -27 (dBm/MHz) *1 PK: -17 (dBm/MHz) *2	PK: 68.2 (dBμV/m) <sup>*1</sup> PK: 78.2 (dBμV/m) <sup>*2</sup>		

**NOTE:** \*1 beyond 10 MHz of the band edge \*2 within 10 MHz of band edge

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

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#### 4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Jan. 21, 2015	Jan. 21, 2016
Spectrum Analyzer Agilent	N9010A	MY52220314	Sep. 03, 2015	Sep. 02, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2015	Dec. 16, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 04, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Feb. 09, 2015	Feb. 09, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Feb. 04, 2015	Feb. 04, 2016
Loop Antenna	EM-6879	269	Jul. 31, 2015	Jul. 30, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 21, 2015	Dec. 20, 2016
Preamplifier EMCI	EMC 184045	980116	Jan. 09, 2015	Jan. 08, 2016
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2015	Dec. 27, 2016
Power Meter Anritsu	ML2495A	1232002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor Anritsu	MA2411B	1207325	Sep. 21, 2015	Sep. 20, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 12, 2015	Oct. 11, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 12, 2015	Oct. 11, 2016
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 12, 2015	Oct. 11, 2016
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in HwaYa Chamber 10.
- 3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
- 4. The FCC Site Registration No. is 690701.
- 5. The IC Site Registration No. is IC7450F-10.



#### 4.1.4 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### Note:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
- 4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
- 5. All modes of operation were investigated and the worst-case emissions are reported.

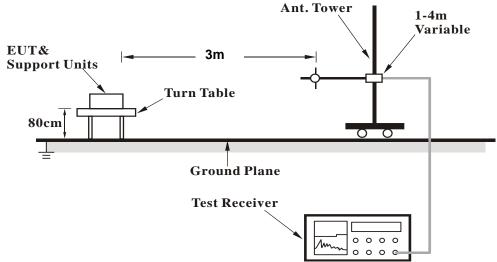
4.1.5	Deviation f	rom Test	Standard

No deviation.

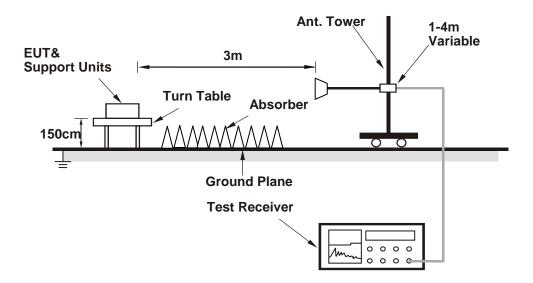


#### 4.1.6 Test Set Up

## <Frequency Range below 1 GHz>



### <Frequency Range above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.1.7 EUT Operating Conditions

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.



#### 4.1.8 Test Results

### **ABOVE 1 GHz DATA:**

#### 802.11a

<b>EUT Test Condition</b>		Measurement Detail		
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz	
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)	
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin	

		Ar	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5116	38.18	37.98	54	-15.82	31.29	6.19	37.28	195	61	Average
5116	60.5	60.3	74	-13.5	31.29	6.19	37.28	195	61	Peak
5180	80.38	80.15			31.35	6.22	37.34	195	61	Average
5180	88.74	88.51			31.35	6.22	37.34	195	61	Peak
5432	38.76	38.02	54	-15.24	31.55	6.32	37.13	195	61	Average
5432	61.14	60.4	74	-12.86	31.55	6.32	37.13	195	61	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5022	38.69	38.55	54	-15.31	31.23	6.15	37.24	100	0	Average
5022	61	60.86	74	-13	31.23	6.15	37.24	100	0	Peak
5180	82.22	81.99			31.35	6.22	37.34	100	0	Average
5180	92.51	92.28			31.35	6.22	37.34	100	0	Peak
5438	38.54	37.78	54	-15.46	31.55	6.34	37.13	100	0	Average
5438	60.95	60.19	74	-13.05	31.55	6.34	37.13	100	0	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5180 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail		
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz	
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)	
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin	

	Antenna Polarity & Test Distance: Horizontal at 3 m									
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5014	37.86	37.73	54	-16.14	31.21	6.15	37.23	130	74	Average
5014	60.29	60.16	74	-13.71	31.21	6.15	37.23	130	74	Peak
5220	78.5	78.25			31.37	6.24	37.36	130	74	Average
5220	88.43	88.18			31.37	6.24	37.36	130	74	Peak
5440	38.23	37.47	54	-15.77	31.55	6.34	37.13	130	74	Average
5440	59.92	59.16	74	-14.08	31.55	6.34	37.13	130	74	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5066	37.89	37.72	54	-16.11	31.25	6.17	37.25	100	4	Average
5066	60.57	60.4	74	-13.43	31.25	6.17	37.25	100	4	Peak
5220	82.7	82.45			31.37	6.24	37.36	100	4	Average
5220	92.91	92.66			31.37	6.24	37.36	100	4	Peak
5406	38.13	37.47	54	-15.87	31.52	6.32	37.18	100	4	Average
5406	60.59	59.93	74	-13.41	31.52	6.32	37.18	100	4	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5220 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail		
Channel	Channel 48	Frequency Range	1 GHz ~ 40 GHz	
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)	
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin	

		An	itenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5052	37.99	37.83	54	-16.01	31.24	6.17	37.25	102	74	Average
5052	60.43	60.27	74	-13.57	31.24	6.17	37.25	102	74	Peak
5240	78.94	78.62			31.39	6.25	37.32	102	74	Average
5240	88.08	87.76			31.39	6.25	37.32	102	74	Peak
5448	38.22	37.45	54	-15.78	31.56	6.34	37.13	102	74	Average
5448	60.45	59.68	74	-13.55	31.56	6.34	37.13	102	74	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5032	38.12	37.98	54	-15.88	31.23	6.15	37.24	100	8	Average
5032	59.56	59.42	74	-14.44	31.23	6.15	37.24	100	8	Peak
5240	82.68	82.36			31.39	6.25	37.32	100	8	Average
5240	91.53	91.21			31.39	6.25	37.32	100	8	Peak
5392	38.15	37.51	54	-15.85	31.51	6.31	37.18	100	8	Average
5392	60.91	60.27	74	-13.09	31.51	6.31	37.18	100	8	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5240 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 52	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5114	38.12	37.92	54	-15.88	31.29	6.19	37.28	193	28	Average
5114	59.61	59.41	74	-14.39	31.29	6.19	37.28	193	28	Peak
5260	78.86	78.47			31.41	6.25	37.27	193	28	Average
5260	88.27	87.88			31.41	6.25	37.27	193	28	Peak
5458	38.22	37.4	54	-15.78	31.56	6.34	37.08	193	28	Average
5458	60.39	59.57	74	-13.61	31.56	6.34	37.08	193	28	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5132	37.95	37.74	54	-16.05	31.31	6.2	37.3	100	356	Average
5132	59.54	59.33	74	-14.46	31.31	6.2	37.3	100	356	Peak
5260	82.26	81.87			31.41	6.25	37.27	100	356	Average
5260	92.39	92			31.41	6.25	37.27	100	356	Peak
5448	38.15	37.38	54	-15.85	31.56	6.34	37.13	100	356	Average
5448	60.39	59.62	74	-13.61	31.56	6.34	37.13	100	356	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5260 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 60	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5116	37.92	37.72	54	-16.08	31.29	6.19	37.28	191	28	Average
5116	60.59	60.39	74	-13.41	31.29	6.19	37.28	191	28	Peak
5300	79.95	79.43			31.44	6.27	37.19	191	28	Average
5300	89.54	89.02			31.44	6.27	37.19	191	28	Peak
5390	38.15	37.51	54	-15.85	31.51	6.31	37.18	191	28	Average
5390	59.69	59.05	74	-14.31	31.51	6.31	37.18	191	28	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5016	38.01	37.88	54	-15.99	31.21	6.15	37.23	100	358	Average
5016	59.54	59.41	74	-14.46	31.21	6.15	37.23	100	358	Peak
5300	84.45	83.93			31.44	6.27	37.19	100	358	Average
5300	93.76	93.24			31.44	6.27	37.19	100	358	Peak
5430	38.17	37.43	54	-15.83	31.55	6.32	37.13	100	358	Average
5430	59.51	58.77	74	-14.49	31.55	6.32	37.13	100	358	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5300 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 64	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	itenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5030	37.79	37.65	54	-16.21	31.23	6.15	37.24	176	28	Average
5030	60.55	60.41	74	-13.45	31.23	6.15	37.24	176	28	Peak
5320	79.66	79.11			31.45	6.29	37.19	176	28	Average
5320	88.96	88.41			31.45	6.29	37.19	176	28	Peak
5378	38.23	37.59	54	-15.77	31.51	6.31	37.18	176	28	Average
5378	60.92	60.28	74	-13.08	31.51	6.31	37.18	176	28	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5044	37.78	37.64	54	-16.22	31.24	6.15	37.25	100	358	Average
5044	59.76	59.62	74	-14.24	31.24	6.15	37.25	100	358	Peak
5320	84.26	83.71			31.45	6.29	37.19	100	358	Average
5320	94.09	93.54			31.45	6.29	37.19	100	358	Peak
5426	38.4	37.68	54	-15.6	31.53	6.32	37.13	100	358	Average
0.20										

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5320 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 100	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & T	est Distar	ce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5424	38.41	37.74	54	-15.59	31.53	6.32	37.18	126	52	Average
5424	60.82	60.15	74	-13.18	31.53	6.32	37.18	126	52	Peak
5470	59.07	58.24	68.2	-9.13	31.57	6.34	37.08	126	52	Peak
5500	81.85	80.92			31.6	6.36	37.03	126	52	Average
5500	91.7	90.77			31.6	6.36	37.03	126	52	Peak
5725	60.08	58.8	68.2	-8.12	31.96	6.75	37.43	126	52	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5410	38.74	38.08	54	-15.26	31.52	6.32	37.18	122	6	Average
5410	61.75	61.09	74	-12.25	31.52	6.32	37.18	122	6	Peak
5470	60.69	59.86	68.2	-7.51	31.57	6.34	37.08	122	6	Peak
5500	86.92	85.99			31.6	6.36	37.03	122	6	Average
5500	97.02	96.09			31.6	6.36	37.03	122	6	Peak
5725	61.14	59.86	68.2	-7.06	31.96	6.75	37.43	122	6	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5500 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 116	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5434	38.08	37.34	54	-15.92	31.55	6.32	37.13	124	51	Average
5434	61.45	60.71	74	-12.55	31.55	6.32	37.13	124	51	Peak
5470	59.87	59.04	68.2	-8.33	31.57	6.34	37.08	124	51	Peak
5580	81.59	80.55			31.71	6.49	37.16	124	51	Average
5580	91.72	90.68			31.71	6.49	37.16	124	51	Peak
5725	60.48	59.2	68.2	-7.72	31.96	6.75	37.43	124	51	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 i	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5424	38.19	37.52	54	-15.81	31.53	6.32	37.18	134	17	Average
5424	61.49	60.82	74	-12.51	31.53	6.32	37.18	134	17	Peak
5470	60.05	59.22	68.2	-8.15	31.57	6.34	37.08	134	17	Peak
5580	86.88	85.84			31.71	6.49	37.16	134	17	Average
5580	97.23	96.19			31.71	6.49	37.16	134	17	Peak
5725	60.89	59.61	68.2	-7.31	31.96	6.75	37.43	134	17	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5580 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 140	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5392	38.38	37.74	54	-15.62	31.51	6.31	37.18	100	20	Average
5392	60.87	60.23	74	-13.13	31.51	6.31	37.18	100	20	Peak
5470	59.13	58.3	68.2	-9.07	31.57	6.34	37.08	100	20	Peak
5700	82.22	81.03			31.9	6.69	37.4	100	20	Average
5700	91.35	90.16			31.9	6.69	37.4	100	20	Peak
5725	60.39	59.11	68.2	-7.81	31.96	6.75	37.43	100	20	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	38.38	37.56	54	-15.62	31.56	6.34	37.08	118	12	Average
5460	61.75	60.93	74	-12.25	31.56	6.34	37.08	118	12	Peak
5470	60	59.17	68.2	-8.2	31.57	6.34	37.08	118	12	Peak
5700	87.38	86.19			31.9	6.69	37.4	118	12	Average
5700	98.09	96.9			31.9	6.69	37.4	118	12	Peak
5725	61.03	59.75	68.2	-7.17	31.96	6.75	37.43	118	12	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5700 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.97	58.78	68.2	-8.23	31.93	6.69	37.43	100	52	Peak
*5725	60.43	59.15	78.2	-17.77	31.96	6.75	37.43	100	52	Peak
5745	86.28	85.01			31.99	6.75	37.47	100	52	Average
5745	95.95	94.68			31.99	6.75	37.47	100	52	Peak
*5850	59.72	58.2	78.2	-18.48	32.15	6.88	37.51	100	52	Peak
*5861	59.98	58.35	68.2	-8.22	32.18	6.95	37.5	100	52	Peak
		Α	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	58.04	56.85	68.2	-10.16	31.93	6.69	37.43	187	171	Peak
*5725	58.35	57.07	78.2	-19.85	31.96	6.75	37.43	187	171	Peak
5745	82.45	81.18			31.99	6.75	37.47	187	171	Average
5745	92.32	91.05			31.99	6.75	37.47	187	171	Peak
*5850	59.99	58.47	78.2	-18.21	32.15	6.88	37.51	187	171	Peak
*5861	58.14	56.51	68.2	-10.06	32.18	6.95	37.5	187	171	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5745 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 157	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	itenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.38	58.19	68.2	-8.82	31.93	6.69	37.43	100	51	Peak
*5725	60.01	58.73	78.2	-18.19	31.96	6.75	37.43	100	51	Peak
5785	86.09	84.77			32.04	6.82	37.54	100	51	Average
5785	95.3	93.98			32.04	6.82	37.54	100	51	Peak
*5850	59.65	58.13	78.2	-18.55	32.15	6.88	37.51	100	51	Peak
*5861	59.94	58.31	68.2	-8.26	32.18	6.95	37.5	100	51	Peak
		A	Intenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	58.77	57.58	68.2	-9.43	31.93	6.69	37.43	187	170	Peak
*5725	59.28	58	78.2	-18.92	31.96	6.75	37.43	187	170	Peak
5785	81.85	80.53			32.04	6.82	37.54	187	170	Average
5785	91.25	89.93			32.04	6.82	37.54	187	170	Peak
*5850	60.19	58.67	78.2	-18.01	32.15	6.88	37.51	187	170	Peak
*5861	62.37	60.74	68.2	-5.83	32.18	6.95	37.5	187	170	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5785 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 161	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.66	58.47	68.2	-8.54	31.93	6.69	37.43	118	50	Peak
*5725	60.31	59.03	78.2	-17.89	31.96	6.75	37.43	118	50	Peak
5805	87.15	85.77			32.1	6.82	37.54	118	50	Average
5805	97.23	95.85			32.1	6.82	37.54	118	50	Peak
*5850	61.36	59.84	78.2	-16.84	32.15	6.88	37.51	118	50	Peak
*5861	60.52	58.89	68.2	-7.68	32.18	6.95	37.5	118	50	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	61.64	60.45	68.2	-6.56	31.93	6.69	37.43	200	168	Peak
*5725	60.89	59.61	78.2	-17.31	31.96	6.75	37.43	200	168	Peak
5805	81.25	79.87			32.1	6.82	37.54	200	168	Average
5805	90.66	89.28			32.1	6.82	37.54	200	168	Peak
*5850	61.19	59.67	78.2	-17.01	32.15	6.88	37.51	200	168	Peak
*5861	61.21	59.58	68.2	-6.99	32.18	6.95	37.5	200	168	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5805 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



# 802.11n (HT20)

<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	ce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146	38.05	37.85	54	-15.95	31.32	6.2	37.32	103	52	Average
5146	60.56	60.36	74	-13.44	31.32	6.2	37.32	103	52	Peak
5180	78.89	78.66			31.35	6.22	37.34	103	52	Average
5180	88.17	87.94			31.35	6.22	37.34	103	52	Peak
5436	38.2	37.46	54	-15.8	31.55	6.32	37.13	103	52	Average
5436	61.69	60.95	74	-12.31	31.55	6.32	37.13	103	52	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5128	38.42	38.21	54	-15.58	31.31	6.2	37.3	108	4	Average
5128	59.54	59.33	74	-14.46	31.31	6.2	37.3	108	4	Peak
5180	83.47	83.24			31.35	6.22	37.34	108	4	Average
5180	92.25	92.02			31.35	6.22	37.34	108	4	Peak
5420	38.27	37.6	54	-15.73	31.53	6.32	37.18	108	4	Average
5420	60.87	60.2	74	-13.13	31.53	6.32	37.18	108	4	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5180 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	itenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5088	37.99	37.8	54	-16.01	31.27	6.19	37.27	101	52	Average
5088	60.34	60.15	74	-13.66	31.27	6.19	37.27	101	52	Peak
5220	78.38	78.13			31.37	6.24	37.36	101	52	Average
5220	87.27	87.02			31.37	6.24	37.36	101	52	Peak
5458	38.18	37.36	54	-15.82	31.56	6.34	37.08	101	52	Average
5458	60.29	59.47	74	-13.71	31.56	6.34	37.08	101	52	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5026	37.83	37.69	54	-16.17	31.23	6.15	37.24	114	4	Average
5026	59.85	59.71	74	-14.15	31.23	6.15	37.24	114	4	Peak
5220	83.34	83.09			31.37	6.24	37.36	114	4	Average
5220	92.89	92.64			31.37	6.24	37.36	114	4	Peak
5392	38.04	37.4	54	-15.96	31.51	6.31	37.18	114	4	Average
5392	60.65	60.01	74	-13.35	31.51	6.31	37.18	114	4	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5220 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 48	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	itenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5058	37.82	37.65	54	-16.18	31.25	6.17	37.25	124	33	Average
5058	59.91	59.74	74	-14.09	31.25	6.17	37.25	124	33	Peak
5240	77.92	77.6			31.39	6.25	37.32	124	33	Average
5240	87.72	87.4			31.39	6.25	37.32	124	33	Peak
5458	38.15	37.33	54	-15.85	31.56	6.34	37.08	124	33	Average
5458	60.69	59.87	74	-13.31	31.56	6.34	37.08	124	33	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5130	38.03	37.82	54	-15.97	31.31	6.2	37.3	114	5	Average
5130	59.58	59.37	74	-14.42	31.31	6.2	37.3	114	5	Peak
5240	83.29	82.97			31.39	6.25	37.32	114	5	Average
5240	92.63	92.31			31.39	6.25	37.32	114	5	Peak
5410	38.13	37.47	54	-15.87	31.52	6.32	37.18	114	5	Average

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5240 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 52	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5052	37.87	37.71	54	-16.13	31.24	6.17	37.25	165	29	Average
5052	60.17	60.01	74	-13.83	31.24	6.17	37.25	165	29	Peak
5260	77.89	77.5			31.41	6.25	37.27	165	29	Average
5260	87.3	86.91			31.41	6.25	37.27	165	29	Peak
5428	38.06	37.34	54	-15.94	31.53	6.32	37.13	165	29	Average
5428	59.6	58.88	74	-14.4	31.53	6.32	37.13	165	29	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5056	37.83	37.66	54	-16.17	31.25	6.17	37.25	128	3	Average
5056	59.64	59.47	74	-14.36	31.25	6.17	37.25	128	3	Peak
5260	83.9	83.51			31.41	6.25	37.27	128	3	Average
5260	93.01	92.62			31.41	6.25	37.27	128	3	Peak
5372	38.07	37.45	54	-15.93	31.49	6.31	37.18	128	3	Average
5372	60.73	60.11	74	-13.27	31.49	6.31	37.18	128	3	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5260 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 60	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5016	38.08	37.95	54	-15.92	31.21	6.15	37.23	165	29	Average
5016	60.42	60.29	74	-13.58	31.21	6.15	37.23	165	29	Peak
5300	79.42	78.9			31.44	6.27	37.19	165	29	Average
5300	88.72	88.2			31.44	6.27	37.19	165	29	Peak
5412	38.27	37.6	54	-15.73	31.53	6.32	37.18	165	29	Average
5412	62.33	61.66	74	-11.67	31.53	6.32	37.18	165	29	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5092	38.07	37.87	54	-15.93	31.28	6.19	37.27	151	1	Average
5092	59.97	59.77	74	-14.03	31.28	6.19	37.27	151	1	Peak
5300	84.74	84.22			31.44	6.27	37.19	151	1	Average
5300	93.85	93.33			31.44	6.27	37.19	151	1	Peak
5350	38.1	37.51	54	-15.9	31.48	6.29	37.18	151	1	Average
5350	59.83	59.24	74	-14.17	31.48	6.29	37.18	151	1	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5300 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 64	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5022	37.89	37.75	54	-16.11	31.23	6.15	37.24	172	29	Average
5022	60.25	60.11	74	-13.75	31.23	6.15	37.24	172	29	Peak
5320	79.56	79.01			31.45	6.29	37.19	172	29	Average
5320	89.06	88.51			31.45	6.29	37.19	172	29	Peak
5436	38.28	37.54	54	-15.72	31.55	6.32	37.13	172	29	Average
5436	61.05	60.31	74	-12.95	31.55	6.32	37.13	172	29	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140	38.02	37.8	54	-15.98	31.32	6.2	37.3	150	2	Average
5140	60.01	59.79	74	-13.99	31.32	6.2	37.3	150	2	Peak
5320	84.88	84.33			31.45	6.29	37.19	150	2	Average
5320	94.51	93.96			31.45	6.29	37.19	150	2	Peak
5378	38.32	37.68	54	-15.68	31.51	6.31	37.18	150	2	Average
5378	61.27	60.63	74	-12.73	31.51	6.31	37.18	150	2	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5320 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 100	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5402	38.47	37.81	54	-15.53	31.52	6.32	37.18	126	51	Average
5402	60.73	60.07	74	-13.27	31.52	6.32	37.18	126	51	Peak
5470	59.98	59.15	68.2	-8.22	31.57	6.34	37.08	126	51	Peak
5500	82.77	81.84			31.6	6.36	37.03	126	51	Average
5500	92.54	91.61			31.6	6.36	37.03	126	51	Peak
5725	60.04	58.76	68.2	-8.16	31.96	6.75	37.43	126	51	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458	39.2	38.38	54	-14.8	31.56	6.34	37.08	123	21	Average
5458	61.39	60.57	74	-12.61	31.56	6.34	37.08	123	21	Peak
5470	59.93	59.1	68.2	-8.27	31.57	6.34	37.08	123	21	Peak
5500	87.29	86.36			31.6	6.36	37.03	123	21	Average
5500	96.99	96.06			31.6	6.36	37.03	123	21	Peak
5725	59.58	58.3	68.2	-8.62	31.96	6.75	37.43	123	21	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5500 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 116	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5418	38.21	37.54	54	-15.79	31.53	6.32	37.18	149	22	Average
5418	60.4	59.73	74	-13.6	31.53	6.32	37.18	149	22	Peak
5470	59.54	58.71	68.2	-8.66	31.57	6.34	37.08	149	22	Peak
5580	83.17	82.13			31.71	6.49	37.16	149	22	Average
5580	92.88	91.84			31.71	6.49	37.16	149	22	Peak
5725	59.36	58.08	68.2	-8.84	31.96	6.75	37.43	149	22	Peak
		A	Intenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5434	38.13	37.39	54	-15.87	31.55	6.32	37.13	135	1	Average
5434	59.82	59.08	74	-14.18	31.55	6.32	37.13	135	1	Peak
5470	58.37	57.54	68.2	-9.83	31.57	6.34	37.08	135	1	Peak
5580	88.1	87.06	_	_	31.71	6.49	37.16	135	1	Average
5580	98.98	97.94			31.71	6.49	37.16	135	1	Peak
5725	59.03	57.75	68.2	-9.17	31.96	6.75	37.43	135	1	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5580 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 140	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

	Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
5454	38.15	37.33	54	-15.85	31.56	6.34	37.08	102	96	Average	
5454	59.93	59.11	74	-14.07	31.56	6.34	37.08	102	96	Peak	
5470	58.07	57.24	68.2	-10.13	31.57	6.34	37.08	102	96	Peak	
5700	83.53	82.34			31.9	6.69	37.4	102	96	Average	
5700	93.03	91.84			31.9	6.69	37.4	102	96	Peak	
5725	58.85	57.57	68.2	-9.35	31.96	6.75	37.43	102	96	Peak	
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n			
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
5394	38.21	37.57	54	-15.79	31.51	6.31	37.18	111	0	Average	
5394	60.75	60.11	74	-13.25	31.51	6.31	37.18	111	0	Peak	
5470	58.26	57.43	68.2	-9.94	31.57	6.34	37.08	111	0	Peak	
5700	87.58	86.39			31.9	6.69	37.4	111	0	Average	
5700	96.92	95.73			31.9	6.69	37.4	111	0	Peak	
5725	58.77	57.49	68.2	-9.43	31.96	6.75	37.43	111	0	Peak	

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5700 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	itenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	60.25	59.06	68.2	-7.95	31.93	6.69	37.43	100	53	Peak
*5725	59.26	57.98	78.2	-18.94	31.96	6.75	37.43	100	53	Peak
5745	86.03	84.76			31.99	6.75	37.47	100	53	Average
5745	95.61	94.34			31.99	6.75	37.47	100	53	Peak
*5850	59.43	57.91	78.2	-18.77	32.15	6.88	37.51	100	53	Peak
*5861	61.07	59.44	68.2	-7.13	32.18	6.95	37.5	100	53	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	61.38	60.19	68.2	-6.82	31.93	6.69	37.43	189	171	Peak
*5725	59.88	58.6	78.2	-18.32	31.96	6.75	37.43	189	171	Peak
5745	82.37	81.1			31.99	6.75	37.47	189	171	Average
5745	92.04	90.77			31.99	6.75	37.47	189	171	Peak
*5850	60.59	59.07	78.2	-17.61	32.15	6.88	37.51	189	171	Peak
*5861	60.3	58.67	68.2	-7.9	32.18	6.95	37.5	189	171	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5745 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 157	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

	Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
*5714	60.13	58.94	68.2	-8.07	31.93	6.69	37.43	100	51	Peak	
*5725	61.65	60.37	78.2	-16.55	31.96	6.75	37.43	100	51	Peak	
5785	86.54	85.22			32.04	6.82	37.54	100	51	Average	
5785	97.2	95.88			32.04	6.82	37.54	100	51	Peak	
*5850	59.4	57.88	78.2	-18.8	32.15	6.88	37.51	100	51	Peak	
*5861	60.95	59.32	68.2	-7.25	32.18	6.95	37.5	100	51	Peak	
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n			
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark	
*5714	59.16	57.97	68.2	-9.04	31.93	6.69	37.43	180	176	Peak	
*5725	60.91	59.63	78.2	-17.29	31.96	6.75	37.43	180	176	Peak	
5785	81.61	80.29			32.04	6.82	37.54	180	176	Average	
5785	90.93	89.61			32.04	6.82	37.54	180	176	Peak	
*5850	58.85	57.33	78.2	-19.35	32.15	6.88	37.51	180	176	Peak	
*5861	60.97	59.34	68.2	-7.23	32.18	6.95	37.5	180	176	Peak	

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5785 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 161	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.29	58.1	68.2	-8.91	31.93	6.69	37.43	111	51	Peak
*5725	59.32	58.04	78.2	-18.88	31.96	6.75	37.43	111	51	Peak
5805	86.73	85.35			32.1	6.82	37.54	111	51	Average
5805	96	94.62			32.1	6.82	37.54	111	51	Peak
*5850	60.36	58.84	78.2	-17.84	32.15	6.88	37.51	111	51	Peak
*5861	59.96	58.33	68.2	-8.24	32.18	6.95	37.5	111	51	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	60.5	59.31	68.2	-7.7	31.93	6.69	37.43	194	175	Peak
*5725	60.25	58.97	78.2	-17.95	31.96	6.75	37.43	194	175	Peak
5805	80.76	79.38			32.1	6.82	37.54	194	175	Average
5805	90.74	89.36			32.1	6.82	37.54	194	175	Peak
*5850	61.8	60.28	78.2	-16.4	32.15	6.88	37.51	194	175	Peak
*5861	61.25	59.62	68.2	-6.95	32.18	6.95	37.5	194	175	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5805 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



## 802.11n (HT40)

<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 38	Frequency Range	1 GHz ~ 40 GHz			
Input Power	put Power 120 Vac, 60 Hz		Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

	Antenna Polarity & Test Distance: Horizontal at 3 m									
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5112	37.99	37.79	54	-16.01	31.29	6.19	37.28	159	36	Average
5112	59.2	59	74	-14.8	31.29	6.19	37.28	159	36	Peak
5190	76.1	75.87			31.35	6.22	37.34	159	36	Average
5190	86.92	86.69			31.35	6.22	37.34	159	36	Peak
5418	38.24	37.57	54	-15.76	31.53	6.32	37.18	159	36	Average
5418	60.73	60.06	74	-13.27	31.53	6.32	37.18	159	36	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5012	38.14	38.03	54	-15.86	31.21	6.13	37.23	100	9	Average
5012	60.68	60.57	74	-13.32	31.21	6.13	37.23	100	9	Peak
5190	81.26	81.03			31.35	6.22	37.34	100	9	Average
5190	91	90.77			31.35	6.22	37.34	100	9	Peak
5438	38.52	37.76	54	-15.48	31.55	6.34	37.13	100	9	Average
5438	60.34	59.58	74	-13.66	31.55	6.34	37.13	100	9	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5190 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 46	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	itenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5020	38.24	38.12	54	-15.76	31.21	6.15	37.24	114	34	Average
5020	60.8	60.68	74	-13.2	31.21	6.15	37.24	114	34	Peak
5230	76.58	76.27			31.39	6.24	37.32	114	34	Average
5230	86.51	86.2			31.39	6.24	37.32	114	34	Peak
5372	38.59	37.97	54	-15.41	31.49	6.31	37.18	114	34	Average
5372	61.04	60.42	74	-12.96	31.49	6.31	37.18	114	34	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5124	38.32	38.12	54	-15.68	31.31	6.19	37.3	113	5	Average
5124	59.82	59.62	74	-14.18	31.31	6.19	37.3	113	5	Peak
5230	81.48	81.17			31.39	6.24	37.32	113	5	Average
5230	91.26	90.95			31.39	6.24	37.32	113	5	Peak
5450	38.72	37.9	54	-15.28	31.56	6.34	37.08	113	5	Average
5450	60.65	59.83	74	-13.35	31.56	6.34	37.08	113	5	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5230 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 54	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5082	38.34	38.17	54	-15.66	31.27	6.17	37.27	180	28	Average
5082	59.63	59.46	74	-14.37	31.27	6.17	37.27	180	28	Peak
5270	77.75	77.36			31.41	6.25	37.27	180	28	Average
5270	86.84	86.45			31.41	6.25	37.27	180	28	Peak
5446	38.64	37.87	54	-15.36	31.56	6.34	37.13	180	28	Average
5446	60.22	59.45	74	-13.78	31.56	6.34	37.13	180	28	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138	38.37	38.16	54	-15.63	31.31	6.2	37.3	143	2	Average
5138	60.57	60.36	74	-13.43	31.31	6.2	37.3	143	2	Peak
5270	83	82.61			31.41	6.25	37.27	143	2	Average
5270	91.64	91.25			31.41	6.25	37.27	143	2	Peak
5434	38.55	37.81	54	-15.45	31.55	6.32	37.13	143	2	Average
5434	61.06	60.32	74	-12.94	31.55	6.32	37.13	143	2	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5270 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 62	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5022	38.61	38.47	54	-15.39	31.23	6.15	37.24	189	27	Average
5022	60.24	60.1	74	-13.76	31.23	6.15	37.24	189	27	Peak
5310	78.08	77.55			31.45	6.27	37.19	189	27	Average
5310	88.92	88.39			31.45	6.27	37.19	189	27	Peak
5444	38.9	38.14	54	-15.1	31.55	6.34	37.13	189	27	Average
5444	61.58	60.82	74	-12.42	31.55	6.34	37.13	189	27	Peak
		A	Intenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5104	38.76	38.57	54	-15.24	31.28	6.19	37.28	142	0	Average
5104	61.03	60.84	74	-12.97	31.28	6.19	37.28	142	0	Peak
5310	83.24	82.71			31.45	6.27	37.19	142	0	Average
5310	93.32	92.79			31.45	6.27	37.19	142	0	Peak
5454	38.7	37.88	54	-15.3	31.56	6.34	37.08	142	0	Average
5454	60.96	60.14	74	-13.04	31.56	6.34	37.08	142	0	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5310 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 102	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446	38.44	37.67	54	-15.56	31.56	6.34	37.13	135	46	Average
5446	60.69	59.92	74	-13.31	31.56	6.34	37.13	135	46	Peak
5470	58.56	57.73	68.2	-9.64	31.57	6.34	37.08	135	46	Peak
5510	80.28	79.38			31.6	6.36	37.06	135	46	Average
5510	90.52	89.62			31.6	6.36	37.06	135	46	Peak
5725	60.81	59.53	68.2	-7.39	31.96	6.75	37.43	135	46	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5444	38.74	37.98	54	-15.26	31.55	6.34	37.13	136	12	Average
5444	60.95	60.19	74	-13.05	31.55	6.34	37.13	136	12	Peak
5470	60.02	59.19	68.2	-8.18	31.57	6.34	37.08	136	12	Peak
5510	84.47	83.57			31.6	6.36	37.06	136	12	Average
5510	94.44	93.54			31.6	6.36	37.06	136	12	Peak
5725	60.55	59.27	68.2	-7.65	31.96	6.75	37.43	136	12	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5510 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 110	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5428	38.89	38.17	54	-15.11	31.53	6.32	37.13	135	48	Average
5428	61.29	60.57	74	-12.71	31.53	6.32	37.13	135	48	Peak
5470	59.51	58.68	68.2	-8.69	31.57	6.34	37.08	135	48	Peak
5550	81.86	80.85			31.68	6.42	37.09	135	48	Average
5550	91.63	90.62			31.68	6.42	37.09	135	48	Peak
5725	60.07	58.79	68.2	-8.13	31.96	6.75	37.43	135	48	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450	38.55	37.73	54	-15.45	31.56	6.34	37.08	136	1	Average
5450	61.44	60.62	74	-12.56	31.56	6.34	37.08	136	1	Peak
5470	60.58	59.75	68.2	-7.62	31.57	6.34	37.08	136	1	Peak
5550	85.89	84.88			31.68	6.42	37.09	136	1	Average
5550	95.99	94.98			31.68	6.42	37.09	136	1	Peak
5725	61.12	59.84	68.2	-7.08	31.96	6.75	37.43	136	1	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5550 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 134	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5366	38.7	38.08	54	-15.3	31.49	6.31	37.18	136	46	Average
5366	61.18	60.56	74	-12.82	31.49	6.31	37.18	136	46	Peak
5470	60.02	59.19	68.2	-8.18	31.57	6.34	37.08	136	46	Peak
5670	82.63	81.47			31.88	6.62	37.34	136	46	Average
5670	92.48	91.32			31.88	6.62	37.34	136	46	Peak
5725	60.59	59.31	68.2	-7.61	31.96	6.75	37.43	136	46	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446	38.61	37.84	54	-15.39	31.56	6.34	37.13	126	7	Average
5446	60.61	59.84	74	-13.39	31.56	6.34	37.13	126	7	Peak
5470	58.89	58.06	68.2	-9.31	31.57	6.34	37.08	126	7	Peak
5670	86.25	85.09			31.88	6.62	37.34	126	7	Average
5670	96.06	94.9			31.88	6.62	37.34	126	7	Peak
5725	60.82	59.54	68.2	-7.38	31.96	6.75	37.43	126	7	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5670 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 151	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	60.81	59.62	68.2	-7.39	31.93	6.69	37.43	100	43	Peak
*5725	61.21	59.93	78.2	-16.99	31.96	6.75	37.43	100	43	Peak
5755	84.74	83.45			32.01	6.75	37.47	100	43	Average
5755	94.15	92.86			32.01	6.75	37.47	100	43	Peak
*5850	60.06	58.54	78.2	-18.14	32.15	6.88	37.51	100	43	Peak
*5861	60.16	58.53	68.2	-8.04	32.18	6.95	37.5	100	43	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	60.06	58.87	68.2	-8.14	31.93	6.69	37.43	152	179	Peak
*5725	59.7	58.42	78.2	-18.5	31.96	6.75	37.43	152	179	Peak
5755	81.02	79.73			32.01	6.75	37.47	152	179	Average
5755	90.4	89.11			32.01	6.75	37.47	152	179	Peak
*5850	60.44	58.92	78.2	-17.76	32.15	6.88	37.51	152	179	Peak
*5861	59.23	57.6	68.2	-8.97	32.18	6.95	37.5	152	179	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5755 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 159	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	58.73	57.54	68.2	-9.47	31.93	6.69	37.43	113	40	Peak
*5725	59.56	58.28	78.2	-18.64	31.96	6.75	37.43	113	40	Peak
5795	84.75	83.4			32.07	6.82	37.54	113	40	Average
5795	94.34	92.99			32.07	6.82	37.54	113	40	Peak
*5850	61.37	59.85	78.2	-16.83	32.15	6.88	37.51	113	40	Peak
*5861	60.88	59.25	68.2	-7.32	32.18	6.95	37.5	113	40	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.88	58.69	68.2	-8.32	31.93	6.69	37.43	139	177	Peak
*5725	59.05	57.77	78.2	-19.15	31.96	6.75	37.43	139	177	Peak
5795	81.51	80.16			32.07	6.82	37.54	139	177	Average
5795	90.68	89.33			32.07	6.82	37.54	139	177	Peak
*5850	59.31	57.79	78.2	-18.89	32.15	6.88	37.51	139	177	Peak
*5861	59.91	58.28	68.2	-8.29	32.18	6.95	37.5	139	177	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5795 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



## 802.11ac (VHT80)

<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 42	Frequency Range	1 GHz ~ 40 GHz			
Input Power	t Power 120 Vac, 60 Hz		Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5136	38.68	38.47	54	-15.32	31.31	6.2	37.3	116	51	Average
5136	59.44	59.23	74	-14.56	31.31	6.2	37.3	116	51	Peak
5210	74.6	74.35			31.37	6.24	37.36	116	51	Average
5210	84.88	84.63			31.37	6.24	37.36	116	51	Peak
5414	38.63	37.96	54	-15.37	31.53	6.32	37.18	116	51	Average
5414	60.31	59.64	74	-13.69	31.53	6.32	37.18	116	51	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140	38.43	38.21	54	-15.57	31.32	6.2	37.3	100	332	Average
5140	60.98	60.76	74	-13.02	31.32	6.2	37.3	100	332	Peak
5210	78.93	78.68			31.37	6.24	37.36	100	332	Average
5210	88.65	88.4			31.37	6.24	37.36	100	332	Peak
5364	38.72	38.1	54	-15.28	31.49	6.31	37.18	100	332	Average
5364	61.03	60.41	74	-12.97	31.49	6.31	37.18	100	332	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5210 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 58	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5120	38.98	38.8	54	-15.02	31.29	6.19	37.3	191	29	Average
5120	60.3	60.12	74	-13.7	31.29	6.19	37.3	191	29	Peak
5290	76.09	75.62			31.43	6.27	37.23	191	29	Average
5290	85.13	84.66			31.43	6.27	37.23	191	29	Peak
5420	39.19	38.52	54	-14.81	31.53	6.32	37.18	191	29	Average
5420	61.01	60.34	74	-12.99	31.53	6.32	37.18	191	29	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5078	39.08	38.91	54	-14.92	31.27	6.17	37.27	175	0	Average
5078	61.38	61.21	74	-12.62	31.27	6.17	37.27	175	0	Peak
5290	80.84	80.37			31.43	6.27	37.23	175	0	Average
5290	90.41	89.94			31.43	6.27	37.23	175	0	Peak
5442	40.1	39.34	54	-13.9	31.55	6.34	37.13	175	0	Average
5442	61.51	60.75	74	-12.49	31.55	6.34	37.13	175	0	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5290 MHz: Fundamental frequency.



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 106	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5396	40.71	40.06	54	-13.29	31.52	6.31	37.18	116	43	Average
5396	60.98	60.33	74	-13.02	31.52	6.31	37.18	116	43	Peak
5470	59.12	58.29	68.2	-9.08	31.57	6.34	37.08	116	43	Peak
5530	79.52	78.56			31.63	6.42	37.09	116	43	Average
5530	89.65	88.69			31.63	6.42	37.09	116	43	Peak
5725	60.5	59.22	68.2	-7.7	31.96	6.75	37.43	116	43	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	40.61	39.79	54	-13.39	31.56	6.34	37.08	136	1	Average
5460	62.26	61.44	74	-11.74	31.56	6.34	37.08	136	1	Peak
5470	60.77	59.94	68.2	-7.43	31.57	6.34	37.08	136	1	Peak
5530	82.93	81.97			31.63	6.42	37.09	136	1	Average
5530	92.6	91.64			31.63	6.42	37.09	136	1	Peak
5725	61.06	59.78	68.2	-7.14	31.96	6.75	37.43	136	1	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5530 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 122	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446	39.09	38.32	54	-14.91	31.56	6.34	37.13	128	44	Average
5446	61.67	60.9	74	-12.33	31.56	6.34	37.13	128	44	Peak
5470	59.31	58.48	68.2	-8.89	31.57	6.34	37.08	128	44	Peak
5610	80.37	79.26			31.77	6.56	37.22	128	44	Average
5610	89.67	88.56			31.77	6.56	37.22	128	44	Peak
5725	60.49	59.21	68.2	-7.71	31.96	6.75	37.43	128	44	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5420	39.17	38.5	54	-14.83	31.53	6.32	37.18	127	6	Average
5420	61.28	60.61	74	-12.72	31.53	6.32	37.18	127	6	Peak
5470	61.43	60.6	68.2	-6.77	31.57	6.34	37.08	127	6	Peak
5610	84.66	83.55			31.77	6.56	37.22	127	6	Average
5610	94.25	93.14			31.77	6.56	37.22	127	6	Peak
5725	60.64	59.36	68.2	-7.56	31.96	6.75	37.43	127	6	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5610 MHz: Fundamental frequency.
- 3. 5470 MHz & 5725 MHz: Out of restricted band



<b>EUT Test Condition</b>		Measurement Detail				
Channel	Channel 155	Frequency Range	1 GHz ~ 40 GHz			
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)			
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin			

		An	tenna Po	larity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	59.19	58	68.2	-9.01	31.93	6.69	37.43	116	41	Peak
*5725	61.64	60.36	78.2	-16.56	31.96	6.75	37.43	116	41	Peak
5775	82.83	81.47			32.04	6.82	37.5	116	41	Average
5775	92.33	90.97			32.04	6.82	37.5	116	41	Peak
*5850	59.57	58.05	78.2	-18.63	32.15	6.88	37.51	116	41	Peak
*5861	60.8	59.17	68.2	-7.4	32.18	6.95	37.5	116	41	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5714	58.77	57.58	68.2	-9.43	31.93	6.69	37.43	138	171	Peak
*5725	59.7	58.42	78.2	-18.5	31.96	6.75	37.43	138	171	Peak
5775	79.51	78.15			32.04	6.82	37.5	138	171	Average
5775	88.95	87.59			32.04	6.82	37.5	138	171	Peak
*5850	58.36	56.84	78.2	-19.84	32.15	6.88	37.51	138	171	Peak
*5861	60.34	58.71	68.2	-7.86	32.18	6.95	37.5	138	171	Peak

- Emission Level = Read Level + Antenna Factor + Cable Loss Preamp Factor Margin value = Emission level – Limit value
- 2. 5775 MHz: Fundamental frequency.
- 3. \*: Out of restricted band



### 9 kHz ~ 30 MHz DATA:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

# 30 MHz ~ 1 GHz WORST-CASE DATA:

# 802.11n (HT20)

<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 36	Frequency Range	30 MHz ~ 1 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	itenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
108.57	25.97	46.82	43.5	-17.53	9.9	1.1	31.85	133	138	Peak
174.53	30.55	49.89	43.5	-12.95	11.28	1.16	31.78	129	130	Peak
195.87	32.1	52.91	43.5	-11.4	9.64	1.28	31.73	104	354	Peak
280.26	30.16	48.03	46	-15.84	12.37	1.58	31.82	124	337	Peak
318.09	30.4	47.24	46	-15.6	13.38	1.68	31.9	118	122	Peak
388.9	30.11	45.19	46	-15.89	15.07	1.88	32.03	138	358	Peak
		Δ	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
52.31	26.82	44.66	40	-13.18	12.76	0.72	31.32	132	278	Peak
103.72	27.88	49.29	43.5	-15.62	9.43	1.07	31.91	116	280	Peak
149.31	25.76	43.56	43.5	-17.74	12.68	1.13	31.61	135	356	Peak
195.87	26.71	47.52	43.5	-16.79	9.64	1.28	31.73	136	1	Peak
309.36	28.17	45.28	46	-17.83	13.17	1.66	31.94	106	326	Peak
396.66	31.31	46.25	46	-14.69	15.26	1.9	32.1	115	195	Peak

### Remarks:



## 802.11n (HT40)

<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 62	Frequency Range	30 MHz ~ 1 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	tenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
104.69	26.91	48.2	43.5	-16.59	9.53	1.08	31.9	135	107	Peak
172.59	30.56	49.69	43.5	-12.94	11.47	1.16	31.76	125	133	Peak
195.87	32.08	52.89	43.5	-11.42	9.64	1.28	31.73	115	130	Peak
279.29	30.18	48.1	46	-15.82	12.34	1.58	31.84	126	148	Peak
298.69	30.59	47.87	46	-15.41	12.91	1.63	31.82	132	191	Peak
396.66	29.88	44.82	46	-16.12	15.26	1.9	32.1	120	181	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
38.73	27.03	44.01	40	-12.97	13.39	0.63	31	115	35	Peak
104.69	28.05	49.34	43.5	-15.45	9.53	1.08	31.9	104	119	Peak
150.28	27.19	44.97	43.5	-16.31	12.71	1.12	31.61	117	79	Peak
193.93	26.89	47.56	43.5	-16.61	9.77	1.27	31.71	109	145	Peak
310.33	27.87	44.96	46	-18.13	13.2	1.66	31.95	140	147	Peak
391.81	31.05	46.08	46	-14.95	15.14	1.89	32.06	134	149	Peak

# Remarks:



## 802.11ac (VHT80)

<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 122	Frequency Range	30 MHz ~ 1 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		Ar	tenna Pol	arity & T	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
104.69	27.94	49.23	43.5	-15.56	9.53	1.08	31.9	109	189	Peak
150.28	27.75	45.53	43.5	-15.75	12.71	1.12	31.61	101	279	Peak
172.59	31.07	50.2	43.5	-12.43	11.47	1.16	31.76	118	126	Peak
277.35	30.25	48.28	46	-15.75	12.28	1.57	31.88	116	272	Peak
310.33	31.01	48.1	46	-14.99	13.2	1.66	31.95	129	336	Peak
391.81	29.94	44.97	46	-16.06	15.14	1.89	32.06	122	220	Peak
		P	Antenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
52.31	26.6	44.44	40	-13.4	12.76	0.72	31.32	134	179	Peak
93.05	27.94	50.38	43.5	-15.56	8.53	0.99	31.96	108	21	Peak
149.31	28.28	46.08	43.5	-15.22	12.68	1.13	31.61	111	257	Peak
197.81	27.01	47.98	43.5	-16.49	9.5	1.28	31.75	107	98	Peak
309.36	27.98	45.09	46	-18.02	13.17	1.66	31.94	104	341	Peak
395.69	30.96	45.91	46	-15.04	15.24	1.9	32.09	126	28	Peak

# Remarks:



## 802.11a

<b>EUT Test Condition</b>		Measurement Detail			
Channel	Channel 157	Frequency Range	30 MHz ~ 1 GHz		
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)		
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Anson Lin		

		An	itenna Po	larity & To	est Distar	nce: Horiz	ontal at 3	m		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
104.69	26.87	48.16	43.5	-16.63	9.53	1.08	31.9	134	83	Peak
150.28	28.11	45.89	43.5	-15.39	12.71	1.12	31.61	126	308	Peak
195.87	32.01	52.82	43.5	-11.49	9.64	1.28	31.73	128	132	Peak
279.29	30.65	48.57	46	-15.35	12.34	1.58	31.84	113	13	Peak
300.63	30.59	47.85	46	-15.41	12.96	1.63	31.85	125	71	Peak
396.66	29.77	44.71	46	-16.23	15.26	1.9	32.1	107	80	Peak
		A	ntenna P	olarity &	Test Dista	ance: Vert	ical at 3 r	n		
Frequency (MHz)	Emissino Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
93.05	27.68	50.12	43.5	-15.82	8.53	0.99	31.96	120	355	Peak
149.31	28.41	46.21	43.5	-15.09	12.68	1.13	31.61	121	89	Peak
196.84	27.08	47.97	43.5	-16.42	9.57	1.28	31.74	103	332	Peak
311.3	27.02	44.07	46	-18.98	13.22	1.67	31.94	118	19	Peak
395.69	30.83	45.78	46	-15.17	15.24	1.9	32.09	100	151	Peak
492.69	24.26	36.73	46	-21.74	17.18	2.08	31.73	102	91	Peak

# Remarks:



### 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)					
	Quasi-peak	Average				
0.15 - 0.5	66 - 56	56 - 46				
0.50 - 5.0	56	46				
5.0 - 30.0	60	50				

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

### 4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2015	Feb. 25, 2016
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

**Note:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in HwaYa Shielded Room 1.
- 3. The VCCI Site Registration No. is C-2040.



### 4.2.3 Test Procedures

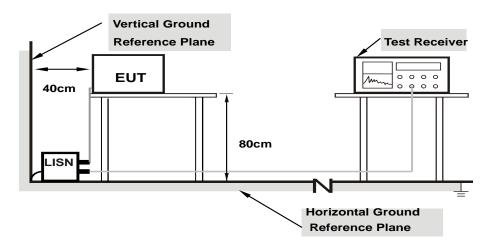
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit -20 dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.2.6 EUT Operating Conditions

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

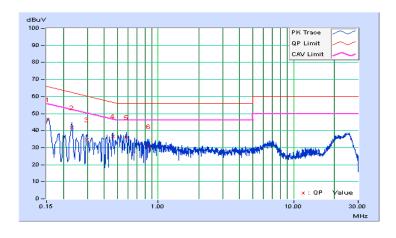


### 4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/1/5

	Phase Of Power : Line (L)											
	Frequency	Correction	Readin	Reading Value		n Level	Lir	nit	Margin			
No		Factor	(dB	uV)	(dB	uV)	(dB	uV)	(d	B)		
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.		
1	0.15400	9.82	36.48	36.38	46.30	46.20	65.78	55.78	-19.48	-9.58		
2	0.23000	9.85	31.89	30.06	41.74	39.91	62.45	52.45	-20.71	-12.54		
3	0.29756	9.86	24.75	13.55	34.61	23.41	60.31	50.31	-25.70	-26.90		
4	0.46200	9.89	26.85	23.79	36.74	33.68	56.66	46.66	-19.92	-12.98		
5	0.58563	9.90	26.11	16.26	36.01	26.16	56.00	46.00	-19.99	-19.84		
6	0.85808	9.92	20.78	11.51	30.70	21.43	56.00	46.00	-25.30	-24.57		

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value

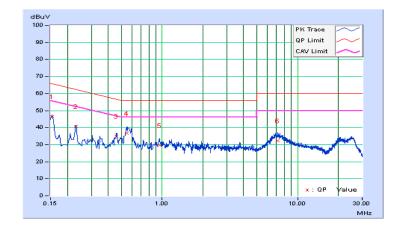




Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/1/5

	Phase Of Power : Neutral (N)									
	Frequency	Correction	Reading Value		Emission Level		Limit		Margin	
No		Factor	(dB	BuV) (dBuV)		(dBuV)		(dB)		
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.82	36.70	36.64	46.52	46.46	65.78	55.78	-19.26	-9.32
2	0.23000	9.84	30.94	30.25	40.78	40.09	62.45	52.45	-21.67	-12.36
3	0.45837	9.88	25.18	23.27	35.06	33.15	56.72	46.72	-21.66	-13.57
4	0.54600	9.89	26.91	19.00	36.80	28.89	56.00	46.00	-19.20	-17.11
5	0.95800	9.93	19.82	14.14	29.75	24.07	56.00	46.00	-26.25	-21.93
6	7.15000	10.31	22.02	14.27	32.33	24.58	60.00	50.00	-27.67	-25.42

- 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
- 2. The emission levels of other frequencies were very low against the limit.
- 3. Margin value = Emission level Limit value
- 4. Correction factor = Insertion loss + Cable loss
- 5. Emission Level = Correction Factor + Reading Value





### 4.3 Transmit Power Measurment

#### 4.3.1 Limits of Transmit Power Measurement

Operation Band		EUT Category	Limit		
		Outdoor Access Point	1 Watt (30 dBm)		
			(Max. e.i.r.p ≤ 125 mW (21 dBm) at any elevation		
		Outdoor Access Point	angle above 30 degrees as measured from the		
U-NII-1			horizon)		
	Fixed point-to-point Access Point		1 Watt (30 dBm)		
		Indoor Access Point	1 Watt (30 dBm)		
	<b>V</b>	Mobile and Portable client device	250 mW (24 dBm)		
U-NII-2A	$\checkmark$		250 mW (24 dBm) or 11 dBm+10 log B*		
U-NII-2C	V		250 mW (24 dBm) or 11 dBm+10 log B*		
U-NII-3	√		1 Watt (30 dBm)		

<sup>\*</sup>B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

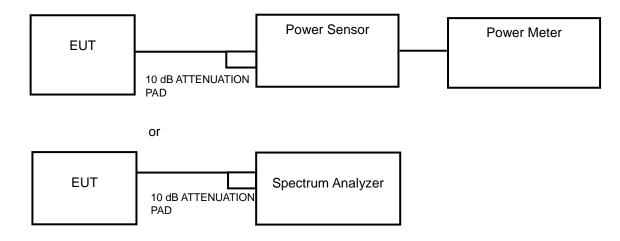
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N<sub>ANT</sub>;

Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20 MHz channel widths with  $N_{ANT} \ge 5$ .

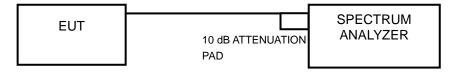
For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

### 4.3.2 Test Setup

### <Power Output Measurement>



## <26 dB Bandwidth>





#### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 Test Procedure

### **Average Power Measurement**

<802.11a, 802.11n (HT20), 802.11n (HT40)>

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value. <802.11ac (VHT80)>

Method SA-1 is used to perform output power measurement, trigger and gating function of spectrum analyzer is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

#### 26 dB Bandwidth

- 1) Set RBW = approximately 1 % of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 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 %.

### 4.3.5 Deviation from Test Standard

No deviation.

### 4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



### 4.3.7 Test Result

### **Power Output:**

### 802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	13.58	11.33	24	Pass
44	5220	13.71	11.37	24	Pass
48	5240	13.37	11.26	24	Pass
52	5260	14.03	11.47	24	Pass
60	5300	14.06	11.48	24	Pass
64	5320	12.79	11.07	24	Pass
100	5500	13.93	11.44	24	Pass
116	5580	12.30	10.90	24	Pass
140	5700	13.52	11.31	24	Pass
149	5745	12.79	11.07	30	Pass
157	5785	13.74	11.38	30	Pass
161	5805	13.37	11.26	30	Pass

### NOTE:

## For U-NII-2A, U-NII-2C Band:

- 1. 11 dBm +  $10\log(22.38) = 24.50 \text{ dBm} > 24 \text{ dBm}$ .
- 2. 11 dBm +  $10\log(22.73) = 24.57$  dBm > 24 dBm.
- 3. 11 dBm +  $10\log(22.41) = 24.50 \text{ dBm} > 24 \text{ dBm}$ .
- 4. 11 dBm +  $10\log(22.28) = 24.48 \text{ dBm} > 24 \text{ dBm}$ .
- 5. 11 dBm +  $10\log(22.30) = 24.48 \text{ dBm} > 24 \text{ dBm}$ .
- 6. 11 dBm +  $10\log(22.31) = 24.48 \text{ dBm} > 24 \text{ dBm}$ .



## 802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	13.84	11.41	24	Pass
44	5220	14.00	11.46	24	Pass
48	5240	13.61	11.34	24	Pass
52	5260	12.76	11.06	24	Pass
60	5300	14.16	11.51	24	Pass
64	5320	13.74	11.38	24	Pass
100	5500	14.32	11.56	24	Pass
116	5580	13.21	11.21	24	Pass
140	5700	13.90	11.43	24	Pass
149	5745	13.37	11.26	30	Pass
157	5785	13.93	11.44	30	Pass
161	5805	13.21	11.21	30	Pass

### NOTE:

## For U-NII-2A, U-NII-2C Band:

- 1. 11 dBm +  $10\log(22.97) = 24.61 dBm > 24 dBm$ .
- 2. 11 dBm +  $10\log(23.71) = 24.75$  dBm > 24 dBm.
- 3. 11 dBm +  $10\log(24.44) = 24.88$  dBm > 24 dBm.
- 4. 11 dBm +  $10\log(22.90) = 24.60 \text{ dBm} > 24 \text{ dBm}$ .
- 5. 11 dBm +  $10\log(22.56) = 24.53$  dBm > 24 dBm.
- 6. 11 dBm +  $10\log(22.90) = 24.60$  dBm > 24 dBm.



### 802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	17.06	12.32	24	Pass
46	5230	17.18	12.35	24	Pass
54	5270	16.52	12.18	24	Pass
62	5310	16.94	12.29	24	Pass
102	5510	17.74	12.49	24	Pass
110	5550	18.03	12.56	24	Pass
134	5670	17.18	12.35	24	Pass
151	5755	16.41	12.15	30	Pass
159	5795	17.26	12.37	30	Pass

### NOTE:

#### For U-NII-2A, U-NII-2C Band:

- 1. 11 dBm +  $10\log(45.56) = 27.59 \text{ dBm} > 24 \text{ dBm}$ .
- 2. 11 dBm +  $10\log(44.77) = 27.51$  dBm > 24 dBm.
- 3. 11 dBm +  $10\log(46.05) = 27.63$  dBm > 24 dBm.
- 4. 11 dBm +  $10\log(45.27) = 27.56$  dBm > 24 dBm.
- 5. 11 dBm +  $10\log(44.80) = 27.51$  dBm > 24 dBm.

### 802.11ac (VHT80)

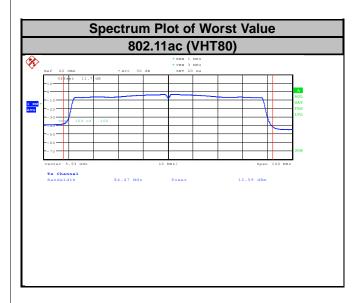
Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	13.46	11.29	24	Pass
58	5290	15.70	11.96	24	Pass
106	5530	18.16	12.59	24	Pass
122	5610	16.33	12.13	24	Pass
155	5775	14.96	11.75	30	Pass

### NOTE:

### For U-NII-2A, U-NII-2C Band:

- 1. 11 dBm +  $10\log(84.54) = 30.27$  dBm > 24 dBm.
- 2. 11 dBm +  $10\log(84.47) = 30.27$  dBm > 24 dBm.
- 3. 11 dBm +  $10\log(84.51) = 30.27$  dBm > 24 dBm.







## 26 dB Bandwidth:

### 802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
36	5180	22.39	Pass
44	5220	22.38	Pass
48	5240	22.51	Pass
52	5260	22.38	Pass
60	5300	22.73	Pass
64	5320	22.41	Pass
100	5500	22.28	Pass
116	5580	22.30	Pass
140	5700	22.31	Pass

# 802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
36	5180	22.82	Pass
44	5220	22.96	Pass
48	5240	23.02	Pass
52	5260	22.97	Pass
60	5300	23.71	Pass
64	5320	24.44	Pass
100	5500	22.90	Pass
116	5580	22.56	Pass
140	5700	22.90	Pass

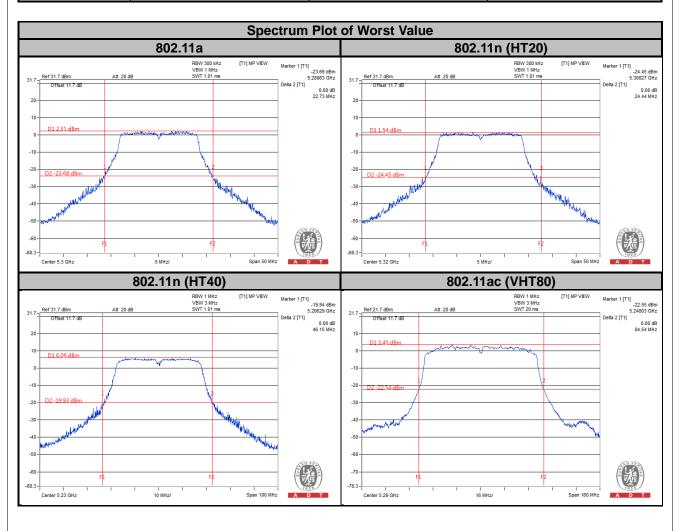
# 802.11n (HT40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
38	5190	45.21	Pass
46	5230	46.15	Pass
54	5270	45.56	Pass
62	5310	44.77	Pass
102	5510	46.05	Pass
110	5550	45.27	Pass
134	5670	44.80	Pass



### 802.11ac (VHT80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
42	5210	84.32	Pass
58	5290	84.54	Pass
106	5530	84.47	Pass
122	5610	84.51	Pass



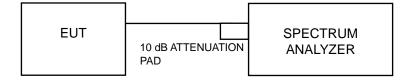


### 4.4 Peak Power Spectral Density Measurement

#### 4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	
		Fixed point-to-point Access Point	17 dBm/MHz
	Indoor Access Point		
	√	Mobile and Portable client device	11 dBm/MHz
U-NII-2A	V		11 dBm/MHz
U-NII-2C	V		11 dBm/MHz
U-NII-3			30 dBm/500 kHz

#### 4.4.2 Test Setup



#### 4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

#### 4.4.4 Test Procedures

Using method SA-2

- 1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
- 3. Sweep time = auto, trigger set to "free run".
- 4. Trace average at least 100 traces in power averaging mode.
- 5. Record the max value and add 10 log (1/duty cycle)

### **※For U-NII-3**:

- 1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
- 3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- 4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300 kHz)
- 5. Sweep time = auto, trigger set to "free run".
- 6. Trace average at least 100 traces in power averaging mode.
- 7. Record the max value and add 10 log (1/duty cycle)



	A D T
4.4.5 Deviation from Test Standard	
No deviation.	
4.4.6 EUT Operating Conditions	
The software provided by client to en middle and highest channel frequencies	nable the EUT under transmission condition continuously at lowest, s individually.

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### 4.4.7 Test Results

### 802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	-0.35	0.10	-0.25	11	Pass
44	5220	-0.55	0.10	-0.45	11	Pass
48	5240	-0.67	0.10	-0.57	11	Pass
52	5260	-0.80	0.10	-0.70	11	Pass
60	5300	-0.85	0.10	-0.75	11	Pass
64	5320	-1.20	0.10	-1.10	11	Pass
100	5500	-0.34	0.10	-0.24	11	Pass
116	5580	-1.07	0.10	-0.97	11	Pass
140	5700	-0.17	0.10	-0.07	11	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

# 802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	-0.29	0.11	-0.18	11	Pass
44	5220	-0.76	0.11	-0.65	11	Pass
48	5240	-1.01	0.11	-0.90	11	Pass
52	5260	-1.25	0.11	-1.14	11	Pass
60	5300	-1.32	0.11	-1.21	11	Pass
64	5320	-1.49	0.11	-1.38	11	Pass
100	5500	-0.75	0.11	-0.64	11	Pass
116	5580	-1.44	0.11	-1.33	11	Pass
140	5700	-0.46	0.11	-0.35	11	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.



## 802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
38	5190	-2.58	0.54	-2.04	11	Pass
46	5230	-2.77	0.54	-2.23	11	Pass
54	5270	-2.82	0.54	-2.28	11	Pass
62	5310	-2.73	0.54	-2.19	11	Pass
102	5510	-2.35	0.54	-1.81	11	Pass
110	5550	-2.28	0.54	-1.74	11	Pass
134	5670	-1.97	0.54	-1.43	11	Pass

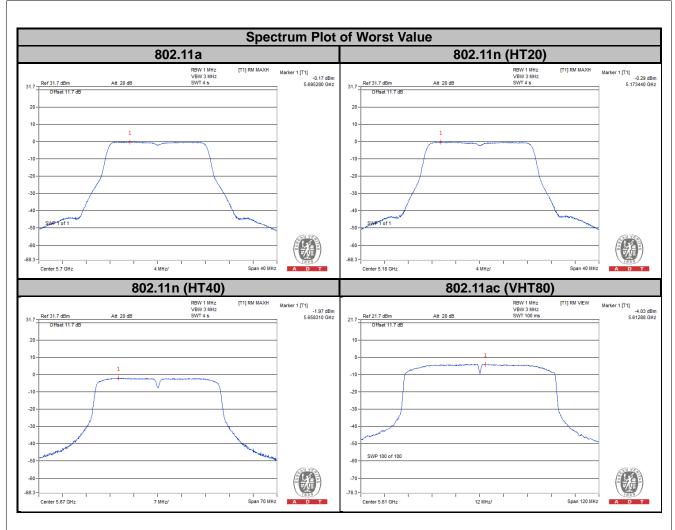
**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

# 802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
42	5210	-5.23	0.93	-4.30	11	Pass
58	5290	-5.25	0.93	-4.32	11	Pass
106	5530	-4.95	0.93	-4.02	11	Pass
122	5610	-4.03	0.93	-3.10	11	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.







### For U-NII-3 Band

### 802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-4.58	0.10	-4.48	30	Pass
157	5785	-3.72	0.10	-3.62	30	Pass
161	5805	-3.62	0.10	-3.52	30	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

## 802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-4.47	0.11	-4.36	30	Pass
157	5785	-4.11	0.11	-4.00	30	Pass
161	5805	-3.65	0.11	-3.54	30	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

#### 802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-6.44	0.54	-5.90	30	Pass
159	5795	-5.80	0.54	-5.26	30	Pass

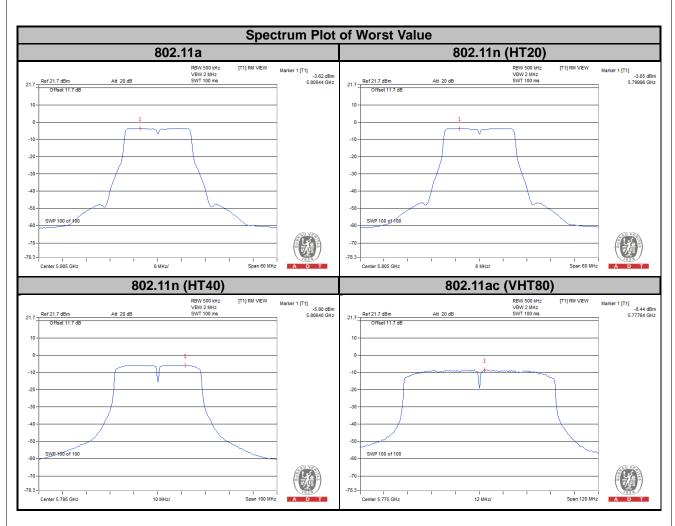
**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
155	5775	-8.44	0.93	-7.51	30	Pass

**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.





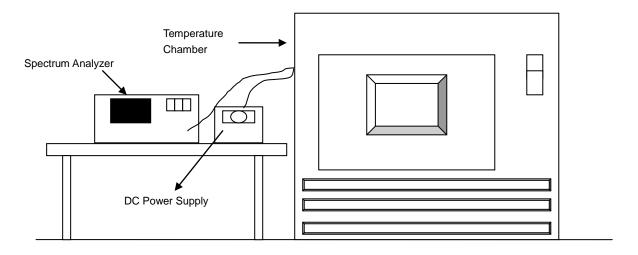


### 4.5 Frequency Stability

#### 4.5.1 Limit of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

#### 4.5.2 Test Setup



#### 4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

#### 4.5.4 Test Procedure

- a. 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.
- b. 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 10 dB lower than the measured peak value.
- c. 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.

### 4.5.5 Deviation from Test Standard

No deviation.

#### 4.5.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.



## 4.5.7 Test Results

	Frequency Stability Versus Temp.								
				Operating Fr	equency: 53	20 MHz			
	D	0 Mi	nute	2 Mi	nute	5 Mi	nute	10 M	inute
Temp. (°C)	Power Supply (Vdc)	Measured Frequency (MHz)	Frequency Drift (ppm)						
55	3.8	5320.012850	2.415	5320.012724	2.392	5320.013024	2.448	5320.013284	2.497
50	3.8	5320.013616	2.559	5320.013704	2.576	5320.013244	2.489	5320.013851	2.604
40	3.8	5320.013782	2.591	5320.013515	2.540	5320.013914	2.615	5320.013733	2.581
30	3.8	5320.015106	2.839	5320.014395	2.706	5320.015066	2.832	5320.014521	2.730
20	3.8	5320.015701	2.951	5320.015951	2.998	5320.015931	2.995	5320.015612	2.935
10	3.8	5320.016998	3.195	5320.017205	3.234	5320.017508	3.291	5320.017308	3.253
0	3.8	5320.015429	2.900	5320.015994	3.006	5320.016029	3.013	5320.015884	2.986
-10	3.8	5320.014190	2.667	5320.013938	2.620	5320.014098	2.650	5320.014368	2.701
-20	3.8	5320.013925	2.617	5320.014108	2.652	5320.014185	2.666	5320.013491	2.536
-30	3.8	5320.012973	2.439	5320.012650	2.378	5320.012601	2.369	5320.013023	2.448

	Frequency Stability Versus Temp.								
				Operating F	requency: 53	20 MHz			
		0 Mi	nute	2 Mi	nute	5 Mi	nute	10 Minute	
Temp. (°C)	Power Supply (Vdc)	Measured Frequency (MHz)	Frequency Drift (ppm)						
	3.23	5320.044434	8.352	5320.044524	8.369	5320.045009	8.460	5320.044544	8.373
20	3.80	5320.015701	2.951	5320.015951	2.998	5320.015931	2.995	5320.015612	2.935
	4.37	5320.046507	8.742	5320.046553	8.751	5320.046337	8.710	5320.046429	8.727



#### 4.6 6 dB Bandwidth Measurment

#### 4.6.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

#### 4.6.2 Test Setup



#### 4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

#### 4.6.4 Test Procedure

#### **MEASUREMENT PROCEDURE REF**

- a. Set resolution bandwidth (RBW) = 100 kHz
- b. Set the video bandwidth (VBW)  $\geq$  3 x RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

#### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



## 4.6.7 Test Results

### 802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.41	0.5	Pass
157	5785	16.41	0.5	Pass
161	5805	16.39	0.5	Pass

# 802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.63	0.5	Pass
157	5785	17.62	0.5	Pass
161	5805	17.64	0.5	Pass

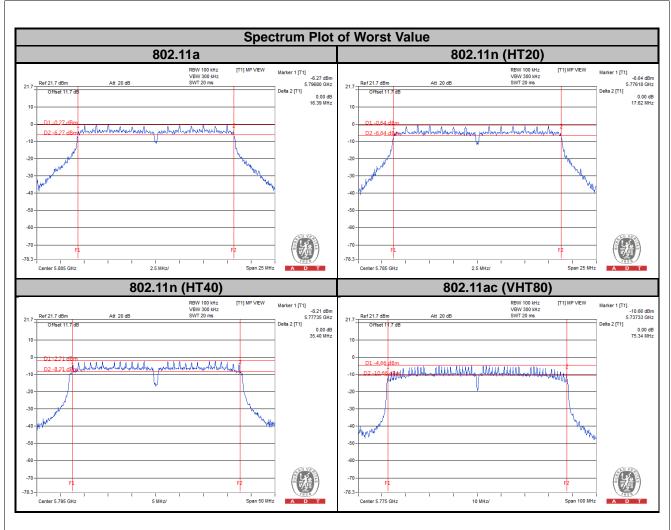
# 802.11n (HT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.46	0.5	Pass
159	5795	35.40	0.5	Pass

# 802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.34	0.5	Pass







5 Pictures of Test Arrangements
Please refer to the attached file (Test Setup Photo).
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### Appendix - Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: <a href="mailto:www.bureauveritas-adt.com">www.bureauveritas-adt.com</a>

The address and road map of all our labs can be found in our web site also.

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