Partial FCC Test Report

Report No.:	RF170223C01-1
FCC ID:	MSQ7265NG
Test Model:	C213S, C213N
Received Date:	Feb. 23, 2017
Test Date:	Mar. 02, 2017 ~ Mar. 04, 2017
Issued Date:	Mar. 28, 2017
Applicant:	ASUSTek COMPUTER INC.
Address:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C.

Table of Contents

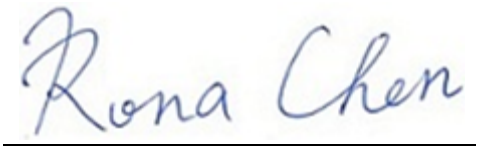
Release Control Record

Issue No.	Description	Date Issued
RF170223C01-1	Original Release	Mar. 28, 2017

1 Certificate of Conformity

Product:	Notebook PC
Brand:	ASUS
Test Model:	C213S, C213N
Sample Status:	Identical Prototype
Applicant:	ASUSTek COMPUTER INC.
Test Date:	Mar. 02, 2017 ~ Mar. 04, 2017
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. 28, 2017

Rona Chen / Specialist

Approved by :  , **Date:** Mar. 28, 2017

David Huang / Project Engineer

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 -15.50 dB at 0.15391 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -7.77 dB at 11340 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	N/A	Refer to Note
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note
15.407(e)	6 dB Bandwidth	N/A	Refer to Note
15.407(g)	Frequency Stability	N/A	Refer to Note
15.203	Antenna Requirement	N/A	Refer to Note

Note: Only AC Power Conducted Emission test and Radiated Emissions test of U-NII-1, U-NII-2A, and U-NII-2C were re-tested and performed in this report for updating the standard ANSI C63.10:2009 to ANSI C63.10:2013. For U-NII-3 and conducted test data, please refer to AT4 wireless Report No.: 41273RRF.002 and 41273RRF.003 for module (Brand: INTEL, Model: 7265NGW).

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
	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	Notebook PC
Brand	ASUS
Test Model	C213S, C213N
Status of EUT	Identical Prototype
Power Supply Rating	7.7 Vdc (Li-ion Battery) 5 Vdc or 9 Vdc or 15 Vdc or 20 Vdc (Adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to V9
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	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) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	Tx Function
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT80)	2TX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for HT20 / HT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The WLAN module (Brand: INTEL, Model: 7265NGW) is collocated in this EUT.
3. All models are listed as below.

Brand	Model	Difference
ASUS	C213S	All models are electrically identical, different model names are for marketing purpose.
	C213N	

4. The antenna information of EUT is listed as below.

Brand	Ant.Type	Part No.	Gain (dBi)			
			5180 ~ 5240 MHz	5260 ~ 5320 MHz	5500 ~ 5720 MHz	5745 ~ 5825 MHz
TONGDA	PIFA	Main: T-543-9011135-A Aux.: T-543-9011135-A	Main: 1.05 Aux.: -0.24	Main: 1.05 Aux.: -0.24	Main: 1.05 Aux.: -0.12	Main: 0.87 Aux.: -0.21
WNC		Main: DQ6415GBA00 Aux.: DQ6415GBA00	Main: 0.61 Aux.: -1.17	Main: 0.61 Aux.: -1.17	Main: 0.33 Aux.: 1.26	Main: -0.73 Aux.: 1.32

5. The EUT’s accessories list refers to EUT Photo.pdf.
6. 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 ~ 5720 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	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 ~ 5825 MHz:

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

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 Mode	Applicable To			Description
	RE≥1G	RE<1G	PLC	
A	√	√	-	SISO
B	√	√	√	MIMO

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis and Notebook Mode. The the worst case was found on the position as following table.

EUT Configure Mode	Position		
	U-NII-1	U-NII-2A	U-NII-2C
Mode A: SISO	Notebook	Y	Z
Mode B: MIMO	Y	Y	Z

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
A	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	48	OFDM	BPSK	6.0
B	5260-5320	802.11n (HT20)	52 to 64	64	OFDM	BPSK	MCS0
B	5500-5700	802.11n (HT40)	102 to 134	134	OFDM	BPSK	MCS0

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	5500-5700	802.11n (HT40)	102 to 134	134	OFDM	BPSK	MCS0

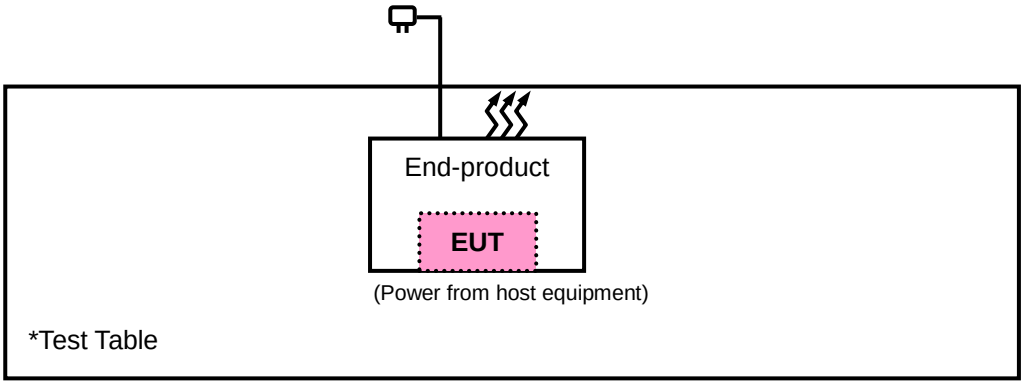
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3.1 Configuration of System under Test



3.4 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 v01r03
644545 D01 Guidance for IEEE 802 11ac v01r02
662911 D01 Multiple Transmitter Output v02r01
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		Limit	
789033 D02 General UNII Test Procedures New Rules v01r03		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
[*1] beyond 75 MHz or more above of the band edge.			
[*2] below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.			
[*3] below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			
[*4] from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

Note:

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

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 16, 2016	Dec. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 2017
Preamplifier EMCI	EMC 012645	980115	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 184045	980116	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 330H	980112	Oct. 21, 2016	Oct. 20, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 21, 2016	Oct. 20, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 21, 2016	Oct. 20, 2017
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 21, 2016	Oct. 20, 2017
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 / 24 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:

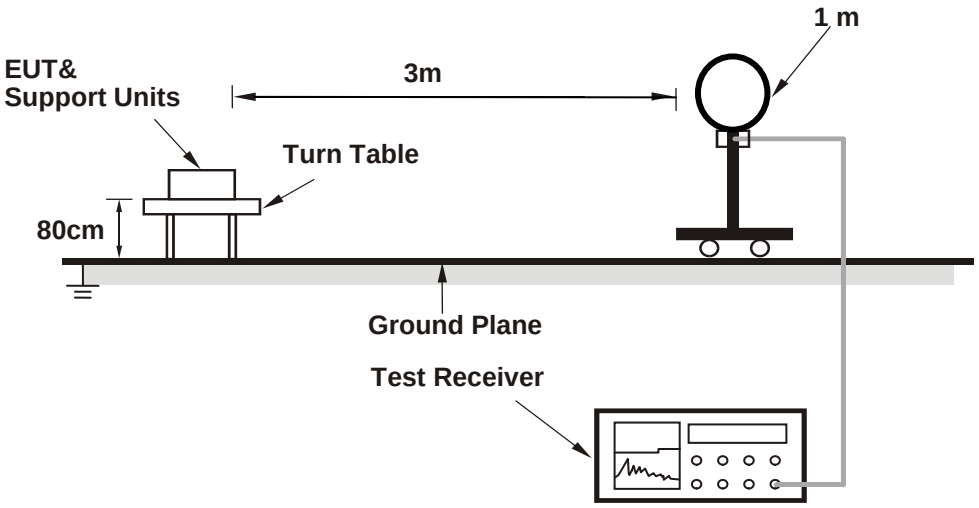
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak detection at frequency above 1 GHz.
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 from Test Standard

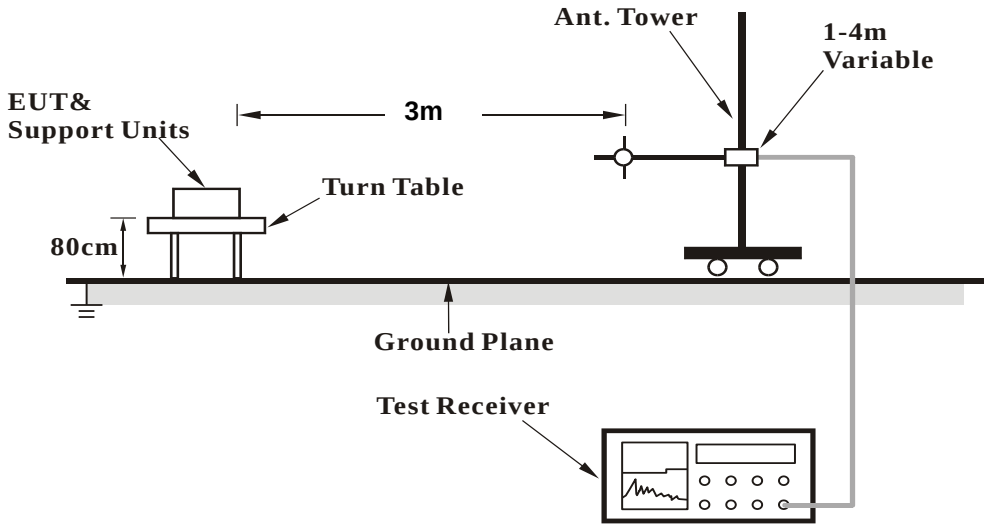
No deviation.

4.1.6 Test Set Up

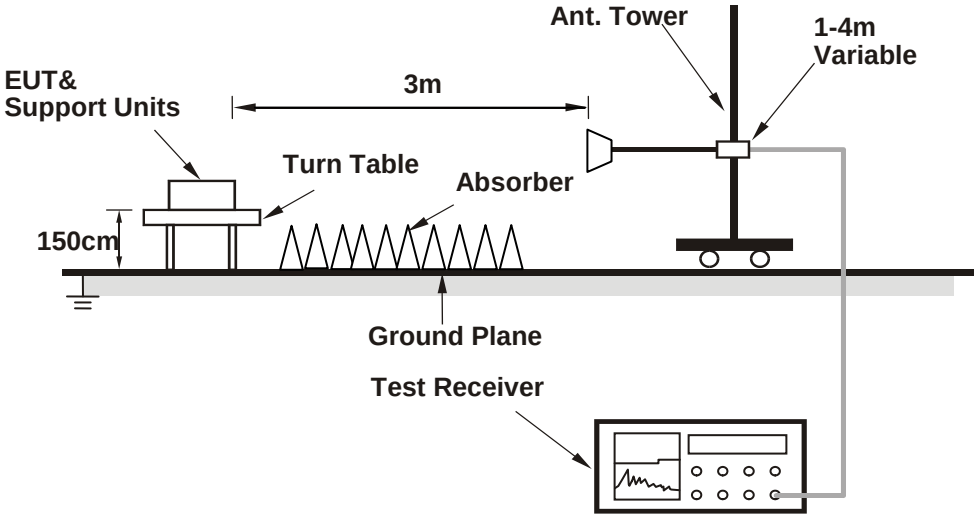
<Radiated emission below 30MHz>



<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：

Mode A: SISO

802.11a

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5147.45	52.04	51.84	74	-21.96	31.32	6.2	37.32	225	333	Peak
5150	38.99	38.79	54	-15.01	31.32	6.2	37.32	225	333	Average
5180	88.91	88.68			31.35	6.22	37.34	225	333	Average
5180	99.34	99.11			31.35	6.22	37.34	225	333	Peak
*10360	54.36	58.26	68.2	-13.84	39.19	9.05	52.14	146	152	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5145.65	50.46	50.26	74	-23.54	31.32	6.2	37.32	200	161	Peak
5149.7	37.78	37.58	54	-16.22	31.32	6.2	37.32	200	161	Average
5180	86.55	86.32			31.35	6.22	37.34	200	161	Average
5180	96.89	96.66			31.35	6.22	37.34	200	161	Peak
*10360	54.11	58.01	68.2	-14.09	39.19	9.05	52.14	152	79	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5144.45	50.61	50.41	74	-23.39	31.32	6.2	37.32	221	333	Peak
5149.4	37.85	37.65	54	-16.15	31.32	6.2	37.32	221	333	Average
5220	90.95	90.7			31.37	6.24	37.36	221	333	Average
5220	101.19	100.94			31.37	6.24	37.36	221	333	Peak
5407.64	50.67	50.01	74	-23.33	31.52	6.32	37.18	221	333	Peak
5451.53	37.49	36.67	54	-16.51	31.56	6.34	37.08	221	333	Average
*10440	54.01	58.11	68.2	-14.19	39.29	9.09	52.48	146	173	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5059.4	49.9	49.73	74	-24.1	31.25	6.17	37.25	199	161	Peak
5146.85	37.29	37.09	54	-16.71	31.32	6.2	37.32	199	161	Average
5220	87.63	87.38			31.37	6.24	37.36	199	161	Average
5220	98.29	98.04			31.37	6.24	37.36	199	161	Peak
5426.45	50.73	50.01	74	-23.27	31.53	6.32	37.13	199	161	Peak
5444.27	37.44	36.68	54	-16.56	31.55	6.34	37.13	199	161	Average
*10440	54.22	58.32	68.2	-13.98	39.29	9.09	52.48	158	62	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5104.7	50.43	50.24	74	-23.57	31.28	6.19	37.28	226	344	Peak
5150	37.65	37.45	54	-16.35	31.32	6.2	37.32	226	344	Average
5240	90.6	90.28			31.39	6.25	37.32	226	344	Average
5240	100.75	100.43			31.39	6.25	37.32	226	344	Peak
5396.75	50.95	50.3	74	-23.05	31.52	6.31	37.18	226	344	Peak
5397.52	37.54	36.88	54	-16.46	31.52	6.32	37.18	226	344	Average
*11480	56.7	59.58	68.2	-11.5	39.92	10.03	52.83	143	169	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5042.75	50.67	50.53	74	-23.33	31.24	6.15	37.25	180	161	Peak
5148.5	37.36	37.16	54	-16.64	31.32	6.2	37.32	180	161	Average
5240	88.27	87.95			31.39	6.25	37.32	180	161	Average
5240	98.65	98.33			31.39	6.25	37.32	180	161	Peak
5375.74	50.86	50.24	74	-23.14	31.49	6.31	37.18	180	161	Peak
5438.88	37.51	36.75	54	-16.49	31.55	6.34	37.13	180	161	Average
*11480	56.46	59.34	68.2	-11.74	39.92	10.03	52.83	157	57	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5015.9	38.15	38.02	54	-15.85	31.21	6.15	37.23	213	74	Average
5016.05	50.22	50.09	74	-23.78	31.21	6.15	37.23	213	74	Peak
5260	88.62	88.23			31.41	6.25	37.27	213	74	Average
5260	98.07	97.68			31.41	6.25	37.27	213	74	Peak
5367.71	50.94	50.32	74	-23.06	31.49	6.31	37.18	213	74	Peak
5450.54	38.39	37.57	54	-15.61	31.56	6.34	37.08	213	74	Average
*10520	55.28	59.56	68.2	-12.92	39.43	9.12	52.83	155	80	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5030.75	50.75	50.61	74	-23.25	31.23	6.15	37.24	209	270	Peak
5137.25	38.6	38.39	54	-15.4	31.31	6.2	37.3	209	270	Average
5260	94.03	93.64			31.41	6.25	37.27	209	270	Average
5260	103.56	103.17			31.41	6.25	37.27	209	270	Peak
5423.59	38.95	38.28	54	-15.05	31.53	6.32	37.18	209	270	Average
5459.01	50.97	50.15	74	-23.03	31.56	6.34	37.08	209	270	Peak
*10520	55.12	59.4	68.2	-13.08	39.43	9.12	52.83	144	150	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5113.4	38.25	38.05	54	-15.75	31.29	6.19	37.28	214	71	Average
5142.5	50.41	50.19	74	-23.59	31.32	6.2	37.3	214	71	Peak
5300	88.75	88.23			31.44	6.27	37.19	214	71	Average
5300	98.24	97.72			31.44	6.27	37.19	214	71	Peak
5356.6	39.38	38.79	54	-14.62	31.48	6.29	37.18	214	71	Average
5441.41	50.95	50.19	74	-23.05	31.55	6.34	37.13	214	71	Peak
10600	44.53	48.21	54	-9.47	39.57	9.16	52.41	154	78	Average
10600	55.44	59.12	74	-18.56	39.57	9.16	52.41	154	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5038.7	50.78	50.63	74	-23.22	31.24	6.15	37.24	209	271	Peak
5141.75	38.52	38.3	54	-15.48	31.32	6.2	37.3	209	271	Average
5300	94.39	93.87			31.44	6.27	37.19	209	271	Average
5300	103.81	103.29			31.44	6.27	37.19	209	271	Peak
5352.2	41.54	40.95	54	-12.46	31.48	6.29	37.18	209	271	Average
5354.07	52.81	52.22	74	-21.19	31.48	6.29	37.18	209	271	Peak
10600	44.57	48.25	54	-9.43	39.57	9.16	52.41	143	161	Average
10600	55.93	59.61	74	-18.07	39.57	9.16	52.41	143	161	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5320	87.19	86.64			31.45	6.29	37.19	215	70	Average
5320	96.52	95.97			31.45	6.29	37.19	215	70	Peak
5383.11	38.71	38.07	54	-15.29	31.51	6.31	37.18	215	70	Average
5395.1	50.43	49.78	74	-23.57	31.52	6.31	37.18	215	70	Peak
10640	44.67	48.12	54	-9.33	39.62	9.2	52.27	155	91	Average
10640	56.07	59.52	74	-17.93	39.62	9.2	52.27	155	91	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5320	92.73	92.18			31.45	6.29	37.19	207	268	Average
5320	102.09	101.54			31.45	6.29	37.19	207	268	Peak
5356.6	40.45	39.86	54	-13.55	31.48	6.29	37.18	207	268	Average
5381.24	53.06	52.42	74	-20.94	31.51	6.31	37.18	207	268	Peak
10640	44.57	48.02	54	-9.43	39.62	9.2	52.27	139	133	Average
10640	56.85	60.3	74	-17.15	39.62	9.2	52.27	139	133	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5424.08	51.32	50.65	74	-22.68	31.53	6.32	37.18	209	70	Peak
5439.76	39.22	38.46	54	-14.78	31.55	6.34	37.13	209	70	Average
*5470	50.81	49.98	68.2	-17.39	31.57	6.34	37.08	209	70	Peak
5500	88.68	87.75			31.6	6.36	37.03	209	70	Average
5500	98.45	97.52			31.6	6.36	37.03	209	70	Peak
11000	43.75	47.65	54	-10.25	40.2	9.35	53.45	188	92	Average
11000	54.99	58.89	74	-19.01	40.2	9.35	53.45	188	92	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5455.12	40.84	40.02	54	-13.16	31.56	6.34	37.08	200	269	Average
5457.04	52.49	51.67	74	-21.51	31.56	6.34	37.08	200	269	Peak
*5470	53.01	52.18	68.2	-15.19	31.57	6.34	37.08	200	269	Peak
5500	93.6	92.67			31.6	6.36	37.03	200	269	Average
5500	103.16	102.23			31.6	6.36	37.03	200	269	Peak
11000	43.99	47.89	54	-10.01	40.2	9.35	53.45	139	48	Average
11000	55.55	59.45	74	-18.45	40.2	9.35	53.45	139	48	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5395.92	50.54	49.89	74	-23.46	31.52	6.31	37.18	200	69	Peak
5421.84	38.52	37.85	54	-15.48	31.53	6.32	37.18	200	69	Average
*5468.08	49.71	48.88	68.2	-18.49	31.57	6.34	37.08	200	69	Peak
5580	90.82	89.78			31.71	6.49	37.16	200	69	Average
5580	100.26	99.22			31.71	6.49	37.16	200	69	Peak
*5724.2	49.75	48.53	68.2	-18.45	31.96	6.69	37.43	200	69	Peak
11600	45.35	48.96	54	-8.65	39.71	10.09	53.41	190	120	Average
11600	53.58	57.19	74	-20.42	39.71	10.09	53.41	190	120	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5454.96	51.47	50.65	74	-22.53	31.56	6.34	37.08	202	288	Peak
5456.24	38.97	38.15	54	-15.03	31.56	6.34	37.08	202	288	Average
*5469.04	50.01	49.18	68.2	-18.19	31.57	6.34	37.08	202	288	Peak
5580	96.28	95.24			31.71	6.49	37.16	202	288	Average
5580	105.77	104.73			31.71	6.49	37.16	202	288	Peak
*5725.64	50.44	49.16	68.2	-17.76	31.96	6.75	37.43	202	288	Peak
11600	45.04	48.65	54	-8.96	39.71	10.09	53.41	141	52	Average
11600	54.08	57.69	74	-19.92	39.71	10.09	53.41	141	52	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5700	88.29	87.1			31.9	6.69	37.4	203	70	Average
5700	97.59	96.4			31.9	6.69	37.4	203	70	Peak
*5725.08	51.1	49.82	68.2	-17.1	31.96	6.75	37.43	203	70	Peak
11400	45.09	47.35	54	-8.91	39.96	9.91	52.13	191	99	Average
11400	55.98	58.24	74	-18.02	39.96	9.91	52.13	191	99	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5700	94.28	93.09			31.9	6.69	37.4	208	291	Average
5700	103.63	102.44			31.9	6.69	37.4	208	291	Peak
*5724.28	57.21	55.99	68.2	-10.99	31.96	6.69	37.43	208	291	Peak
11400	44.87	47.13	54	-9.13	39.96	9.91	52.13	140	55	Average
11400	55.38	57.64	74	-18.62	39.96	9.91	52.13	140	55	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

Mode B: MIMO

802.11n (HT20)

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5132.9	50.62	50.41	74	-23.38	31.31	6.2	37.3	204	62	Peak
5144.15	38.4	38.2	54	-15.6	31.32	6.2	37.32	204	62	Average
5180	86.24	86.01			31.35	6.22	37.34	204	62	Average
5180	95.57	95.34			31.35	6.22	37.34	204	62	Peak
*10360	54.19	58.09	68.2	-14.01	39.19	9.05	52.14	149	55	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5138.45	51.29	51.08	74	-22.71	31.31	6.2	37.3	201	289	Peak
5149.55	39.27	39.07	54	-14.73	31.32	6.2	37.32	201	289	Average
5180	91.12	90.89			31.35	6.22	37.34	201	289	Average
5180	101.12	100.89			31.35	6.22	37.34	201	289	Peak
*10360	54.04	57.94	68.2	-14.16	39.19	9.05	52.14	135	156	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5094.8	38.16	37.97	54	-15.84	31.28	6.19	37.28	204	65	Average
5122.1	50.31	50.13	74	-23.69	31.29	6.19	37.3	204	65	Peak
5220	86.53	86.28			31.37	6.24	37.36	204	65	Average
5220	95.82	95.57			31.37	6.24	37.36	204	65	Peak
5432.83	50.56	49.82	74	-23.44	31.55	6.32	37.13	204	65	Peak
5454.06	38.37	37.55	54	-15.63	31.56	6.34	37.08	204	65	Average
*10440	54.32	58.42	68.2	-13.88	39.29	9.09	52.48	142	71	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5065.55	50.72	50.55	74	-23.28	31.25	6.17	37.25	203	334	Peak
5145.8	38.49	38.29	54	-15.51	31.32	6.2	37.32	203	334	Average
5220	92.23	91.98			31.37	6.24	37.36	203	334	Average
5220	101.45	101.2			31.37	6.24	37.36	203	334	Peak
5421.83	50.11	49.44	74	-23.89	31.53	6.32	37.18	203	334	Peak
5438.55	38.46	37.7	54	-15.54	31.55	6.34	37.13	203	334	Average
*10440	54.18	58.28	68.2	-14.02	39.29	9.09	52.48	128	132	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5024.6	50.37	50.23	74	-23.63	31.23	6.15	37.24	205	67	Peak
5131.1	38.06	37.85	54	-15.94	31.31	6.2	37.3	205	67	Average
5240	87.34	87.02			31.39	6.25	37.32	205	67	Average
5240	96.38	96.06			31.39	6.25	37.32	205	67	Peak
5402.47	51.89	51.23	74	-22.11	31.52	6.32	37.18	205	67	Peak
5441.63	38.46	37.7	54	-15.54	31.55	6.34	37.13	205	67	Average
*10480	54.33	58.58	68.2	-13.87	39.37	9.09	52.71	159	57	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5075.15	38.27	38.1	54	-15.73	31.27	6.17	37.27	202	338	Average
5139.35	51.4	51.19	74	-22.6	31.31	6.2	37.3	202	338	Peak
5240	92.3	91.98			31.39	6.25	37.32	202	338	Average
5240	101.58	101.26			31.39	6.25	37.32	202	338	Peak
5379.04	50.7	50.06	74	-23.3	31.51	6.31	37.18	202	338	Peak
5419.52	38.46	37.79	54	-15.54	31.53	6.32	37.18	202	338	Average
*10480	54.54	58.79	68.2	-13.66	39.37	9.09	52.71	129	148	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5003.3	50.91	50.81	74	-23.09	31.2	6.13	37.23	201	15	Peak
5125.85	38.15	37.94	54	-15.85	31.31	6.2	37.3	201	15	Average
5260	88.93	88.54			31.41	6.25	37.27	201	15	Average
5260	98.15	97.76			31.41	6.25	37.27	201	15	Peak
5363.31	50.19	49.57	74	-23.81	31.49	6.31	37.18	201	15	Peak
5427.44	38.25	37.53	54	-15.75	31.53	6.32	37.13	201	15	Average
*10520	55.04	59.32	68.2	-13.16	39.43	9.12	52.83	154	77	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5095.4	50.66	50.47	74	-23.34	31.28	6.19	37.28	200	335	Peak
5123	38.22	38.02	54	-15.78	31.31	6.19	37.3	200	335	Average
5260	93.36	92.97			31.41	6.25	37.27	200	335	Average
5260	102.75	102.36			31.41	6.25	37.27	200	335	Peak
5434.26	50.68	49.94	74	-23.32	31.55	6.32	37.13	200	335	Peak
5441.85	38.42	37.66	54	-15.58	31.55	6.34	37.13	200	335	Average
*10520	55.58	59.86	68.2	-12.62	39.43	9.12	52.83	141	149	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5010.2	50.23	50.12	74	-23.77	31.21	6.13	37.23	200	63	Peak
5125.55	38.14	37.93	54	-15.86	31.31	6.2	37.3	200	63	Average
5300	88.38	87.86			31.44	6.27	37.19	200	63	Average
5300	98.06	97.54			31.44	6.27	37.19	200	63	Peak
5355.5	38.98	38.39	54	-15.02	31.48	6.29	37.18	200	63	Average
5373.76	51.55	50.93	74	-22.45	31.49	6.31	37.18	200	63	Peak
10600	45.46	49.14	54	-8.54	39.57	9.16	52.41	163	86	Average
10600	56.33	60.01	74	-17.67	39.57	9.16	52.41	163	86	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5104.1	38.26	38.07	54	-15.74	31.28	6.19	37.28	199	337	Average
5124.2	50.54	50.34	74	-23.46	31.31	6.19	37.3	199	337	Peak
5300	93.25	92.73			31.44	6.27	37.19	199	337	Average
5300	102.71	102.19			31.44	6.27	37.19	199	337	Peak
5350.33	51.06	50.47	74	-22.94	31.48	6.29	37.18	199	337	Peak
5352.31	39.68	39.09	54	-14.32	31.48	6.29	37.18	199	337	Average
10600	44.35	48.03	54	-9.65	39.57	9.16	52.41	148	161	Average
10600	55.87	59.55	74	-18.13	39.57	9.16	52.41	148	161	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5320	86.74	86.19			31.45	6.29	37.19	201	63	Average
5320	96.42	95.87			31.45	6.29	37.19	201	63	Peak
5372.33	50.6	49.98	74	-23.4	31.49	6.31	37.18	201	63	Peak
5377.28	38.67	38.05	54	-15.33	31.49	6.31	37.18	201	63	Average
10640	45.47	48.92	54	-8.53	39.62	9.2	52.27	165	82	Average
10640	55.89	59.34	74	-18.11	39.62	9.2	52.27	165	82	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5320	91.61	91.06			31.45	6.29	37.19	198	338	Average
5320	101.04	100.49			31.45	6.29	37.19	198	338	Peak
5350.11	39.4	38.81	54	-14.6	31.48	6.29	37.18	198	338	Average
5352.86	52.48	51.89	74	-21.52	31.48	6.29	37.18	198	338	Peak
10640	44.79	48.24	54	-9.21	39.62	9.2	52.27	135	142	Average
10640	56.27	59.72	74	-17.73	39.62	9.2	52.27	135	142	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5392.56	50.89	50.25	74	-23.11	31.51	6.31	37.18	208	72	Peak
5458.96	38.73	37.91	54	-15.27	31.56	6.34	37.08	208	72	Average
*5470	49.6	48.77	68.2	-18.6	31.57	6.34	37.08	208	72	Peak
5500	82.54	81.61			31.6	6.36	37.03	208	72	Average
5500	92.62	91.69			31.6	6.36	37.03	208	72	Peak
11000	44.41	48.31	54	-9.59	40.2	9.35	53.45	191	93	Average
11000	54.04	57.94	74	-19.96	40.2	9.35	53.45	191	93	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5458.16	51.05	50.23	74	-22.95	31.56	6.34	37.08	202	292	Peak
5460	39.31	38.49	54	-14.69	31.56	6.34	37.08	202	292	Average
*5470.48	50.74	49.91	68.2	-17.46	31.57	6.34	37.08	202	292	Peak
5500	88.59	87.66			31.6	6.36	37.03	202	292	Average
5500	98.61	97.68			31.6	6.36	37.03	202	292	Peak
11000	44.05	47.95	54	-9.95	40.2	9.35	53.45	141	54	Average
11000	55.58	59.48	74	-18.42	40.2	9.35	53.45	141	54	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5442.16	50.77	50.01	74	-23.23	31.55	6.34	37.13	207	72	Peak
5451.44	38.61	37.79	54	-15.39	31.56	6.34	37.08	207	72	Average
*5468.24	49.7	48.87	68.2	-18.5	31.57	6.34	37.08	207	72	Peak
5580	87.47	86.43			31.71	6.49	37.16	207	72	Average
5580	97.64	96.6			31.71	6.49	37.16	207	72	Peak
*5725.32	49.25	47.97	68.2	-18.95	31.96	6.75	37.43	207	72	Peak
11600	44.55	48.16	54	-9.45	39.71	10.09	53.41	199	100	Average
11600	52.74	56.35	74	-21.26	39.71	10.09	53.41	199	100	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5378.8	50.9	50.26	74	-23.1	31.51	6.31	37.18	192	293	Peak
5440.24	38.71	37.95	54	-15.29	31.55	6.34	37.13	192	293	Average
*5468.4	49.67	48.84	68.2	-18.53	31.57	6.34	37.08	192	293	Peak
5580	94.52	93.48			31.71	6.49	37.16	192	293	Average
5580	103.87	102.83			31.71	6.49	37.16	192	293	Peak
*5724.44	50.08	48.86	68.2	-18.12	31.96	6.69	37.43	192	293	Peak
11600	44.75	48.36	54	-9.25	39.71	10.09	53.41	135	59	Average
11600	51.88	55.49	74	-22.12	39.71	10.09	53.41	135	59	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5700	88.38	87.19			31.9	6.69	37.4	208	71	Average
5700	98.26	97.07			31.9	6.69	37.4	208	71	Peak
*5724.2	53.3	52.08	68.2	-14.9	31.96	6.69	37.43	208	71	Peak
11400	44.89	47.15	54	-9.11	39.96	9.91	52.13	187	99	Average
11400	56.05	58.31	74	-17.95	39.96	9.91	52.13	187	99	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5700	89.93	88.74			31.9	6.69	37.4	199	288	Average
5700	99.4	98.21			31.9	6.69	37.4	199	288	Peak
*5724.28	54.78	53.56	68.2	-13.42	31.96	6.69	37.43	199	288	Peak
11400	45.4	47.66	54	-8.6	39.96	9.91	52.13	135	75	Average
11400	55.57	57.83	74	-18.43	39.96	9.91	52.13	135	75	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5041.55	50.86	50.71	74	-23.14	31.24	6.15	37.24	198	34	Peak
5141.45	38.24	38.02	54	-15.76	31.32	6.2	37.3	198	34	Average
5190	82.16	81.93			31.35	6.22	37.34	198	34	Average
5190	91.67	91.44			31.35	6.22	37.34	198	34	Peak
5383.99	50.65	50.01	74	-23.35	31.51	6.31	37.18	198	34	Peak
5445.81	38.42	37.65	54	-15.58	31.56	6.34	37.13	198	34	Average
*10380	54.2	58.19	68.2	-14	39.21	9.05	52.25	151	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5120.45	51.03	50.85	74	-22.97	31.29	6.19	37.3	204	335	Peak
5149.25	39.08	38.88	54	-14.92	31.32	6.2	37.32	204	335	Average
5190	88.16	87.93			31.35	6.22	37.34	204	335	Average
5190	97.17	96.94			31.35	6.22	37.34	204	335	Peak
5371.12	51.07	50.45	74	-22.93	31.49	6.31	37.18	204	335	Peak
5415.89	38.51	37.84	54	-15.49	31.53	6.32	37.18	204	335	Average
*10380	55.11	59.1	68.2	-13.09	39.21	9.05	52.25	121	152	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5004.65	50.62	50.51	74	-23.38	31.21	6.13	37.23	197	35	Peak
5144.3	38.2	38	54	-15.8	31.32	6.2	37.32	197	35	Average
5230	85.28	84.97			31.39	6.24	37.32	197	35	Average
5230	94.84	94.53			31.39	6.24	37.32	197	35	Peak
5400.82	51.05	50.39	74	-22.95	31.52	6.32	37.18	197	35	Peak
5448.67	38.3	37.53	54	-15.7	31.56	6.34	37.13	197	35	Average
*10460	54.07	58.26	68.2	-14.13	39.32	9.09	52.6	158	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5076.35	51.14	50.97	74	-22.86	31.27	6.17	37.27	206	289	Peak
5149.25	38.83	38.63	54	-15.17	31.32	6.2	37.32	206	289	Average
5230	90.98	90.67			31.39	6.24	37.32	206	289	Average
5230	100.29	99.98			31.39	6.24	37.32	206	289	Peak
5399.61	38.85	38.19	54	-15.15	31.52	6.32	37.18	206	289	Average
5408.85	50.48	49.82	74	-23.52	31.52	6.32	37.18	206	289	Peak
*10460	54.22	58.41	68.2	-13.98	39.32	9.09	52.6	139	149	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5128.55	38.17	37.96	54	-15.83	31.31	6.2	37.3	199	16	Average
5135.75	50.32	50.11	74	-23.68	31.31	6.2	37.3	199	16	Peak
5270	87.59	87.2			31.41	6.25	37.27	199	16	Average
5270	97.26	96.87			31.41	6.25	37.27	199	16	Peak
5424.58	38.69	37.97	54	-15.31	31.53	6.32	37.13	199	16	Average
5452.19	50.8	49.98	74	-23.2	31.56	6.34	37.08	199	16	Peak
*10540	55.65	59.76	68.2	-12.55	39.46	9.12	52.69	172	73	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5102.9	38.66	38.47	54	-15.34	31.28	6.19	37.28	205	292	Average
5121.2	50.58	50.4	74	-23.42	31.29	6.19	37.3	205	292	Peak
5270	92.2	91.81			31.41	6.25	37.27	205	292	Average
5270	101.82	101.43			31.41	6.25	37.27	205	292	Peak
5350.22	39.81	39.22	54	-14.19	31.48	6.29	37.18	205	292	Average
5380.8	51.38	50.74	74	-22.62	31.51	6.31	37.18	205	292	Peak
*10540	55.22	59.33	68.2	-12.98	39.46	9.12	52.69	136	157	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5137.85	50.57	50.36	74	-23.43	31.31	6.2	37.3	203	65	Peak
5145.5	38.13	37.93	54	-15.87	31.32	6.2	37.32	203	65	Average
5310	83.83	83.3			31.45	6.27	37.19	203	65	Average
5310	92.93	92.4			31.45	6.27	37.19	203	65	Peak
5351.87	39.41	38.82	54	-14.59	31.48	6.29	37.18	203	65	Average
5378.49	50.8	50.16	74	-23.2	31.51	6.31	37.18	203	65	Peak
10620	44.97	48.56	54	-9.03	39.59	9.16	52.34	169	81	Average
10620	55.58	59.17	74	-18.42	39.59	9.16	52.34	169	81	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5028.95	50.41	50.27	74	-23.59	31.23	6.15	37.24	199	337	Peak
5084.9	38.31	38.14	54	-15.69	31.27	6.17	37.27	199	337	Average
5310	87.94	87.41			31.45	6.27	37.19	199	337	Average
5310	97.55	97.02			31.45	6.27	37.19	199	337	Peak
5350.55	43.19	42.6	54	-10.81	31.48	6.29	37.18	199	337	Average
5350.55	55.15	54.56	74	-18.85	31.48	6.29	37.18	199	337	Peak
10620	44.45	48.04	54	-9.55	39.59	9.16	52.34	139	152	Average
10620	55.79	59.38	74	-18.21	39.59	9.16	52.34	139	152	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5397.68	51.08	50.42	74	-22.92	31.52	6.32	37.18	208	70	Peak
5454.16	38.86	38.04	54	-15.14	31.56	6.34	37.08	208	70	Average
*5469.04	50.83	50	68.2	-17.37	31.57	6.34	37.08	208	70	Peak
5510	81.52	80.62			31.6	6.36	37.06	208	70	Average
5510	91.96	91.06			31.6	6.36	37.06	208	70	Peak
*5725.56	50.6	49.32	68.2	-17.6	31.96	6.75	37.43	208	70	Peak
11020	43.74	47.69	54	-10.26	40.19	9.35	53.49	187	97	Average
11020	54.84	58.79	74	-19.16	40.19	9.35	53.49	187	97	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5448.24	51.84	51.07	74	-22.16	31.56	6.34	37.13	211	313	Peak
5458.48	40.36	39.54	54	-13.64	31.56	6.34	37.08	211	313	Average
*5470.48	52.64	51.81	68.2	-15.56	31.57	6.34	37.08	211	313	Peak
5510	89.35	88.45			31.6	6.36	37.06	211	313	Average
5510	98.63	97.73			31.6	6.36	37.06	211	313	Peak
*5723.96	49.65	48.43	68.2	-18.55	31.96	6.69	37.43	211	313	Peak
11020	44.67	48.62	54	-9.33	40.19	9.35	53.49	147	61	Average
11020	53.81	57.76	74	-20.19	40.19	9.35	53.49	147	61	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5409.2	50.99	50.33	74	-23.01	31.52	6.32	37.18	207	71	Peak
5459.92	39.62	38.8	54	-14.38	31.56	6.34	37.08	207	71	Average
*5469.2	49.84	49.01	68.2	-18.36	31.57	6.34	37.08	207	71	Peak
5550	87.1	86.09			31.68	6.42	37.09	207	71	Average
5550	98.14	97.13			31.68	6.42	37.09	207	71	Peak
*5724.84	52.13	50.91	68.2	-16.07	31.96	6.69	37.43	207	71	Peak
11000	44.85	48.75	54	-9.15	40.2	9.35	53.45	184	94	Average
11000	55.35	59.25	74	-18.65	40.2	9.35	53.45	184	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5423.12	52.09	51.42	74	-21.91	31.53	6.32	37.18	200	288	Peak
5456.56	39.73	38.91	54	-14.27	31.56	6.34	37.08	200	288	Average
*5468.72	51.79	50.96	68.2	-16.41	31.57	6.34	37.08	200	288	Peak
5550	93.89	92.88			31.68	6.42	37.09	200	288	Average
5550	103.63	102.62			31.68	6.42	37.09	200	288	Peak
*5725.96	52.34	51.06	68.2	-15.86	31.96	6.75	37.43	200	288	Peak
11000	45.05	48.95	54	-8.95	40.2	9.35	53.45	141	51	Average
11000	54.58	58.48	74	-19.42	40.2	9.35	53.45	141	51	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5371.92	38.88	38.26	54	-15.12	31.49	6.31	37.18	210	71	Average
5448.56	50.37	49.6	74	-23.63	31.56	6.34	37.13	210	71	Peak
*5470.64	49.05	48.22	68.2	-19.15	31.57	6.34	37.08	210	71	Peak
5670	87.18	86.02			31.88	6.62	37.34	210	71	Average
5670	97.73	96.57			31.88	6.62	37.34	210	71	Peak
*5724.6	52.46	51.24	68.2	-15.74	31.96	6.69	37.43	210	71	Peak
11340	45.92	48.63	54	-8.08	40	9.8	52.51	192	101	Average
11340	58.48	61.19	74	-15.52	40	9.8	52.51	192	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5415.76	51.08	50.41	74	-22.92	31.53	6.32	37.18	200	289	Peak
5416.4	39.13	38.46	54	-14.87	31.53	6.32	37.18	200	289	Average
*5469.52	50.49	49.66	68.2	-17.71	31.57	6.34	37.08	200	289	Peak
5670	93.21	92.05			31.88	6.62	37.34	200	289	Average
5670	105.23	104.07			31.88	6.62	37.34	200	289	Peak
*5724.84	56.27	55.05	68.2	-11.93	31.96	6.69	37.43	200	289	Peak
11340	**46.23**	**48.94**	**54**	**-7.77**	**40**	**9.8**	**52.51**	**141**	**49**	**Average**
11340	57.66	60.37	74	-16.34	40	9.8	52.51	141	49	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5008.55	50.98	50.87	74	-23.02	31.21	6.13	37.23	201	65	Peak
5149.7	39.19	38.99	54	-14.81	31.32	6.2	37.32	201	65	Average
5210	81.96	81.71			31.37	6.24	37.36	201	65	Average
5210	91.48	91.23			31.37	6.24	37.36	201	65	Peak
5384.32	50.48	49.84	74	-23.52	31.51	6.31	37.18	201	65	Peak
5394.55	38.65	38	54	-15.35	31.52	6.31	37.18	201	65	Average
*10420	54.67	58.67	68.2	-13.53	39.27	9.09	52.36	162	73	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5145.2	55.72	55.52	74	-18.28	31.32	6.2	37.32	207	295	Peak
5149.25	41.63	41.43	54	-12.37	31.32	6.2	37.32	207	295	Average
5210	87.28	87.03			31.37	6.24	37.36	207	295	Average
5210	96.66	96.41			31.37	6.24	37.36	207	295	Peak
5392.13	38.8	38.16	54	-15.2	31.51	6.31	37.18	207	295	Average
5407.09	50.88	50.22	74	-23.12	31.52	6.32	37.18	207	295	Peak
*10420	54.45	58.45	68.2	-13.75	39.27	9.09	52.36	134	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5210 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5073.95	50.83	50.66	74	-23.17	31.27	6.17	37.27	204	66	Peak
5136.35	38.03	37.82	54	-15.97	31.31	6.2	37.3	204	66	Average
5290	82.38	81.91			31.43	6.27	37.23	204	66	Average
5290	91.16	90.69			31.43	6.27	37.23	204	66	Peak
5350.33	41.29	40.7	54	-12.71	31.48	6.29	37.18	204	66	Average
5359.9	51.88	51.27	74	-22.12	31.48	6.31	37.18	204	66	Peak
*10580	55.42	59.13	68.2	-12.78	39.54	9.16	52.41	159	89	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5021.45	51.13	50.99	74	-22.87	31.23	6.15	37.24	200	335	Peak
5144	38.42	38.22	54	-15.58	31.32	6.2	37.32	200	335	Average
5290	86.32	85.85			31.43	6.27	37.23	200	335	Average
5290	95.65	95.18			31.43	6.27	37.23	200	335	Peak
5350.77	42.25	41.66	54	-11.75	31.48	6.29	37.18	200	335	Average
5372.66	55.31	54.69	74	-18.69	31.49	6.31	37.18	200	335	Peak
*10580	54.89	58.6	68.2	-13.31	39.54	9.16	52.41	132	155	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5431.76	50.79	50.05	74	-23.21	31.55	6.32	37.13	205	72	Peak
5454	39.2	38.38	54	-14.8	31.56	6.34	37.08	205	72	Average
*5469.68	51.42	50.59	68.2	-16.78	31.57	6.34	37.08	205	72	Peak
5530	78.68	77.72			31.63	6.42	37.09	205	72	Average
5530	88.72	87.76			31.63	6.42	37.09	205	72	Peak
*5725.4	49.28	48	68.2	-18.92	31.96	6.75	37.43	205	72	Peak
11060	44.09	47.77	54	-9.91	39.57	9.16	52.41	192	111	Average
11060	53.31	56.99	74	-20.69	39.57	9.16	52.41	192	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5454.48	52.32	51.5	74	-21.68	31.56	6.34	37.08	207	296	Peak
5460.08	40.96	40.14	54	-13.04	31.56	6.34	37.08	207	296	Average
*5468.4	53.69	52.86	68.2	-14.51	31.57	6.34	37.08	207	296	Peak
5530	82.48	81.52			31.63	6.42	37.09	207	296	Average
5530	95.15	94.19			31.63	6.42	37.09	207	296	Peak
*5725.72	50.79	49.51	68.2	-17.41	31.96	6.75	37.43	207	296	Peak
11060	45.27	48.95	54	-8.73	39.57	9.16	52.41	145	55	Average
11060	53.89	57.57	74	-20.11	39.57	9.16	52.41	145	55	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
5455.44	39.8	38.98	54	-14.2	31.56	6.34	37.08	205	69	Average
5456.24	52.92	52.1	74	-21.08	31.56	6.34	37.08	205	69	Peak
*5470.32	52.56	51.73	68.2	-15.64	31.57	6.34	37.08	205	69	Peak
5610	84.03	82.92			31.77	6.56	37.22	205	69	Average
5610	94.85	93.74			31.77	6.56	37.22	205	69	Peak
*5724.84	51.21	49.99	68.2	-16.99	31.96	6.69	37.43	205	69	Peak
11220	44.87	48.14	54	-9.13	40.07	9.69	53.03	179	87	Average
11220	54.31	57.58	74	-19.69	40.07	9.69	53.03	179	87	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
5453.2	55.96	55.14	74	-18.04	31.56	6.34	37.08	208	310	Peak
5459.92	41.86	41.04	54	-12.14	31.56	6.34	37.08	208	310	Average
*5470.64	54.73	53.9	68.2	-13.47	31.57	6.34	37.08	208	310	Peak
5610	90.15	89.04			31.77	6.56	37.22	208	310	Average
5610	100.77	99.66			31.77	6.56	37.22	208	310	Peak
*5725.88	54.22	52.94	68.2	-13.98	31.96	6.75	37.43	208	310	Peak
11220	45.68	48.95	54	-8.32	40.07	9.69	53.03	138	64	Average
11220	55.57	58.84	74	-18.43	40.07	9.69	53.03	138	64	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5610 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:

Mode A: SISO

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
43.58	20.78	37.63	40	-19.22	13.59	0.67	31.11	100	15	Peak
129.91	23.94	43	43.5	-19.56	11.68	1.14	31.88	127	77	Peak
209.45	32.43	52.94	43.5	-11.07	9.77	1.33	31.61	126	178	Peak
254.07	23.54	42.35	46	-22.46	11.59	1.5	31.9	129	94	Peak
434.49	19.41	33.44	46	-26.59	16.02	1.96	32.01	100	295	Peak
579.99	22.36	33.11	46	-23.64	19.15	2.22	32.12	130	304	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
30	25.06	43.64	40	-14.94	11.98	0.58	31.14	125	23	Peak
127.97	22.83	42.02	43.5	-20.67	11.55	1.14	31.88	126	198	Peak
203.63	24.13	45	43.5	-19.37	9.52	1.31	31.7	103	72	Peak
385.02	19.21	34.36	46	-26.79	14.98	1.87	32	120	182	Peak
525.67	21.29	32.88	46	-24.71	17.91	2.14	31.64	133	229	Peak
599.39	23.69	34.08	46	-22.31	19.59	2.26	32.24	107	126	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value

Mode B: MIMO

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
43.58	20.39	37.24	40	-19.61	13.59	0.67	31.11	137	288	Peak
131.85	24.08	42.96	43.5	-19.42	11.81	1.14	31.83	133	259	Peak
202.66	29.17	50.1	43.5	-14.33	9.48	1.31	31.72	118	15	Peak
371.44	20.08	35.51	46	-25.92	14.66	1.83	31.92	113	17	Peak
529.55	21.4	32.96	46	-24.6	17.99	2.14	31.69	112	92	Peak
651.77	23.1	32.52	46	-22.9	20.23	2.36	32.01	134	274	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
30	23.2	41.78	40	-16.8	11.98	0.58	31.14	139	272	Peak
130.88	23.32	42.29	43.5	-20.18	11.75	1.14	31.86	111	298	Peak
217.21	26.17	46.39	46	-19.83	10.09	1.36	31.67	116	187	Peak
379.2	18.42	33.67	46	-27.58	14.84	1.86	31.95	128	152	Peak
561.56	21.64	32.78	46	-24.36	18.72	2.2	32.06	123	45	Peak
695.42	24.47	33.07	46	-21.53	20.76	2.45	31.81	106	323	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 134	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission 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**
43.58	20.85	37.7	40	-19.15	13.59	0.67	31.11	129	177	Peak
130.88	25.31	44.28	43.5	-18.19	11.75	1.14	31.86	111	27	Peak
222.06	29.85	49.91	46	-16.15	10.3	1.38	31.74	103	136	Peak
376.29	19.42	34.74	46	-26.58	14.77	1.85	31.94	119	12	Peak
540.22	21.13	32.46	46	-24.87	18.24	2.16	31.73	115	31	Peak
687.66	24.92	33.66	46	-21.08	20.67	2.43	31.84	109	235	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission 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**
30	22.87	41.45	40	-17.13	11.98	0.58	31.14	126	356	Peak
129.91	21.71	40.77	43.5	-21.79	11.68	1.14	31.88	109	207	Peak
200.72	27	48.06	43.5	-16.5	9.4	1.29	31.75	104	118	Peak
469.41	22.9	36.07	46	-23.1	16.71	2.02	31.9	124	200	Peak
597.45	25.29	35.72	46	-20.71	19.54	2.25	32.22	131	328	Peak
714.82	27.12	35.32	46	-18.88	21.03	2.47	31.7	103	247	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value

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. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 17, 2017	Jan. 16, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
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

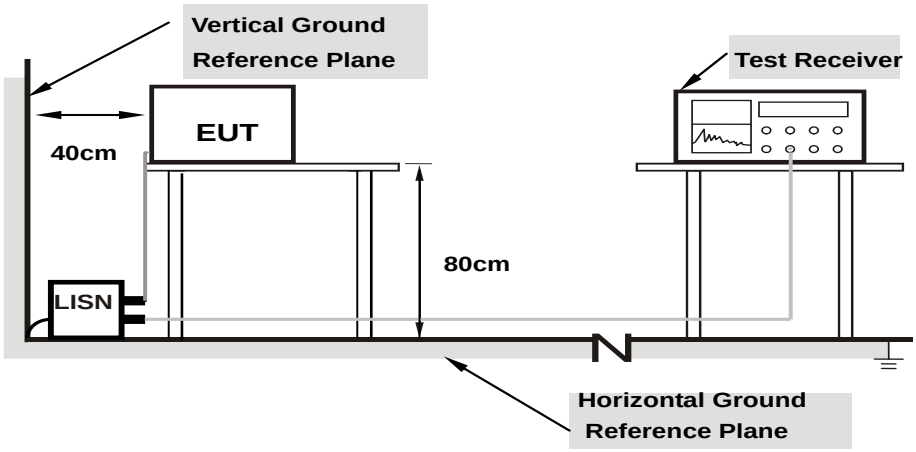
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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.

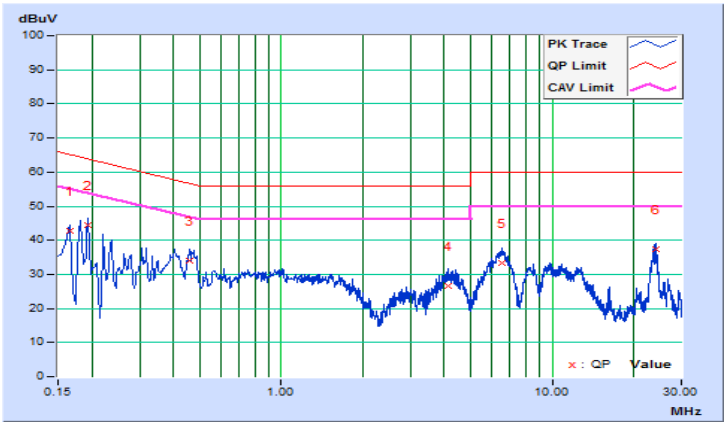
4.2.7 Test Results

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	Getaz Yang	Test Date	2017/3/7

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	10.12	32.62	13.60	42.74	23.72	65.18	55.18	-22.44	-31.46
2	0.19301	10.14	34.27	22.39	44.41	32.53	63.91	53.91	-19.50	-21.38
3	0.45889	10.17	23.85	14.60	34.02	24.77	56.71	46.71	-22.69	-21.94
4	4.11474	10.38	16.32	10.90	26.70	21.28	56.00	46.00	-29.30	-24.72
5	6.49593	10.51	22.96	18.14	33.47	28.65	60.00	50.00	-26.53	-21.35
6	24.03619	11.66	25.73	21.38	37.39	33.04	60.00	50.00	-22.61	-16.96

Remarks:

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

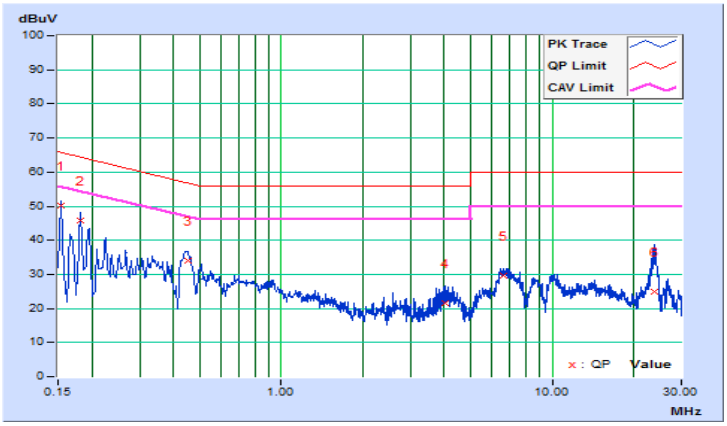


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/3/7

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15391**	**10.13**	**40.16**	**24.68**	**50.29**	**34.81**	**65.79**	**55.79**	**-15.50**	**-20.98**
2	0.18128	10.14	35.78	22.37	45.92	32.51	64.43	54.43	-18.51	-21.92
3	0.45455	10.18	23.97	17.16	34.15	27.34	56.79	46.79	-22.64	-19.45
4	4.00526	10.39	11.02	5.60	21.41	15.99	56.00	46.00	-34.59	-30.01
5	6.60932	10.56	18.98	14.30	29.54	24.86	60.00	50.00	-30.46	-25.14
6	23.75076	11.79	13.23	8.36	25.02	20.15	60.00	50.00	-34.98	-29.85

Remarks:

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



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

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:

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

--- END ---