

Partial FCC Test Report

Report No.: RF170711C04-1 R1

FCC ID: QYL8265NG

Test Model: X500

Received Date: Jul. 11, 2017

Test Date: Aug. 01, 2017 ~ Dec. 15, 2017

Issued Date: Dec. 19, 2017

Applicant: Getac Technology Corporation.

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Release Control Record

Issue No.	Description	Date Issued
RF170711C04-1	Original Release	Aug. 31, 2017
RF170711C04-1 R1	Add 2 nd adapter	Dec. 19, 2017

1 Certificate of Conformity

Product: Notebook computer

Brand: Getac

Test Model: X500

Sample Status: Identical Prototype

Applicant: Getac Technology Corporation.

Test Date: Aug. 01, 2017 ~ Dec. 15, 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 : Rona Chen , **Date:** Dec. 19, 2017
Rona Chen / Specialist

Approved by : Dylan Chiou , **Date:** Dec. 19, 2017
Dylan Chiou / 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 -5.21 dB at 0.60458 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -4.72 dB at 11590 MHz.
	Band Edge Measurement	N/A	Refer to Note
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	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

Note:

Test item for AC Power Conducted Emission and Radiated Emissions were performed for this report. For other test data, please refer to Intel Report No.: 160321-01.TR01 for module (Brand: Intel, Model: 8265NGW).

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	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Notebook computer
Brand	Getac
Test Model	X500
Status of EUT	Identical Prototype
Power Supply Rating	19.0 Vdc (Adapter) 10.8Vdc (Li-ion Battery)
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: 12 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	PIFA antenna with -0.15dBi gain (5180 ~ 5240 MHz) PIFA antenna with -0.97dBi gain (5260 ~ 5320 MHz) PIFA antenna with 0.26dBi gain (5500 ~ 5720 MHz) PIFA antenna with 1.03dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

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

Modulation Mode	Tx Function
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 EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	FSP	FSP150-ABBN3	I/P: 100-240 Vac, 50-60 Hz, 2.0 A O/P: 19 Vdc, 7.89 A
Adapter 2	TPT	THP0K15W4A5-1G	I/P: 100-240Vac, 50-60Hz, 2.5A O/P: 19.0Vdc, 7.9A
Battery	N/A	BP-LP2900/3301PI	10.8Vdc, 8700mAh, 94wh
BT/WLAN Module	Intel	8265NGW	--
WWAN Module	Sierra	EM7355	--

3. 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

12 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	144	5720

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 \geq 1G	RE<1G	PLC	
A	√	√	-	1TX
B	√	√	√	2TX

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

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	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
B		802.11n (HT20)	100 to 144	100, 116, 140, 144	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
A	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
		802.11ac (VHT80)	155	155	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	36	OFDM	BPSK	6.0
A	5260-5320	802.11a	52 to 64	64	OFDM	BPSK	6.0
B	5500-5720	802.11n (HT20)	100 to 144	100	OFDM	BPSK	MCS0
B	5745-5825	802.11n (HT40)	151 to 159	159	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	5745-5825	802.11n (HT40)	151 to 159	159	OFDM	BPSK	MCS0

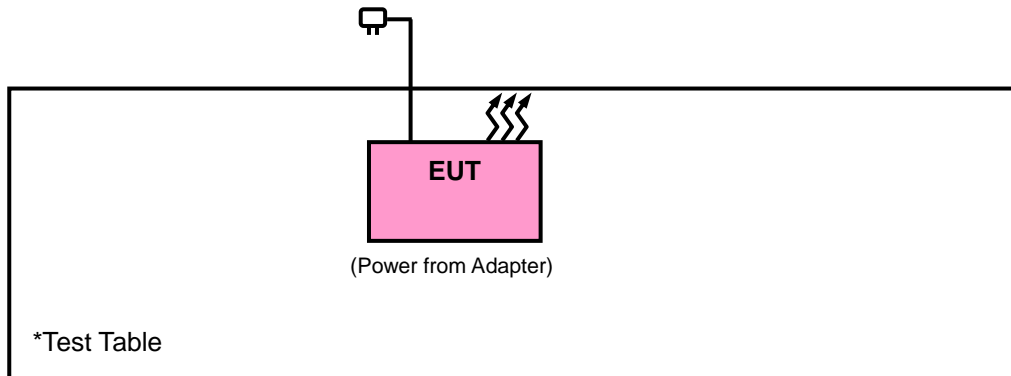
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE \geq 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu

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 v01r04

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 v01r04		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)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2 (dBµV/m) ^{*1} PK:105.2 (dBµV/m) ^{*2} PK: 110.8 (dBµV/m) ^{*3} PK:122.2 (dBµV/m) ^{*4}
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

^{*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:

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Jul. 05, 2017	Jul. 04, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 16, 2016	Dec. 15, 2017
			Dec. 06, 2017	Dec. 05, 2018
HORN Antenna ETS-Lindgren	3117	00143293	Jun. 26, 2017	Jun. 25, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
			Dec. 01, 2017	Nov. 30, 2018
Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 17, 2017	Apr. 16, 2018
Bluetooth Tester	CBT	100980	Jun. 28, 2017	Jun. 27, 2018
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
			Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent	310N	187226	Jun. 23, 2017	Jun. 22, 2018
Preamplifier Agilent	83017A	MY39501357	Jun. 23, 2017	Jun. 22, 2018
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
			Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
			Aug. 15, 2017	Aug. 14, 2018
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 23, 2017	Jun. 22, 2018
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 23, 2017	Jun. 22, 2018
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	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 HsinTien Chamber 1.

3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.

4. The IC Site Registration No. is IC7450I-1.

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:

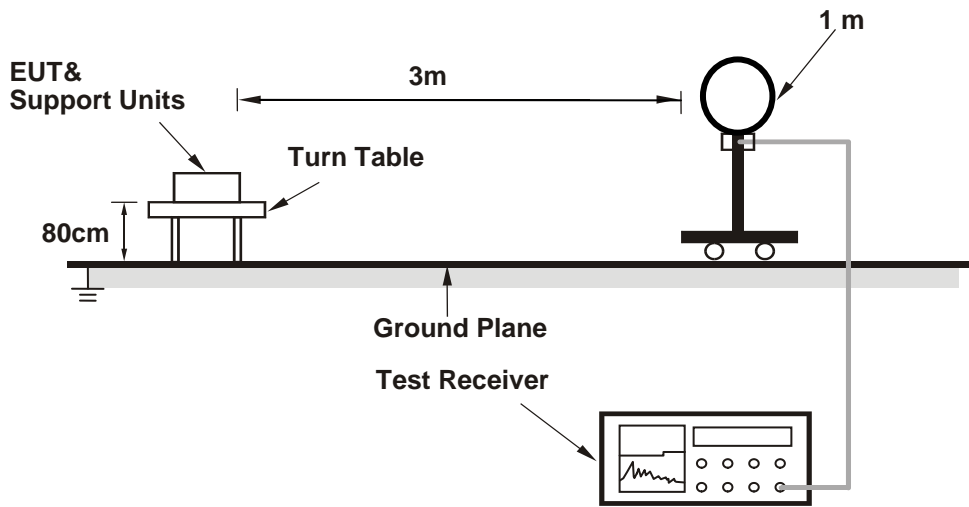
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency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

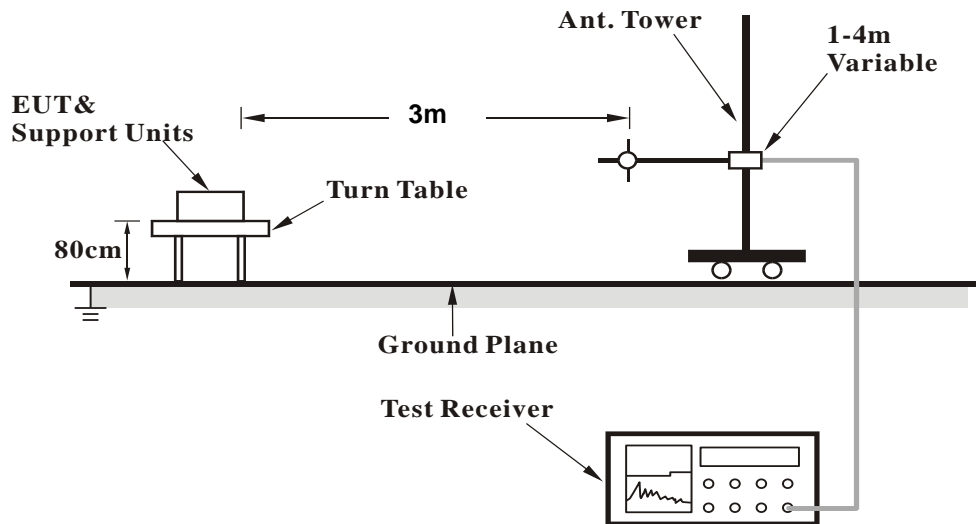
No deviation.

4.1.6 Test Set Up

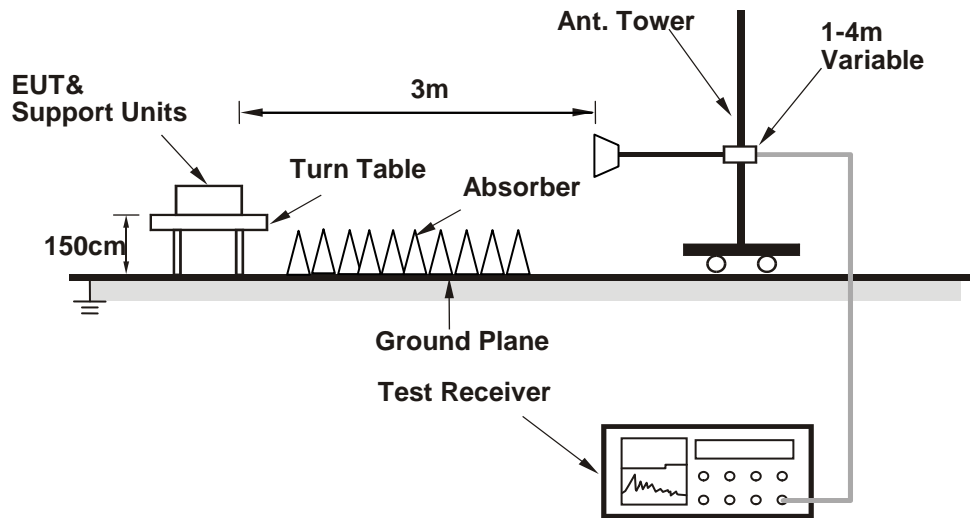
<Radiated emission below 30MHz>



<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
 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	Charles Hsiao

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
5149.7	46.39	38.14	54	-7.61	34.12	8.13	34	200	219	Average
5149.7	56.75	48.5	74	-17.25	34.12	8.13	34	200	219	Peak
5180	94.47	86.16			34.15	8.16	34	200	219	Average
5180	102.87	94.56			34.15	8.16	34	200	219	Peak
*10360	55.34	41.04	68.2	-12.86	37.12	12.3	35.12	147	5	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
5149.85	46.7	38.45	54	-7.3	34.12	8.13	34	172	258	Average
5149.85	56.9	48.65	74	-17.1	34.12	8.13	34	172	258	Peak
5180	95.65	87.34			34.15	8.16	34	172	258	Average
5180	103.61	95.3			34.15	8.16	34	172	258	Peak
*10360	55.73	41.43	68.2	-12.47	37.12	12.3	35.12	154	333	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5139.2	43.84	35.59	54	-10.16	34.11	8.13	33.99	200	219	Average
5139.2	54.09	45.84	74	-19.91	34.11	8.13	33.99	200	219	Peak
5220	97.62	89.23			34.17	8.22	34	200	219	Average
5220	105.36	96.97			34.17	8.22	34	200	219	Peak
5455.6	43.05	34.23	54	-10.95	34.36	8.51	34.05	200	219	Average
5455.6	53.97	45.15	74	-20.03	34.36	8.51	34.05	200	219	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
5147.9	44.06	35.81	54	-9.94	34.12	8.13	34	172	258	Average
5147.9	54.13	45.88	74	-19.87	34.12	8.13	34	172	258	Peak
5220	98.72	90.33			34.17	8.22	34	172	258	Average
5220	106.43	98.04			34.17	8.22	34	172	258	Peak
5459.67	42.96	34.14	54	-11.04	34.36	8.51	34.05	172	258	Average
5459.67	54.21	45.39	74	-19.79	34.36	8.51	34.05	172	258	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5240	97.24	88.8			34.19	8.26	34.01	200	219	Average
5240	105.33	96.89			34.19	8.26	34.01	200	219	Peak
5350.66	42.95	34.32	54	-11.05	34.28	8.38	34.03	200	219	Average
5350.66	53.96	45.33	74	-20.04	34.28	8.38	34.03	200	219	Peak
*10480	56.39	41.88	68.2	-11.81	37.19	12.53	35.21	165	295	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
5240	98.36	89.92			34.19	8.26	34.01	172	258	Average
5240	106.79	98.35			34.19	8.26	34.01	172	258	Peak
5356.93	43.1	34.47	54	-10.9	34.28	8.38	34.03	172	258	Average
5356.93	53.49	44.86	74	-20.51	34.28	8.38	34.03	172	258	Peak
*10480	56.11	41.6	68.2	-12.09	37.19	12.53	35.21	106	141	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5129.6	43.12	34.9	54	-10.88	34.11	8.1	33.99	200	222	Average
5129.6	54.49	46.27	74	-19.51	34.11	8.1	33.99	200	222	Peak
5260	97.64	89.18			34.21	8.26	34.01	200	222	Average
5260	105.44	96.98			34.21	8.26	34.01	200	222	Peak
*10520	57.2	42.61	68.2	-11	37.21	12.61	35.23	124	212	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
5099.45	43.22	35.06	54	-10.78	34.08	8.07	33.99	168	268	Average
5099.45	53.88	45.72	74	-20.12	34.08	8.07	33.99	168	268	Peak
5260	98.73	90.27			34.21	8.26	34.01	168	268	Average
5260	106.8	98.34			34.21	8.26	34.01	168	268	Peak
*10520	56.43	41.84	68.2	-11.77	37.21	12.61	35.23	106	346	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5056.1	43.77	35.67	54	-10.23	34.05	8.03	33.98	200	222	Average
5056.1	54.05	45.95	74	-19.95	34.05	8.03	33.98	200	222	Peak
5300	97.37	88.83			34.24	8.32	34.02	200	222	Average
5300	105.26	96.72			34.24	8.32	34.02	200	222	Peak
5350.33	44.24	35.61	54	-9.76	34.28	8.38	34.03	200	222	Average
5350.33	54.49	45.86	74	-19.51	34.28	8.38	34.03	200	222	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
5061.65	43.77	35.67	54	-10.23	34.05	8.03	33.98	168	268	Average
5061.65	54.88	46.78	74	-19.12	34.05	8.03	33.98	168	268	Peak
5300	98.77	90.23			34.24	8.32	34.02	168	268	Average
5300	106.6	98.06			34.24	8.32	34.02	168	268	Peak
5350.22	44.31	35.68	54	-9.69	34.28	8.38	34.03	168	268	Average
5350.22	54.74	46.11	74	-19.26	34.28	8.38	34.03	168	268	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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	94.92	86.34			34.25	8.35	34.02	200	222	Average
5320	102.51	93.93			34.25	8.35	34.02	200	222	Peak
5350	44.31	35.68	54	-9.69	34.28	8.38	34.03	200	222	Average
5350	54.73	46.1	74	-19.27	34.28	8.38	34.03	200	222	Peak
10640	46.67	31.94	54	-7.33	37.31	12.71	35.29	114	244	Average
10640	56.81	42.08	74	-17.19	37.31	12.71	35.29	114	244	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	95.65	87.07			34.25	8.35	34.02	168	268	Average
5320	103.69	95.11			34.25	8.35	34.02	168	268	Peak
5350	44.55	35.92	54	-9.45	34.28	8.38	34.03	168	268	Average
5350	54.6	45.97	74	-19.4	34.28	8.38	34.03	168	268	Peak
10640	46.46	31.73	54	-7.54	37.31	12.71	35.29	103	340	Average
10640	56.31	41.58	74	-17.69	37.31	12.71	35.29	103	340	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5458.96	44.6	35.78	54	-9.4	34.36	8.51	34.05	226	226	Average
5458.96	54.1	45.28	74	-19.9	34.36	8.51	34.05	226	226	Peak
*5468.24	56.99	48.16	68.2	-11.21	34.37	8.51	34.05	226	226	Peak
5500	93.47	84.55			34.4	8.57	34.05	226	226	Average
5500	101.86	92.94			34.4	8.57	34.05	226	226	Peak
11000	46.5	31.42	54	-7.5	37.6	12.96	35.48	148	354	Average
11000	57.83	42.75	74	-16.17	37.6	12.96	35.48	148	354	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
5459.6	44.27	35.45	54	-9.73	34.36	8.51	34.05	200	265	Average
5459.6	54.2	45.38	74	-19.8	34.36	8.51	34.05	200	265	Peak
*5468.56	55.97	47.14	68.2	-12.23	34.37	8.51	34.05	200	265	Peak
5500	94.28	85.36			34.4	8.57	34.05	200	265	Average
5500	102.21	93.29			34.4	8.57	34.05	200	265	Peak
11000	46.85	31.77	54	-7.15	37.6	12.96	35.48	106	127	Average
11000	57.25	42.17	74	-16.75	37.6	12.96	35.48	106	127	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5446.32	43.35	34.52	54	-10.65	34.36	8.51	34.04	226	226	Average
5446.32	54.18	45.35	74	-19.82	34.36	8.51	34.04	226	226	Peak
*5469.84	52.23	43.4	68.2	-15.97	34.37	8.51	34.05	226	226	Peak
5580	96.39	87.4			34.47	8.6	34.08	226	226	Average
5580	104.83	95.84			34.47	8.6	34.08	226	226	Peak
*5724.36	52.75	43.59	68.2	-15.45	34.62	8.65	34.11	226	226	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
5416.24	43.36	34.63	54	-10.64	34.33	8.44	34.04	200	265	Average
5416.24	53.32	44.59	74	-20.68	34.33	8.44	34.04	200	265	Peak
*5469.84	52.39	43.56	68.2	-15.81	34.37	8.51	34.05	200	265	Peak
5580	97.76	88.77			34.47	8.6	34.08	200	265	Average
5580	105.48	96.49			34.47	8.6	34.08	200	265	Peak
*5725.48	53.04	43.88	68.2	-15.16	34.62	8.65	34.11	200	265	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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	93.99	84.86			34.59	8.64	34.1	226	226	Average
5700	101.91	92.78			34.59	8.64	34.1	226	226	Peak
*5725.08	55.62	46.46	68.2	-12.58	34.62	8.65	34.11	226	226	Peak
11400	46.71	31.61	54	-7.29	37.84	12.67	35.41	113	258	Average
11400	58.71	43.61	74	-15.29	37.84	12.67	35.41	113	258	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	94.42	85.29			34.59	8.64	34.1	200	265	Average
5700	102.57	93.44			34.59	8.64	34.1	200	265	Peak
*5724.04	55.09	45.93	68.2	-13.11	34.62	8.65	34.11	200	265	Peak
11400	46.28	31.18	54	-7.72	37.84	12.67	35.41	141	112	Average
11400	56.78	41.68	74	-17.22	37.84	12.67	35.41	141	112	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 144	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	Charles Hsiao

<Spurious Emission>

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
5040.4	40.76	39.73	54	-13.24	31.74	6.47	37.18	194	209	Average
5404.4	52.49	51.46	74	-21.51	31.74	6.47	37.18	194	209	Peak
*5467.6	49.99	48.76	68.2	-18.21	31.79	6.52	37.08	194	209	Peak
5720	95.86	94.36			32.18	6.75	37.43	194	209	Average
5720	104.89	103.39			32.18	6.75	37.43	194	209	Peak
11440	46.98	48.86	54	-7.02	40.3	10.55	52.73	105	10	Average
11440	55.9	57.78	74	-18.1	40.3	10.55	52.73	105	10	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
5450.96	38.69	37.49	54	-15.31	31.77	6.51	37.08	203	9	Average
5450.96	50.47	49.34	74	-23.53	31.76	6.5	37.13	203	9	Peak
*5463.92	51.04	49.82	68.2	-17.16	31.79	6.51	37.08	203	9	Peak
5720	95.54	94.04			32.18	6.75	37.43	203	9	Average
5720	104.53	103.03			32.18	6.75	37.43	203	9	Peak
11440	46.09	47.97	54	-7.91	40.3	10.55	52.73	184	117	Average
11440	55.91	57.79	74	-18.09	40.3	10.55	52.73	184	117	Peak

<Out of Band Emission (OOBE)>

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
5923.35	49.02	47.14	69.42	-20.4	32.52	6.86	37.5	194	209	Peak
6010.75	52.8	50.75	68.2	-15.4	32.67	6.89	37.51	194	209	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
5922.875	50.09	48.21	69.77	-19.68	32.52	6.86	37.5	203	9	Peak
5949.95	52.19	50.27	68.2	-16.01	32.55	6.87	37.5	203	9	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5720 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5745	96.43	87.24			34.64	8.66	34.11	277	9	Average
5745	104.44	95.25			34.64	8.66	34.11	277	9	Peak
11490	48.17	33.05	54	-5.83	37.89	12.62	35.39	137	166	Average
11490	57.2	42.08	74	-16.8	37.89	12.62	35.39	137	166	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
5745	95.89	86.7			34.64	8.66	34.11	202	19	Average
5745	103.34	94.15			34.64	8.66	34.11	202	19	Peak
11490	47.25	32.13	54	-6.75	37.89	12.62	35.39	164	147	Average
11490	56.46	41.34	74	-17.54	37.89	12.62	35.39	164	147	Peak

<Out of Band Emission (OOBE)>

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
*5618.125	55.22	46.17	68.2	-12.98	34.52	8.61	34.08	277	9	Peak
5653.3	53.35	44.25	70.64	-17.29	34.56	8.63	34.09	277	9	Peak
5922.625	53.65	44.25	69.96	-16.31	34.83	8.73	34.16	277	9	Peak
*5977.75	55.02	45.56	68.2	-13.18	34.88	8.75	34.17	277	9	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
*5641.225	54.89	45.82	68.2	-13.31	34.54	8.62	34.09	202	19	Peak
5652.25	51.95	42.86	69.86	-17.91	34.56	8.62	34.09	202	19	Peak
5923.15	53.03	43.63	69.57	-16.54	34.83	8.73	34.16	202	19	Peak
*5986.15	54.74	45.28	68.2	-13.46	34.88	8.75	34.17	202	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5785	96.29	87.06			34.68	8.68	34.13	264	8	Average
5785	104.3	95.07			34.68	8.68	34.13	264	8	Peak
11570	48.52	33.21	54	-5.48	38	12.68	35.37	196	120	Average
11570	57.79	42.48	74	-16.21	38	12.68	35.37	196	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
5785	96.14	86.91			34.68	8.68	34.13	202	19	Average
5785	103.57	94.34			34.68	8.68	34.13	202	19	Peak
11570	48.35	33.04	54	-5.65	38	12.68	35.37	123	259	Average
11570	57.57	42.26	74	-16.43	38	12.68	35.37	123	259	Peak

<Out of Band Emission (OOBE)>

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
*5539.375	54.01	45.07	68.2	-14.19	34.43	8.58	34.07	264	8	Peak
5652.775	52.16	43.06	70.25	-18.09	34.56	8.63	34.09	264	8	Peak
5922.625	52.73	43.33	69.96	-17.23	34.83	8.73	34.16	264	8	Peak
*5944.675	55.22	45.79	68.2	-12.98	34.85	8.74	34.16	264	8	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
*5639.65	55.07	46	68.2	-13.13	34.54	8.62	34.09	202	19	Peak
5652.25	53.2	44.11	69.86	-16.66	34.56	8.62	34.09	202	19	Peak
5923.15	53.44	44.04	69.57	-16.13	34.83	8.73	34.16	202	19	Peak
*5995.075	54.97	45.48	68.2	-13.23	34.9	8.76	34.17	202	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 165	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	Charles Hsiao

<Spurious Emission>

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
5825	96.44	87.15			34.73	8.69	34.13	272	8	Average
5825	104.25	94.96			34.73	8.69	34.13	272	8	Peak
11650	47.86	32.33	54	-6.14	38.09	12.8	35.36	127	241	Average
11650	58.05	42.52	74	-15.95	38.09	12.8	35.36	127	241	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
5825	95.95	86.66			34.73	8.69	34.13	202	19	Average
5825	103.64	94.35			34.73	8.69	34.13	202	19	Peak
11650	48.31	32.78	54	-5.69	38.09	12.8	35.36	127	199	Average
11650	57.46	41.93	74	-16.54	38.09	12.8	35.36	127	199	Peak

<Out of Band Emission (OOBE)>

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
*5586.1	55.2	46.19	68.2	-13	34.49	8.6	34.08	272	8	Peak
5652.25	53.98	44.89	69.86	-15.88	34.56	8.62	34.09	272	8	Peak
5922.625	52.67	43.27	69.96	-17.29	34.83	8.73	34.16	272	8	Peak
*5989.3	54.65	45.19	68.2	-13.55	34.88	8.75	34.17	272	8	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
*5511.55	54.24	45.33	68.2	-13.96	34.4	8.57	34.06	202	19	Peak
5652.775	52.38	43.28	70.25	-17.87	34.56	8.63	34.09	202	19	Peak
5922.625	52.9	43.5	69.96	-17.06	34.83	8.73	34.16	202	19	Peak
*5969.875	56.1	46.65	68.2	-12.1	34.87	8.75	34.17	202	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band

Mode B

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	Charles Hsiao

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
5147.6	44.29	36.04	54	-9.71	34.12	8.13	34	233	348	Average
5147.6	61.4	53.15	74	-12.6	34.12	8.13	34	233	348	Peak
5180	97	88.69			34.15	8.16	34	233	348	Average
5180	105.34	97.03			34.15	8.16	34	233	348	Peak
*10360	56.12	41.82	68.2	-12.08	37.12	12.3	35.12	124	220	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
5142.2	44.7	36.44	54	-9.3	34.12	8.13	33.99	138	340	Average
5142.2	56.2	47.94	74	-17.8	34.12	8.13	33.99	138	340	Peak
5180	96.23	87.92			34.15	8.16	34	138	340	Average
5180	104.74	96.43			34.15	8.16	34	138	340	Peak
*10360	56.51	42.21	68.2	-11.69	37.12	12.3	35.12	149	44	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5083.7	43.87	35.71	54	-10.13	34.07	8.07	33.98	206	219	Average
5083.7	53.99	45.83	74	-20.01	34.07	8.07	33.98	206	219	Peak
5220	100.11	91.72			34.17	8.22	34	206	219	Average
5220	107.7	99.31			34.17	8.22	34	206	219	Peak
5409.95	42.98	34.26	54	-11.02	34.32	8.44	34.04	206	219	Average
5409.95	53.69	44.97	74	-20.31	34.32	8.44	34.04	206	219	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
5099.3	43.36	35.2	54	-10.64	34.08	8.07	33.99	124	340	Average
5099.3	53.81	45.65	74	-20.19	34.08	8.07	33.99	124	340	Peak
5220	99.31	90.92			34.17	8.22	34	124	340	Average
5220	106.63	98.24			34.17	8.22	34	124	340	Peak
5396.53	42.96	34.24	54	-11.04	34.32	8.44	34.04	124	340	Average
5396.53	53.82	45.1	74	-20.18	34.32	8.44	34.04	124	340	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5240	100.43	91.99			34.19	8.26	34.01	206	219	Average
5240	107.56	99.12			34.19	8.26	34.01	206	219	Peak
5362.21	42.87	34.23	54	-11.13	34.29	8.38	34.03	206	219	Average
5362.21	53.81	45.17	74	-20.19	34.29	8.38	34.03	206	219	Peak
*10480	56.89	42.38	68.2	-11.31	37.19	12.53	35.21	143	333	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
5240	99.47	91.03			34.19	8.26	34.01	124	340	Average
5240	106.08	97.64			34.19	8.26	34.01	124	340	Peak
5408.19	43.07	34.35	54	-10.93	34.32	8.44	34.04	124	340	Average
5408.19	53.55	44.83	74	-20.45	34.32	8.44	34.04	124	340	Peak
*10480	56.18	41.67	68.2	-12.02	37.19	12.53	35.21	124	215	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5098.25	43.19	35.03	54	-10.81	34.08	8.07	33.99	201	306	Average
5098.25	54.82	46.66	74	-19.18	34.08	8.07	33.99	201	306	Peak
5260	98.14	89.68			34.21	8.26	34.01	201	306	Average
5260	105	96.54			34.21	8.26	34.01	201	306	Peak
*10520	55.83	41.24	68.2	-12.37	37.21	12.61	35.23	117	213	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
5103.95	43.19	35.03	54	-10.81	34.08	8.07	33.99	183	266	Average
5103.95	54.32	46.16	74	-19.68	34.08	8.07	33.99	183	266	Peak
5260	99.76	91.3			34.21	8.26	34.01	183	266	Average
5260	106.43	97.97			34.21	8.26	34.01	183	266	Peak
*10520	56.12	41.53	68.2	-12.08	37.21	12.61	35.23	118	1	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5136.2	43.23	34.98	54	-10.77	34.11	8.13	33.99	201	306	Average
5136.2	53.81	45.56	74	-20.19	34.11	8.13	33.99	201	306	Peak
5300	98.35	89.81			34.24	8.32	34.02	201	306	Average
5300	105.27	96.73			34.24	8.32	34.02	201	306	Peak
5351.21	43.47	34.84	54	-10.53	34.28	8.38	34.03	201	306	Average
5351.21	53.89	45.26	74	-20.11	34.28	8.38	34.03	201	306	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
5144.6	43.55	35.3	54	-10.45	34.12	8.13	34	183	266	Average
5144.6	54.14	45.89	74	-19.86	34.12	8.13	34	183	266	Peak
5300	99.49	90.95			34.24	8.32	34.02	183	266	Average
5300	106.61	98.07			34.24	8.32	34.02	183	266	Peak
5351.65	43.7	35.07	54	-10.3	34.28	8.38	34.03	183	266	Average
5351.65	54.08	45.45	74	-19.92	34.28	8.38	34.03	183	266	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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	92.42	83.84			34.25	8.35	34.02	201	306	Average
5320	99.04	90.46			34.25	8.35	34.02	201	306	Peak
5351.76	42.97	34.34	54	-11.03	34.28	8.38	34.03	201	306	Average
5351.76	53.04	44.41	74	-20.96	34.28	8.38	34.03	201	306	Peak
10640	45.97	31.24	54	-8.03	37.31	12.71	35.29	164	333	Average
10640	56.94	42.21	74	-17.06	37.31	12.71	35.29	164	333	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	93.55	84.97			34.25	8.35	34.02	183	266	Average
5320	100.59	92.01			34.25	8.35	34.02	183	266	Peak
5350.11	43.02	34.39	54	-10.98	34.28	8.38	34.03	183	266	Average
5350.11	54.53	45.9	74	-19.47	34.28	8.38	34.03	183	266	Peak
10640	46.14	31.41	54	-7.86	37.31	12.71	35.29	154	177	Average
10640	56.71	41.98	74	-17.29	37.31	12.71	35.29	154	177	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5459.6	43.7	34.88	54	-10.3	34.36	8.51	34.05	100	216	Average
5459.6	54.4	45.58	74	-19.6	34.36	8.51	34.05	100	216	Peak
*5468.08	53.39	44.56	68.2	-14.81	34.37	8.51	34.05	100	216	Peak
5500	93.46	84.54			34.4	8.57	34.05	100	216	Average
5500	100.61	91.69			34.4	8.57	34.05	100	216	Peak
11000	47.23	32.15	54	-6.77	37.6	12.96	35.48	134	115	Average
11000	56.15	41.07	74	-17.85	37.6	12.96	35.48	134	115	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
5459.6	43.87	35.05	54	-10.13	34.36	8.51	34.05	200	261	Average
5459.6	54.47	45.65	74	-19.53	34.36	8.51	34.05	200	261	Peak
*5470	54.91	46.08	68.2	-13.29	34.37	8.51	34.05	200	261	Peak
5500	96.14	87.22			34.4	8.57	34.05	200	261	Average
5500	103	94.08			34.4	8.57	34.05	200	261	Peak
11000	48.87	33.79	54	-5.13	37.6	12.96	35.48	142	327	Average
11000	58.1	43.02	74	-15.9	37.6	12.96	35.48	142	327	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5424.4	43.21	34.44	54	-10.79	34.33	8.48	34.04	100	216	Average
5424.4	53.37	44.6	74	-20.63	34.33	8.48	34.04	100	216	Peak
*5470.32	52.62	43.79	68.2	-15.58	34.37	8.51	34.05	100	216	Peak
5580	96.52	87.53			34.47	8.6	34.08	100	216	Average
5580	103.18	94.19			34.47	8.6	34.08	100	216	Peak
*5724.12	52.57	43.41	68.2	-15.63	34.62	8.65	34.11	100	216	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
5421.2	43.9	35.13	54	-10.1	34.33	8.48	34.04	200	261	Average
5421.2	54.09	45.32	74	-19.91	34.33	8.48	34.04	200	261	Peak
*5470.48	53.25	44.42	68.2	-14.95	34.37	8.51	34.05	200	261	Peak
5580	99.36	90.37			34.47	8.6	34.08	200	261	Average
5580	106.67	97.68			34.47	8.6	34.08	200	261	Peak
*5723.96	52.15	42.99	68.2	-16.05	34.62	8.65	34.11	200	261	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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	92.75	83.62			34.59	8.64	34.1	100	216	Average
5700	99.4	90.27			34.59	8.64	34.1	100	216	Peak
*5724.76	54.77	45.61	68.2	-13.43	34.62	8.65	34.11	100	216	Peak
11400	47.53	32.43	54	-6.47	37.84	12.67	35.41	185	62	Average
11400	56.48	41.38	74	-17.52	37.84	12.67	35.41	185	62	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	95.14	86.01			34.59	8.64	34.1	200	261	Average
5700	102.4	93.27			34.59	8.64	34.1	200	261	Peak
*5724.04	54.63	45.47	68.2	-13.57	34.62	8.65	34.11	200	261	Peak
11400	47.61	32.51	54	-6.39	37.84	12.67	35.41	125	137	Average
11400	56.84	41.74	74	-17.16	37.84	12.67	35.41	125	137	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 144	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	Charles Hsiao

<Spurious Emission>

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
5399.6	41.26	40.23	54	-12.74	31.74	6.47	37.18	200	291	Average
5399.6	52.37	51.34	74	-21.63	31.74	6.47	37.18	200	291	Peak
*5468.88	49.88	48.65	68.2	-18.32	31.79	6.52	37.08	200	291	Peak
5720	99.04	97.54			32.18	6.75	37.43	200	291	Average
5720	108.65	107.15			32.18	6.75	37.43	200	291	Peak
11440	47.26	49.14	54	-6.74	40.3	10.55	52.73	100	251	Average
11440	56.49	58.37	74	-17.51	40.3	10.55	52.73	100	251	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
5402.32	44.49	43.46	54	-9.51	31.74	6.47	37.18	200	91	Average
5402.32	55.8	54.77	74	-18.2	31.74	6.47	37.18	200	91	Peak
*5466.64	51.4	50.17	68.2	-16.8	31.79	6.52	37.08	200	91	Peak
5720	101.54	100.04			32.18	6.75	37.43	200	91	Average
5720	111.23	109.73			32.18	6.75	37.43	200	91	Peak
11440	46.5	48.38	54	-7.5	40.3	10.55	52.73	117	85	Average
11440	55.27	57.15	74	-18.73	40.3	10.55	52.73	117	85	Peak

<Out of Band Emission (OOBE)>

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
5922.875	49.83	47.95	69.77	-19.94	32.52	6.86	37.5	200	291	Peak
5961.825	51.85	49.92	68.2	-16.35	32.57	6.87	37.51	200	291	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
5920.975	51.49	49.64	71.17	-19.68	32.49	6.86	37.5	200	91	Peak
5956.125	52.23	50.29	68.2	-15.97	32.57	6.87	37.5	200	91	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5720 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5745	98.71	89.52			34.64	8.66	34.11	273	1	Average
5745	105.72	96.53			34.64	8.66	34.11	273	1	Peak
11490	47.63	32.51	54	-6.37	37.89	12.62	35.39	139	245	Average
11490	56.87	41.75	74	-17.13	37.89	12.62	35.39	139	245	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
5745	100.87	91.68			34.64	8.66	34.11	200	146	Average
5745	108.29	99.1			34.64	8.66	34.11	200	146	Peak
11490	47.28	32.16	54	-6.72	37.89	12.62	35.39	127	153	Average
11490	56.48	41.36	74	-17.52	37.89	12.62	35.39	127	153	Peak

<Out of Band Emission (OOBE)>

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
*5588.725	54.32	45.31	68.2	-13.88	34.49	8.6	34.08	273	1	Peak
5651.725	54.89	45.8	69.48	-14.59	34.56	8.62	34.09	273	1	Peak
5923.675	54.1	44.7	69.18	-15.08	34.83	8.73	34.16	273	1	Peak
*6006.625	55.46	45.95	68.2	-12.74	34.92	8.76	34.17	273	1	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
*5522.05	54.82	45.89	68.2	-13.38	34.42	8.57	34.06	200	146	Peak
5652.775	54.78	45.68	70.25	-15.47	34.56	8.63	34.09	200	146	Peak
5922.625	51.88	42.48	69.96	-18.08	34.83	8.73	34.16	200	146	Peak
*5981.95	55.21	45.75	68.2	-12.99	34.88	8.75	34.17	200	146	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5785	99.01	89.78			34.68	8.68	34.13	273	15	Average
5785	106.29	97.06			34.68	8.68	34.13	273	15	Peak
11570	48.72	33.41	54	-5.28	38	12.68	35.37	172	304	Average
11570	57.64	42.33	74	-16.36	38	12.68	35.37	172	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
5785	100.98	91.75			34.68	8.68	34.13	200	146	Average
5785	108.69	99.46			34.68	8.68	34.13	200	146	Peak
11570	48.53	33.22	54	-5.47	38	12.68	35.37	195	262	Average
11570	57.41	42.1	74	-16.59	38	12.68	35.37	195	262	Peak

<Out of Band Emission (OOBE)>

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
*5570.35	55.34	46.35	68.2	-12.86	34.47	8.59	34.07	273	15	Peak
5652.25	52.07	42.98	69.86	-17.79	34.56	8.62	34.09	273	15	Peak
5922.625	52	42.6	69.96	-17.96	34.83	8.73	34.16	273	15	Peak
*6003.475	55.87	46.38	68.2	-12.33	34.9	8.76	34.17	273	15	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
*5623.375	55.5	46.45	68.2	-12.7	34.52	8.61	34.08	200	146	Peak
5652.25	53.61	44.52	69.86	-16.25	34.56	8.62	34.09	200	146	Peak
5922.625	54.34	44.94	69.96	-15.62	34.83	8.73	34.16	200	146	Peak
*6023.425	55.95	46.44	68.2	-12.25	34.92	8.77	34.18	200	146	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 165	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	Charles Hsiao

<Spurious Emission>

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
5825	98.26	88.97			34.73	8.69	34.13	273	1	Average
5825	105.52	96.23			34.73	8.69	34.13	273	1	Peak
11650	48.72	33.19	54	-5.28	38.09	12.8	35.36	128	322	Average
11650	57.93	42.4	74	-16.07	38.09	12.8	35.36	128	322	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
5825	99.65	90.36			34.73	8.69	34.13	192	142	Average
5825	108.03	98.74			34.73	8.69	34.13	192	142	Peak
11650	48.33	32.8	54	-5.67	38.09	12.8	35.36	196	127	Average
11650	57.61	42.08	74	-16.39	38.09	12.8	35.36	196	127	Peak

<Out of Band Emission (OOBE)>

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
*5536.75	54	45.06	68.2	-14.2	34.43	8.58	34.07	273	1	Peak
5652.25	50.64	41.55	69.86	-19.22	34.56	8.62	34.09	273	1	Peak
5922.625	52.68	43.28	69.96	-17.28	34.83	8.73	34.16	273	1	Peak
*6012.4	54.73	45.23	68.2	-13.47	34.92	8.76	34.18	273	1	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
*5603.95	54.74	45.71	68.2	-13.46	34.5	8.61	34.08	192	142	Peak
5652.25	52.56	43.47	69.86	-17.3	34.56	8.62	34.09	192	142	Peak
5922.625	52.86	43.46	69.96	-17.1	34.83	8.73	34.16	192	142	Peak
*5968.825	55.08	45.63	68.2	-13.12	34.87	8.75	34.17	192	142	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5148.95	43.5	35.25	54	-10.5	34.12	8.13	34	276	1	Average
5148.95	53.33	45.08	74	-20.67	34.12	8.13	34	276	1	Peak
5190	90.69	82.35			34.15	8.19	34	276	1	Average
5190	98.72	90.38			34.15	8.19	34	276	1	Peak
5415.12	42.78	34.05	54	-11.22	34.33	8.44	34.04	276	1	Average
5415.12	53.53	44.8	74	-20.47	34.33	8.44	34.04	276	1	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
5147.15	44.51	36.26	54	-9.49	34.12	8.13	34	144	340	Average
5147.15	55.58	47.33	74	-18.42	34.12	8.13	34	144	340	Peak
5190	89.77	81.43			34.15	8.19	34	144	340	Average
5190	97.77	89.43			34.15	8.19	34	144	340	Peak
5400.82	42.84	34.12	54	-11.16	34.32	8.44	34.04	144	340	Average
5400.82	53.86	45.14	74	-20.14	34.32	8.44	34.04	144	340	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5147.75	43.78	35.53	54	-10.22	34.12	8.13	34	124	340	Average
5147.75	53.6	45.35	74	-20.4	34.12	8.13	34	124	340	Peak
5230	96.57	88.17			34.19	8.22	34.01	124	340	Average
5230	103.11	94.71			34.19	8.22	34.01	124	340	Peak
5434.15	43.3	34.51	54	-10.7	34.35	8.48	34.04	124	340	Average
5434.15	53.42	44.63	74	-20.58	34.35	8.48	34.04	124	340	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
5149.55	43.9	35.65	54	-10.1	34.12	8.13	34	206	219	Average
5150	54.97	46.72	74	-19.03	34.12	8.13	34	206	219	Peak
5230	97.49	89.09			34.19	8.22	34.01	206	219	Average
5230	104.33	95.93			34.19	8.22	34.01	206	219	Peak
5350.66	43.35	34.72	54	-10.65	34.28	8.38	34.03	206	219	Average
5350.66	53.64	45.01	74	-20.36	34.28	8.38	34.03	206	219	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5230 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5119.55	43.59	35.39	54	-10.41	34.09	8.1	33.99	210	306	Average
5119.55	54.25	46.05	74	-19.75	34.09	8.1	33.99	210	306	Peak
5270	95.66	87.17			34.21	8.29	34.01	210	306	Average
5270	102.59	94.1			34.21	8.29	34.01	210	306	Peak
5350.22	44.29	35.66	54	-9.71	34.28	8.38	34.03	210	306	Average
5350.22	54.01	45.38	74	-19.99	34.28	8.38	34.03	210	306	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
5148.5	43.47	35.22	54	-10.53	34.12	8.13	34	183	266	Average
5148.5	53.93	45.68	74	-20.07	34.12	8.13	34	183	266	Peak
5270	95.47	86.98			34.21	8.29	34.01	183	266	Average
5270	103.88	95.39			34.21	8.29	34.01	183	266	Peak
5353.85	44.54	35.91	54	-9.46	34.28	8.38	34.03	183	266	Average
5353.85	55.03	46.4	74	-18.97	34.28	8.38	34.03	183	266	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5270 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5127.8	43.17	34.95	54	-10.83	34.11	8.1	33.99	201	306	Average
5127.8	53.33	45.11	74	-20.67	34.11	8.1	33.99	201	306	Peak
5310	88.47	79.92			34.25	8.32	34.02	201	306	Average
5310	95.58	87.03			34.25	8.32	34.02	201	306	Peak
5350.22	43.38	34.75	54	-10.62	34.28	8.38	34.03	201	306	Average
5350.22	53.6	44.97	74	-20.4	34.28	8.38	34.03	201	306	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
5133.95	43.29	35.04	54	-10.71	34.11	8.13	33.99	183	266	Average
5133.95	53.21	44.96	74	-20.79	34.11	8.13	33.99	183	266	Peak
5310	89.85	81.3			34.25	8.32	34.02	183	266	Average
5310	96.13	87.58			34.25	8.32	34.02	183	266	Peak
5351.1	43.55	34.92	54	-10.45	34.28	8.38	34.03	183	266	Average
5351.1	53.78	45.15	74	-20.22	34.28	8.38	34.03	183	266	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5310 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5456.56	43.74	34.92	54	-10.26	34.36	8.51	34.05	100	216	Average
5456.56	53.8	44.98	74	-20.2	34.36	8.51	34.05	100	216	Peak
*5468.08	52.79	43.96	68.2	-15.41	34.37	8.51	34.05	100	216	Peak
5510	87.49	78.58			34.4	8.57	34.06	100	216	Average
5510	93.62	84.71			34.4	8.57	34.06	100	216	Peak
*5724.36	53.77	44.61	68.2	-14.43	34.62	8.65	34.11	100	216	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
5457.04	43.81	34.99	54	-10.19	34.36	8.51	34.05	200	261	Average
5457.04	53.77	44.95	74	-20.23	34.36	8.51	34.05	200	261	Peak
*5470.96	53.98	45.12	68.2	-14.22	34.37	8.54	34.05	200	261	Peak
5510	90.99	82.08			34.4	8.57	34.06	200	261	Average
5510	96.84	87.93			34.4	8.57	34.06	200	261	Peak
*5724.84	52.81	43.65	68.2	-15.39	34.62	8.65	34.11	200	261	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5510 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5448.72	45.59	36.76	54	-8.41	34.36	8.51	34.04	100	216	Average
5448.72	55.3	46.47	74	-18.7	34.36	8.51	34.04	100	216	Peak
*5470.96	56.25	47.39	68.2	-11.95	34.37	8.54	34.05	100	216	Peak
5550	94.36	85.39			34.45	8.59	34.07	100	216	Average
5550	100.2	91.23			34.45	8.59	34.07	100	216	Peak
*5726.04	52.98	43.82	68.2	-15.22	34.62	8.65	34.11	100	216	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
5457.52	46.75	37.93	54	-7.25	34.36	8.51	34.05	200	261	Average
5457.52	57.23	48.41	74	-16.77	34.36	8.51	34.05	200	261	Peak
*5468.88	56.91	48.08	68.2	-11.29	34.37	8.51	34.05	200	261	Peak
5550	97.05	88.08			34.45	8.59	34.07	200	261	Average
5550	103	94.03			34.45	8.59	34.07	200	261	Peak
*5725.72	53.34	44.18	68.2	-14.86	34.62	8.65	34.11	200	261	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5550 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5439.12	43.51	34.72	54	-10.49	34.35	8.48	34.04	100	216	Average
5439.12	53.4	44.61	74	-20.6	34.35	8.48	34.04	100	216	Peak
*5468.4	51.93	43.1	68.2	-16.27	34.37	8.51	34.05	100	216	Peak
5670	92.49	83.39			34.57	8.63	34.1	100	216	Average
5670	98.92	89.82			34.57	8.63	34.1	100	216	Peak
*5725.88	58.5	49.34	68.2	-9.7	34.62	8.65	34.11	100	216	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
5435.44	43.86	35.07	54	-10.14	34.35	8.48	34.04	200	261	Average
5435.44	53.72	44.93	74	-20.28	34.35	8.48	34.04	200	261	Peak
*5469.52	52.26	43.43	68.2	-15.94	34.37	8.51	34.05	200	261	Peak
5670	95.29	86.19			34.57	8.63	34.1	200	261	Average
5670	101.15	92.05			34.57	8.63	34.1	200	261	Peak
*5724.28	59.88	50.72	68.2	-8.32	34.62	8.65	34.11	200	261	Peak

Remarks:

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

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5755	94.22	85.01			34.66	8.66	34.11	277	1	Average
5755	101.58	92.37			34.66	8.66	34.11	277	1	Peak
11510	49.03	33.92	54	-4.97	37.9	12.6	35.39	148	124	Average
11510	58.41	43.3	74	-15.59	37.9	12.6	35.39	148	124	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
5755	96.42	87.21			34.66	8.66	34.11	200	146	Average
5755	104.21	95			34.66	8.66	34.11	200	146	Peak
11510	48.79	33.68	54	-5.21	37.9	12.6	35.39	123	168	Average
11510	58.35	43.24	74	-15.65	37.9	12.6	35.39	123	168	Peak

<Out of Band Emission (OOBE)>

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
*5626.525	54.5	45.45	68.2	-13.7	34.52	8.61	34.08	277	1	Peak
5652.25	52.81	43.72	69.86	-17.05	34.56	8.62	34.09	277	1	Peak
5922.625	52.65	43.25	69.96	-17.31	34.83	8.73	34.16	277	1	Peak
*5995.6	55	45.51	68.2	-13.2	34.9	8.76	34.17	277	1	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
*5602.375	54.92	45.89	68.2	-13.28	34.5	8.61	34.08	200	146	Peak
5652.25	53.64	44.55	69.86	-16.22	34.56	8.62	34.09	200	146	Peak
5923.675	52.54	43.14	69.18	-16.64	34.83	8.73	34.16	200	146	Peak
*5953.6	55.27	45.84	68.2	-12.93	34.85	8.74	34.16	200	146	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5795	94.34	85.1			34.69	8.68	34.13	273	1	Average
5795	102.18	92.94			34.69	8.68	34.13	273	1	Peak
11590	49.28	33.91	54	-4.72	38.02	12.72	35.37	185	162	Average
11590	58.33	42.96	74	-15.67	38.02	12.72	35.37	185	162	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
5795	97.65	88.41			34.69	8.68	34.13	200	146	Average
5795	105.2	95.96			34.69	8.68	34.13	200	146	Peak
11590	47.95	32.58	54	-6.05	38.02	12.72	35.37	137	116	Average
11590	57.16	41.79	74	-16.84	38.02	12.72	35.37	137	116	Peak

<Out of Band Emission (OOBE)>

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
*5639.125	54.89	45.82	68.2	-13.31	34.54	8.62	34.09	273	1	Peak
5652.25	53.59	44.5	69.86	-16.27	34.56	8.62	34.09	273	1	Peak
5922.625	53.1	43.7	69.96	-16.86	34.83	8.73	34.16	273	1	Peak
*5957.275	54.78	45.33	68.2	-13.42	34.87	8.74	34.16	273	1	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
*5643.325	55.36	46.29	68.2	-12.84	34.54	8.62	34.09	200	146	Peak
5651.725	51.46	42.37	69.48	-18.02	34.56	8.62	34.09	200	146	Peak
5922.625	53.82	44.42	69.96	-16.14	34.83	8.73	34.16	200	146	Peak
*6021.325	55.29	45.78	68.2	-12.91	34.92	8.77	34.18	200	146	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5100.5	44.39	36.23	54	-9.61	34.08	8.07	33.99	194	340	Average
5100.5	53.68	45.52	74	-20.32	34.08	8.07	33.99	194	340	Peak
5210	87.74	79.38			34.17	8.19	34	194	340	Average
5210	94.22	85.86			34.17	8.19	34	194	340	Peak
5447.24	43.56	34.73	54	-10.44	34.36	8.51	34.04	194	340	Average
5447.24	53.69	44.86	74	-20.31	34.36	8.51	34.04	194	340	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
5149.4	45.15	36.9	54	-8.85	34.12	8.13	34	206	219	Average
5150	55.18	46.93	74	-18.82	34.12	8.13	34	206	219	Peak
5210	86.65	78.29			34.17	8.19	34	206	219	Average
5210	93.84	85.48			34.17	8.19	34	206	219	Peak
5450.65	43.52	34.7	54	-10.48	34.36	8.51	34.05	206	219	Average
5450.65	54.23	45.41	74	-19.77	34.36	8.51	34.05	206	219	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5210 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5118.65	43.32	35.12	54	-10.68	34.09	8.1	33.99	210	306	Average
5118.65	54.16	45.96	74	-19.84	34.09	8.1	33.99	210	306	Peak
5290	85.77	77.24			34.23	8.32	34.02	210	306	Average
5290	92.9	84.37			34.23	8.32	34.02	210	306	Peak
5392.13	43.78	35.1	54	-10.22	34.31	8.41	34.04	210	306	Average
5392.13	54.02	45.34	74	-19.98	34.31	8.41	34.04	210	306	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
5133.5	43.38	35.13	54	-10.62	34.11	8.13	33.99	183	266	Average
5133.5	53.05	44.8	74	-20.95	34.11	8.13	33.99	183	266	Peak
5290	86.66	78.13			34.23	8.32	34.02	183	266	Average
5290	93.48	84.95			34.23	8.32	34.02	183	266	Peak
5350.88	43.79	35.16	54	-10.21	34.28	8.38	34.03	183	266	Average
5350.88	53.78	45.15	74	-20.22	34.28	8.38	34.03	183	266	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5290 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5452.4	44.48	35.66	54	-9.52	34.36	8.51	34.05	100	216	Average
5452.4	53.46	44.64	74	-20.54	34.36	8.51	34.05	100	216	Peak
*5468.4	53.61	44.78	68.2	-14.59	34.37	8.51	34.05	100	216	Peak
5530	82.65	73.72			34.42	8.58	34.07	100	216	Average
5530	88.44	79.51			34.42	8.58	34.07	100	216	Peak
*5725.48	52.66	43.5	68.2	-15.54	34.62	8.65	34.11	100	216	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
5456.72	44.63	35.81	54	-9.37	34.36	8.51	34.05	200	261	Average
5456.72	53.62	44.8	74	-20.38	34.36	8.51	34.05	200	261	Peak
*5470.8	53.5	44.64	68.2	-14.7	34.37	8.54	34.05	200	261	Peak
5530	85.28	76.35			34.42	8.58	34.07	200	261	Average
5530	91.26	82.33			34.42	8.58	34.07	200	261	Peak
*5725.32	52.41	43.25	68.2	-15.79	34.62	8.65	34.11	200	261	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5530 MHz: Fundamental Frequency
- *: 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	Charles Hsiao

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
5451.28	44.38	35.56	54	-9.62	34.36	8.51	34.05	100	216	Average
5451.28	54.22	45.4	74	-19.78	34.36	8.51	34.05	100	216	Peak
*5469.52	54.15	45.32	68.2	-14.05	34.37	8.51	34.05	100	216	Peak
5610	90.08	81.05			34.5	8.61	34.08	100	216	Average
5610	96.13	87.1			34.5	8.61	34.08	100	216	Peak
*5725.08	55.89	46.73	68.2	-12.31	34.62	8.65	34.11	100	216	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
5458.64	46.17	37.35	54	-7.83	34.36	8.51	34.05	200	261	Average
5458.64	55.6	46.78	74	-18.4	34.36	8.51	34.05	200	261	Peak
*5468.88	55.23	46.4	68.2	-12.97	34.37	8.51	34.05	200	261	Peak
5610	93.57	84.54			34.5	8.61	34.08	200	261	Average
5610	99.44	90.41			34.5	8.61	34.08	200	261	Peak
*5725.72	55.65	46.49	68.2	-12.55	34.62	8.65	34.11	200	261	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5610 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		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	Charles Hsiao

<Spurious Emission>

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
5775	90.32	81.09			34.68	8.67	34.12	273	15	Average
5775	97.39	88.16			34.68	8.67	34.12	273	15	Peak
11550	48.27	33	54	-5.73	37.97	12.68	35.38	196	342	Average
11550	57.23	41.96	74	-16.77	37.97	12.68	35.38	196	342	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
5775	91.47	82.24			34.68	8.67	34.12	192	142	Average
5775	100.19	90.96			34.68	8.67	34.12	192	142	Peak
11550	48.51	33.24	54	-5.49	37.97	12.68	35.38	134	161	Average
11550	57.46	42.19	74	-16.54	37.97	12.68	35.38	134	161	Peak

<Out of Band Emission (OOBE)>

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
*5634.925	55	45.93	68.2	-13.2	34.54	8.62	34.09	273	15	Peak
5652.25	53.58	44.49	69.86	-16.28	34.56	8.62	34.09	273	15	Peak
5922.625	53.92	44.52	69.96	-16.04	34.83	8.73	34.16	273	15	Peak
*6008.725	54.12	44.61	68.2	-14.08	34.92	8.76	34.17	273	15	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
*5612.35	54.29	45.26	68.2	-13.91	34.5	8.61	34.08	192	142	Peak
5652.25	52.8	43.71	69.86	-17.06	34.56	8.62	34.09	192	142	Peak
5921.575	53.03	43.63	70.73	-17.7	34.83	8.73	34.16	192	142	Peak
*6006.1	54.53	45.04	68.2	-13.67	34.9	8.76	34.17	192	142	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5775 MHz: Fundamental Frequency
- *: 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

802.11a

EUT Test Condition		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	Charles Hsiao

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
62.94	11.2	35.36	40	-28.8	7.17	0.9	32.23	175	142	Peak
114.78	20.52	42.44	43.5	-22.98	9.05	1.28	32.25	166	302	Peak
223.59	21.35	40.09	46	-24.65	11.81	1.65	32.2	145	126	Peak
384	23.29	36.08	46	-22.71	17.05	2.34	32.18	137	125	Peak
657	22.96	29.58	46	-23.04	22.53	2.99	32.14	195	342	Peak
787.2	24.31	29.07	46	-21.69	24.05	3.27	32.08	166	124	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
63.75	19.53	43.55	40	-20.47	7.31	0.9	32.23	188	205	Peak
155.55	14	34.24	43.5	-29.5	10.51	1.52	32.27	131	116	Peak
258.96	19.39	36.3	46	-26.61	13.25	1.94	32.1	169	157	Peak
379.1	25.47	38.77	46	-20.53	16.6	2.26	32.16	195	213	Peak
535.2	31.43	40.38	46	-14.57	20.52	2.7	32.17	145	162	Peak
836.9	24.54	29.37	46	-21.46	23.65	3.38	31.86	167	124	Peak

Remarks:

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

802.11a

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	Charles Hsiao

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
77.25	12.69	35.48	40	-27.31	8.32	1.11	32.22	157	164	Peak
139.62	14.63	36.22	43.5	-28.87	9.3	1.38	32.27	190	131	Peak
237.36	22.84	40.72	46	-23.16	12.42	1.85	32.15	185	124	Peak
421.8	18.65	30.69	46	-27.35	17.74	2.41	32.19	137	122	Peak
686.4	23.52	29.34	46	-22.48	23.23	3.05	32.1	195	204	Peak
932.8	26.52	27.94	46	-19.48	26.2	3.62	31.24	148	136	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
86.7	16.78	38.85	40	-23.22	8.73	1.11	31.91	147	195	Peak
173.1	16.07	36.59	43.5	-27.43	10.11	1.61	32.24	164	132	Peak
250.32	20.26	37.51	46	-25.74	13	1.85	32.1	184	112	Peak
497.4	29.54	40.02	46	-16.46	18.99	2.63	32.1	143	118	Peak
720	24.21	29.85	46	-21.79	23.31	3.16	32.11	167	289	Peak
873.3	25.96	29.37	46	-20.04	24.8	3.44	31.65	191	225	Peak

Remarks:

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

Mode B

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 100	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	Charles Hsiao

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
93.45	20.81	42.4	43.5	-22.69	9.18	1.11	31.88	198	124	Peak
180.93	19.17	39.4	43.5	-24.33	10.4	1.61	32.24	163	234	Peak
225.21	21.31	39.76	46	-24.69	11.9	1.85	32.2	157	220	Peak
374.9	23.4	36.99	46	-22.6	16.3	2.26	32.15	150	249	Peak
556.2	19.74	28.93	46	-26.26	20.25	2.76	32.2	172	146	Peak
801.9	24.44	28.57	46	-21.56	24.6	3.32	32.05	160	211	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
58.08	12.89	37.24	40	-27.11	6.98	0.9	32.23	126	180	Peak
147.45	13.81	34.64	43.5	-29.69	9.92	1.52	32.27	193	235	Peak
210.09	17.6	36.9	43.5	-25.9	11.31	1.65	32.26	164	128	Peak
367.9	24.82	38.36	46	-21.18	16.32	2.26	32.12	143	168	Peak
598.9	22.94	31.16	46	-23.06	21.1	2.87	32.19	198	125	Peak
876.1	26.21	29.55	46	-19.79	24.8	3.49	31.63	140	271	Peak

Remarks:

- 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 159	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	Charles Hsiao

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
49.17	9.05	32.31	40	-30.95	8.06	0.9	32.22	132	156	Peak
149.34	17.64	38.35	43.5	-25.86	10.04	1.52	32.27	158	192	Peak
223.05	20.91	39.65	46	-25.09	11.81	1.65	32.2	199	120	Peak
451.9	20.71	32.27	46	-25.29	18.09	2.49	32.14	137	165	Peak
600.3	20.1	28.32	46	-25.9	21.1	2.87	32.19	156	180	Peak
860.7	25.04	29.13	46	-20.96	24.2	3.44	31.73	176	131	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
65.91	20.59	44.32	40	-19.41	7.59	0.9	32.22	185	161	Peak
97.23	18.77	40.13	43.5	-24.73	9.46	1.28	32.1	159	126	Peak
243.3	20.37	37.93	46	-25.63	12.71	1.85	32.12	154	176	Peak
451.9	23.86	35.42	46	-22.14	18.09	2.49	32.14	126	305	Peak
540.8	30.92	39.91	46	-15.08	20.43	2.76	32.18	154	205	Peak
827.8	23.97	28.95	46	-22.03	23.55	3.38	31.91	185	126	Peak

Remarks:

- 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 Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ENV216	101196	Apr. 20, 2017	Apr. 19, 2018
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

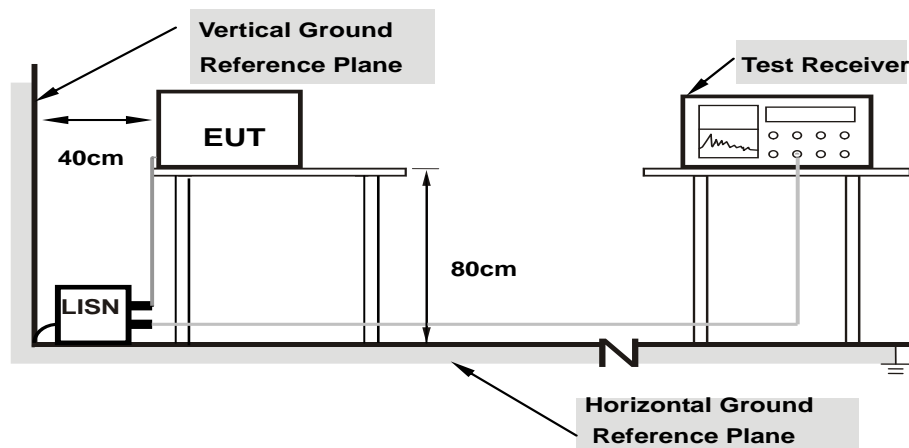
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

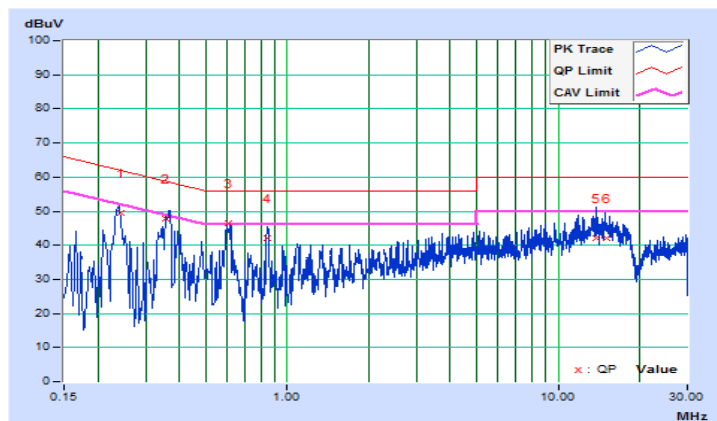
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Gavin Wu	Test Date	2017/8/2

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	0.24198	10.38	39.20	35.04	49.58	45.42	62.03	52.03	-12.45	-6.61
2	0.35556	10.39	37.29	28.04	47.68	38.43	58.83	48.83	-11.15	-10.40
3	0.60458	10.40	35.94	30.39	46.34	40.79	56.00	46.00	-9.66	-5.21
4	0.84368	10.40	31.80	24.87	42.20	35.27	56.00	46.00	-13.80	-10.73
5	13.84820	11.03	31.17	21.01	42.20	32.04	60.00	50.00	-17.80	-17.96
6	15.02740	11.09	30.90	21.00	41.99	32.09	60.00	50.00	-18.01	-17.91

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

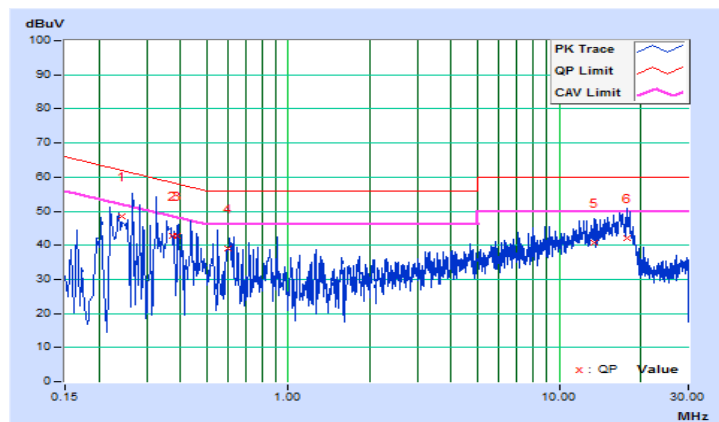


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Gavin Wu	Test Date	2017/8/2

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	0.24270	10.14	38.41	33.57	48.55	43.71	62.00	52.00	-13.45	-8.29
2	0.37395	10.16	32.73	21.63	42.89	31.79	58.41	48.41	-15.52	-16.62
3	0.38883	10.16	32.63	17.24	42.79	27.40	58.09	48.09	-15.30	-20.69
4	0.59562	10.16	28.92	18.49	39.08	28.65	56.00	46.00	-16.92	-17.35
5	13.39118	10.69	29.92	19.81	40.61	30.50	60.00	50.00	-19.39	-19.50
6	17.86908	10.88	31.23	20.46	42.11	31.34	60.00	50.00	-17.89	-18.66

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



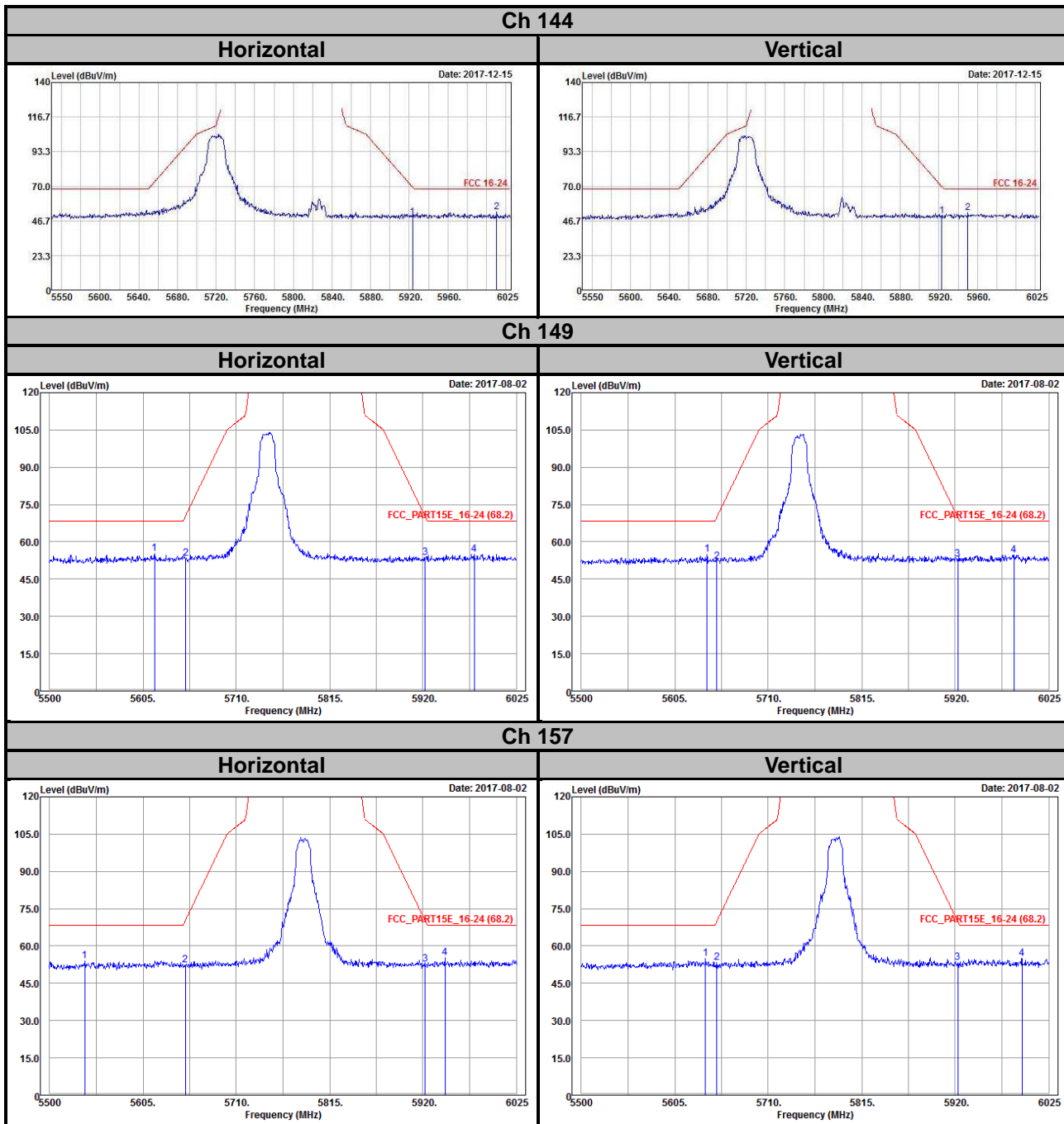
5 Pictures of Test Arrangements

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

Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)

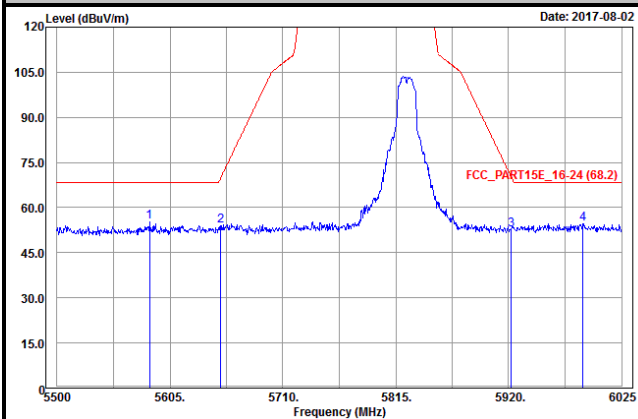
Mode A

802.11a

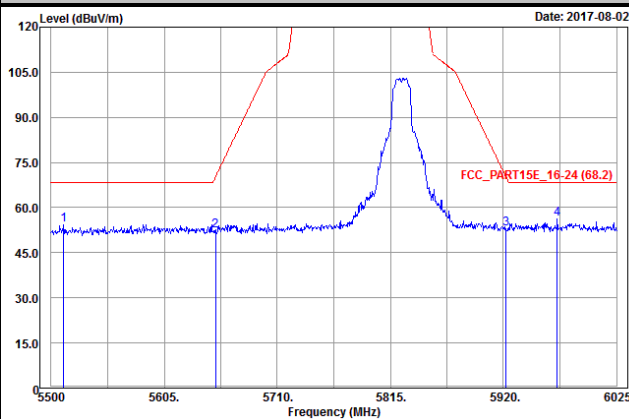


Ch 165

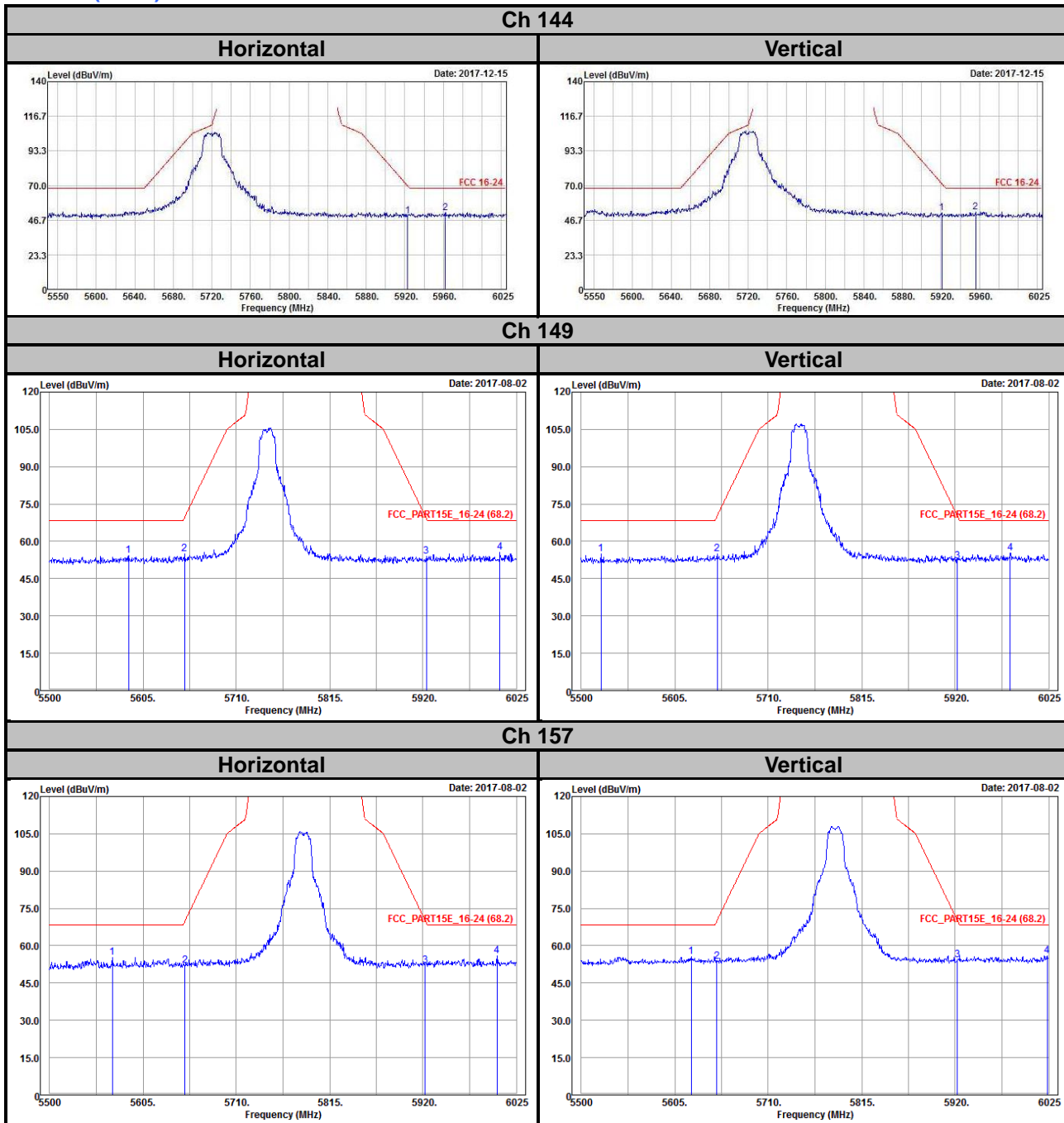
Horizontal



Vertical

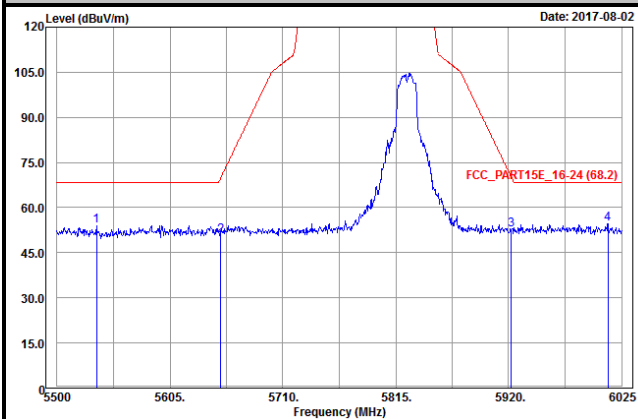


Mode B
802.11n (HT20)

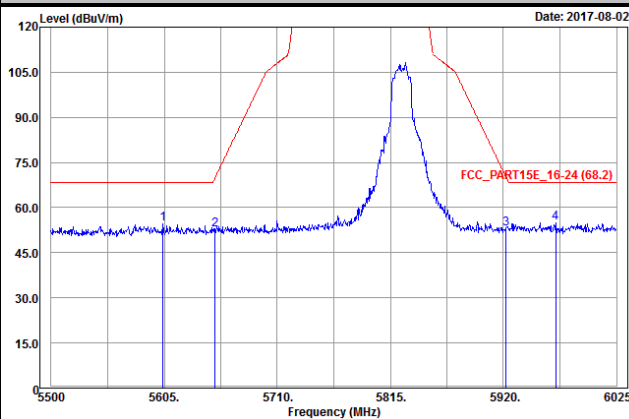


Ch 165

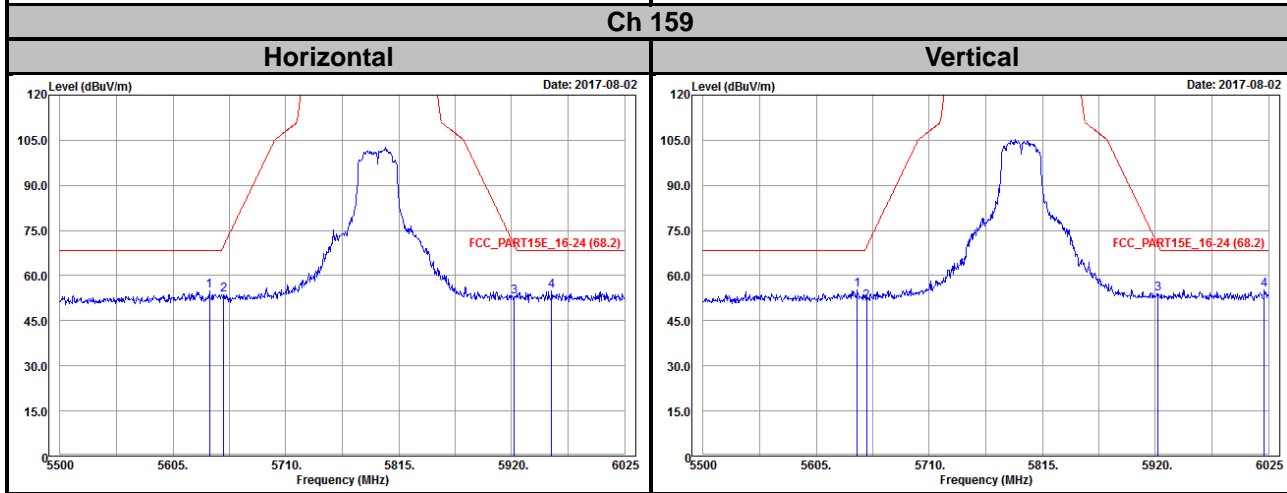
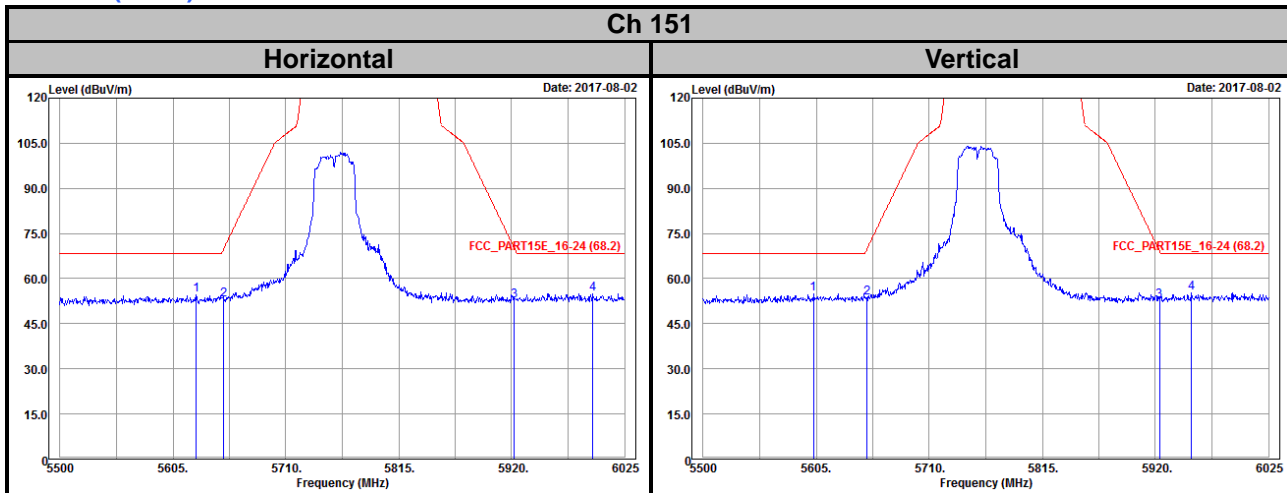
Horizontal



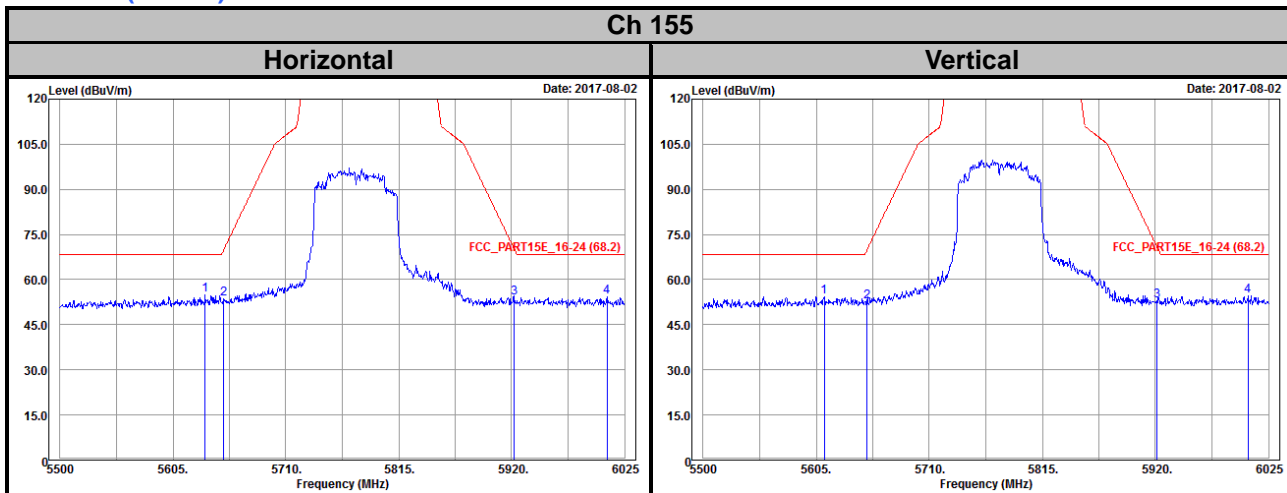
Vertical



802.11n (HT40)



802.11ac (VHT80)



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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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.

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