

FCC Test Report

Report No.: RF180907C24C-3

FCC ID: QYL9260NG

Model: V110, V110G5

Received Date: Apr. 30, 2019

Test Date: Jun. 04 ~ Jun. 06, 2019

Issued Date: Jul. 10, 2019

Applicant: Getac Technology Corporation.

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FCC Registration / 788550 / TW0003

Designation Number: 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RF180907C24C-3	Original Release	Jul. 10, 2019

1 Certificate of Conformity

Product: Notebook

Brand: Getac

Model: V110, V110G5

Sample Status: Engineering Sample

Applicant: Getac Technology Corporation.

Test Date: Jun. 04 ~ Jun. 06, 2019

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 RF characteristics under the conditions specified in this report.

Prepared by :



Date: Jul. 10, 2019

Lena Wang / Specialist

Approved by :



Date: Jul. 10, 2019

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 -17.70 dB at 0.39633 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.17 dB at 5149.7 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	N/A	Refer to Note
---	Occupied Bandwidth Measurement	N/A	Refer to Note
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note
15.407(e)	6 dB Bandwidth	N/A	Refer to Note
15.407(g)	Frequency Stability	N/A	Refer to Note
15.203	Antenna Requirement	N/A	Refer to Note

Note:

- Only test item of Radiated Emissions test and Conducted Emission tests were performed for this report. For other test data, please refer to Intel Report No.: 170524-01.TR01 · 170524-01.TR02 · 170524-01.TR03 · 170524-01.TR09 for module (Brand: Intel, Model: 9260NGW).
- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	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
Brand	Getac
Model	V110, V110G5
Model Difference	Refer to Note
Status of EUT	Engineering Sample
Power Supply Rating	19 Vdc (adapter) 11.1 Vdc (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 300.0 Mbps 802.11ac: up to 1733.3 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 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) 1 for 802.11ac (VHT160) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 1 for 802.11ac (VHT160) 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 2.51 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 3.2 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 2.79 dBi gain (5500 ~ 5700 MHz) PIFA antenna with 2.62 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
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
802.11ac (VHT160)	2TX

2. All models are listed as below.

Brand	Model	Difference
Getac	V110	All models are electrically identical, different model names are for marketing purpose.
	V110G5	

3. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	FSP	FSP065-RBBN3	I/P: 100-240 Vac, 50-60 Hz, 1.5 A O/P: 19 Vdc, 3.42 A 1.7 m shielded cable with 1 core
Battery	Getac Technology Corp.	BP3S1P2100-S	11.1 Vdc, 2100 mAh
LCD Panel 1	AUO	B116XAV05.0	11.6 inch
LCD Panel 2	New IPS KD	KD116N11-30NP-A9	11.6 inch
WLAN/BT Module	Intel	Intel 9260NGW	Support 2.4/ 5G
WWAN Module	Sierra Wireless, Inc.	EM7455	--
WWAN Module	Sierra Wireless, Inc.	EM7511	--
Digitizer	Microchip	PIC32MX270	--
GPS	GlobalSat	MC1010	--

4. The above EUT information is declared by manufacturer and for more detailed features description, please refers 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

1 channel is provided for 802.11ac (VHT160):

Channel	Frequency (MHz)
50	5250

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

1 channels are provided for 802.11ac (VHT160):

Channel	Frequency (MHz)
114	5570

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	-	1TX
B	√	-	-	-	2TX

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

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis (tablet mode) and NB mode. The worst case was found when positioned on NB mode.
2. "-" means no effect.

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, 40, 48	OFDM	BPSK	6.0
B		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
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	6.5
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	29.3
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	6.5
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

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	40	OFDM	BPSK	6.0

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)
A	5180-5240	802.11a	36 to 48	40	OFDM	BPSK	6.0

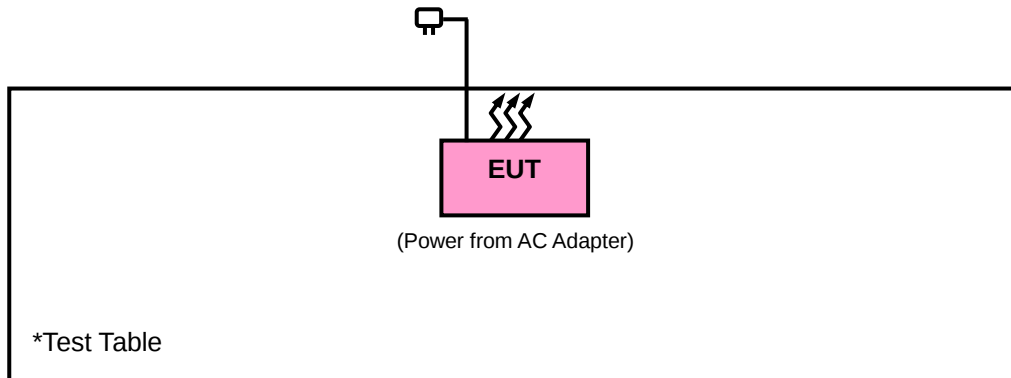
Test Condition:

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

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)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

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.

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 v02r01		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:

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 20, 2018	Aug. 19, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 15, 2019	Apr. 14, 2020
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 25, 2018	Nov. 24, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 27, 2018	Nov. 26, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2018	Nov. 24, 2019
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent	310N	187226	Jun. 19, 2018	Jun. 18, 2019
Preamplifier Agilent	83017A	MY39501357	Jun. 19, 2018	Jun. 18, 2019
Preamplifier EMCI	EMC 184045	980116	Oct. 12, 2018	Oct. 11, 2019
Power Meter Anritsu	ML2495A	1232002	Dec. 17, 2018	Dec. 16, 2019
Power Sensor Anritsu	MA2411B	1207325	Dec. 17, 2018	Dec. 16, 2019
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 19, 2018	Jun. 18, 2019
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 19, 2018	Jun. 18, 2019
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
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
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 05, 2018	Sep. 04, 2019
DC Power Supply Topward	33010D	807748	Oct. 24, 2018	Oct. 23, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019

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 HsinTien Chamber 1.

4.1.4 Test Procedures

For Radiated Emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Both Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

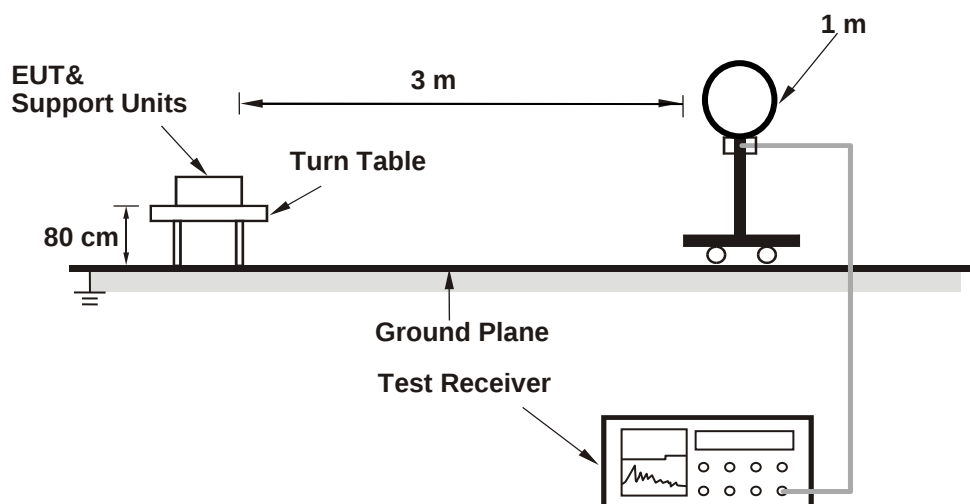
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
(11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ;
11n (HT40): RBW = 1 MHz, VBW = 2 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 4 kHz ; 11ac (VHT160): RBW = 1 MHz, VBW = 7 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

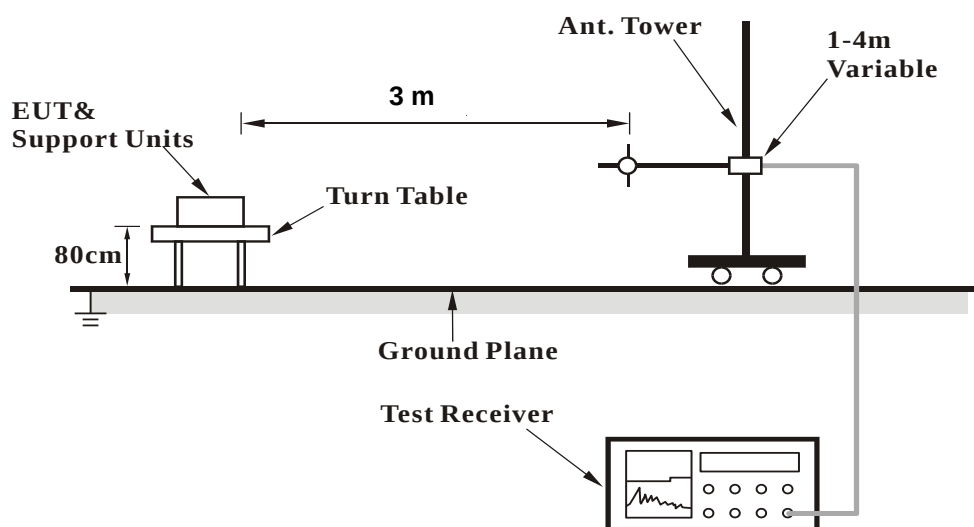
No deviation.

4.1.6 Test Setup

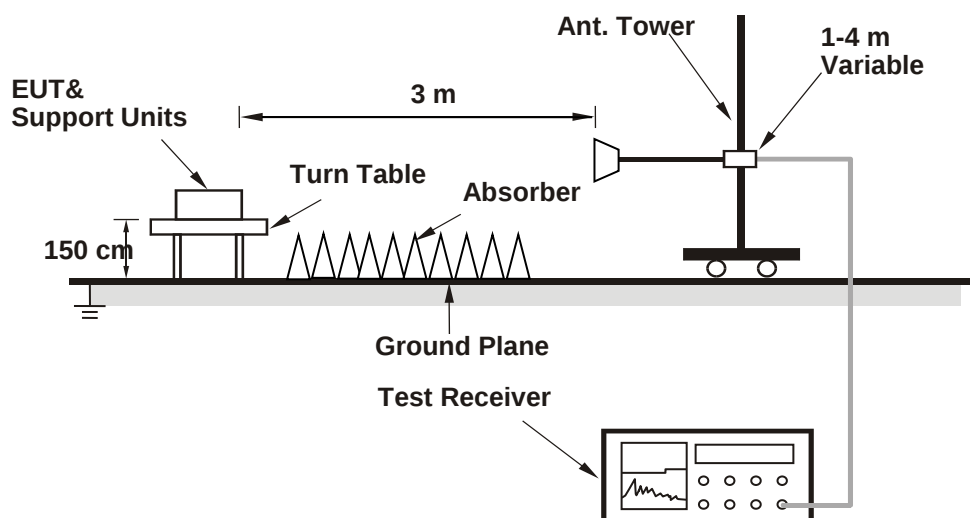
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.7 EUT Operating Conditions

- Placed the EUT on a testing table.
- 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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	47.08	38.83	8.25	54	-6.92	250	260	Average
5149.4	60.31	52.06	8.25	74	-13.69	250	260	Peak
5180	100.6	92.29	8.31			250	260	Average
5180	107.97	99.66	8.31			250	260	Peak
10360	54.06	39.76	14.3	68.2	-14.14	112	35	Peak
*5149.4	47.08	38.83	8.25	54	-6.92	250	260	Average
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	47.9	39.65	8.25	54	-6.1	108	86	Average
5150	59.01	50.76	8.25	74	-14.99	108	86	Peak
5180	101.54	93.23	8.31			108	86	Average
5180	108.72	100.41	8.31			108	86	Peak
10360	53.82	39.52	14.3	68.2	-14.38	107	188	Peak
*5150	47.9	39.65	8.25	54	-6.1	108	86	Average

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	51.7	43.45	8.25	54	-2.3	250	260	Average
5150	63	54.75	8.25	74	-11	250	260	Peak
5200	103.3	94.95	8.35			250	260	Average
5200	110.27	101.92	8.35			250	260	Peak
5393.89	46.33	37.62	8.71	54	-7.67	250	260	Average
5393.89	56.16	47.45	8.71	74	-17.84	250	260	Peak
*10400	54.41	40.07	14.34	68.2	-13.79	178	244	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	52.83	44.58	8.25	54	-1.17	108	86	Average
5149.7	64.87	56.62	8.25	74	-9.13	108	86	Peak
5200	104.24	95.89	8.35			108	86	Average
5200	111.33	102.98	8.35			108	86	Peak
5393.45	45.96	37.25	8.71	54	-8.04	108	86	Average
5393.45	56.11	47.4	8.71	74	-17.89	108	86	Peak
*10400	53.95	39.61	14.34	68.2	-14.25	153	277	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5200 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	103.3	94.86	8.44			250	260	Average
5240	110.26	101.82	8.44			250	260	Peak
5428.43	46.59	37.82	8.77	54	-7.41	250	260	Average
5428.43	56.48	47.71	8.77	74	-17.52	250	260	Peak
*10480	54.65	40.14	14.51	68.2	-13.55	134	266	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	103.96	95.52	8.44			108	86	Average
5240	111.39	102.95	8.44			108	86	Peak
5434.7	45.84	37.05	8.79	54	-8.16	108	86	Average
5434.7	55.44	46.65	8.79	74	-18.56	108	86	Peak
*10480	54.68	40.17	14.51	68.2	-13.52	171	109	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5120	44.24	36.04	8.2	54	-9.76	250	260	Average
5120	54.57	46.37	8.2	74	-19.43	250	260	Peak
5260	103.04	94.58	8.46			250	260	Average
5260	110.18	101.72	8.46			250	260	Peak
*10520	54.71	40.12	14.59	68.2	-13.49	170	178	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5120	44.29	36.09	8.2	54	-9.71	108	86	Average
5120	54.34	46.14	8.2	74	-19.66	108	86	Peak
5260	104.08	95.62	8.46			108	86	Average
5260	111.21	102.75	8.46			108	86	Peak
*10520	54.34	39.75	14.59	68.2	-13.86	154	286	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5106.95	44.31	36.14	8.17	54	-9.69	250	260	Average
5106.95	54.73	46.56	8.17	74	-19.27	250	260	Peak
5300	102.13	93.59	8.54			250	260	Average
5300	110.15	101.61	8.54			250	260	Peak
5350.66	49.55	40.92	8.63	54	-4.45	250	260	Average
5350.66	60.61	51.98	8.63	74	-13.39	250	260	Peak
10600	46.33	31.65	14.68	54	-7.67	178	9	Average
10600	55.67	40.99	14.68	74	-18.33	178	9	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5109.65	44.45	36.25	8.2	54	-9.55	108	86	Average
5109.65	54.03	45.83	8.2	74	-19.97	108	86	Peak
5300	104.27	95.73	8.54			108	86	Average
5300	111.01	102.47	8.54			108	86	Peak
5350	49.23	40.6	8.63	54	-4.77	108	86	Average
5350	61.51	52.88	8.63	74	-12.49	108	86	Peak
10600	46.93	32.25	14.68	54	-7.07	107	62	Average
10600	54.11	39.43	14.68	74	-19.89	107	62	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	100.27	91.69	8.58			250	260	Average
5320	107.37	98.79	8.58			250	260	Peak
5350	46.37	37.74	8.63	54	-7.63	250	260	Average
5350	57.57	48.94	8.63	74	-16.43	250	260	Peak
10640	46	31.27	14.73	54	-8	156	66	Average
10640	55.32	40.59	14.73	74	-18.68	156	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	100.63	92.05	8.58			108	85	Average
5320	108.19	99.61	8.58			108	85	Peak
5350	46.6	37.97	8.63	54	-7.4	108	85	Average
5350	57.5	48.87	8.63	74	-16.5	108	85	Peak
10640	45.99	31.26	14.73	54	-8.01	133	159	Average
10640	55.39	40.66	14.73	74	-18.61	133	159	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	45.16	36.34	8.82	54	-8.84	220	272	Average
5459.76	60.01	51.19	8.82	74	-13.99	220	272	Peak
*5469.84	66.22	57.39	8.83	68.2	-1.98	220	272	Peak
5500	101.37	92.45	8.92			220	272	Average
5500	108.36	99.44	8.92			220	272	Peak
11000	46.6	31.52	15.08	54	-7.4	157	78	Average
11000	54.66	39.58	15.08	74	-19.34	157	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.28	44.79	35.97	8.82	54	-9.21	100	83	Average
5459.28	56.08	47.26	8.82	74	-17.92	100	83	Peak
*5469.52	64.38	55.55	8.83	68.2	-3.82	100	83	Peak
5500	99.67	90.75	8.92			100	83	Average
5500	106.04	97.12	8.92			100	83	Peak
11000	46.67	31.59	15.08	54	-7.33	105	26	Average
11000	56	40.92	15.08	74	-18	105	26	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5392.72	43.94	35.26	8.68	54	-10.06	220	272	Average
5392.72	54.4	45.72	8.68	74	-19.6	220	272	Peak
*5469.2	53.78	44.95	8.83	68.2	-14.42	220	272	Peak
5580	104.67	95.68	8.99			220	272	Average
5580	111.65	102.66	8.99			220	272	Peak
*5725.72	53.31	44.15	9.16	68.2	-14.89	220	272	Peak
11160	46.36	31.28	15.08	54	-7.64	147	185	Average
11160	56.15	41.07	15.08	74	-17.85	147	185	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5385.52	43.97	35.29	8.68	54	-10.03	100	83	Average
5385.52	53.55	44.87	8.68	74	-20.45	100	83	Peak
*5469.52	52.39	43.56	8.83	68.2	-15.81	100	83	Peak
5580	102.19	93.2	8.99			100	83	Average
5580	109.04	100.05	8.99			100	83	Peak
*5725.08	54.85	45.69	9.16	68.2	-13.35	100	83	Peak
11160	46.61	31.53	15.08	54	-7.39	175	199	Average
11160	55.47	40.39	15.08	74	-18.53	175	199	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	101.39	92.26	9.13			220	272	Average
5700	108.12	98.99	9.13			220	272	Peak
*5725.48	62.87	53.71	9.16	68.2	-5.33	220	272	Peak
11400	46.4	31.3	15.1	54	-7.6	135	52	Average
11400	56.15	41.05	15.1	74	-17.85	135	52	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	99.77	90.64	9.13			100	83	Average
5700	106.5	97.37	9.13			100	83	Peak
*5725.64	58.82	49.66	9.16	68.2	-9.38	100	83	Peak
11400	46.75	31.65	15.1	54	-7.25	107	284	Average
11400	54.97	39.87	15.1	74	-19.03	107	284	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	103.49	94.3	9.19			220	272	Average
5745	110.16	100.97	9.19			220	272	Peak
11490	46.81	31.69	15.12	54	-7.19	143	299	Average
11490	55.34	40.22	15.12	74	-18.66	143	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	101.28	92.09	9.19			100	83	Average
5745	108.26	99.07	9.19			100	83	Peak
11490	46.7	31.58	15.12	54	-7.3	144	159	Average
11490	55.41	40.29	15.12	74	-18.59	144	159	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5554.075	54.4	45.43	8.97	68.2	-13.8	220	272	Peak
5652.25	51.91	42.82	9.09	69.86	-17.95	220	272	Peak
5923.675	51.02	41.62	9.4	69.18	-18.16	220	272	Peak
*5940.475	55.64	46.21	9.43	68.2	-12.56	220	272	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5593.45	54.56	45.55	9.01	68.2	-13.64	100	83	Peak
5651.725	52.9	43.81	9.09	69.48	-16.58	100	83	Peak
5923.675	50.58	41.18	9.4	69.18	-18.6	100	83	Peak
*5931.55	54.67	45.27	9.4	68.2	-13.53	100	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	102.65	93.42	9.23			220	272	Average
5785	109.74	100.51	9.23			220	272	Peak
11570	46.85	31.54	15.31	54	-7.15	129	299	Average
11570	56.47	41.16	15.31	74	-17.53	129	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	100.17	90.94	9.23			100	83	Average
5785	107	97.77	9.23			100	83	Peak
11570	46.82	31.51	15.31	54	-7.18	142	218	Average
11570	55.91	40.6	15.31	74	-18.09	142	218	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5591.875	55.34	46.33	9.01	68.2	-12.86	220	272	Peak
5655.4	52.26	43.17	9.09	72.2	-19.94	220	272	Peak
5922.1	50.98	41.58	9.4	70.35	-19.37	220	272	Peak
*5979.85	54.6	45.14	9.46	68.2	-13.6	220	272	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5531.5	54.55	45.61	8.94	68.2	-13.65	100	83	Peak
5653.3	52.57	43.47	9.1	70.64	-18.07	100	83	Peak
5921.05	52.28	42.9	9.38	71.12	-18.84	100	83	Peak
*5945.725	55.33	45.9	9.43	68.2	-12.87	100	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	103.55	94.26	9.29			220	272	Average
5825	110.75	101.46	9.29			220	272	Peak
11650	47.53	32	15.53	54	-6.47	141	13	Average
11650	56.6	41.07	15.53	74	-17.4	141	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	101.42	92.13	9.29			100	83	Average
5825	108.25	98.96	9.29			100	83	Peak
11650	47.31	31.78	15.53	54	-6.69	178	85	Average
11650	55.79	40.26	15.53	74	-18.21	178	85	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5631.25	54.75	45.7	9.05	68.2	-13.45	220	272	Peak
5651.2	51.61	42.52	9.09	69.09	-17.48	220	272	Peak
5923.15	53.75	44.35	9.4	69.57	-15.82	220	272	Peak
*6023.95	54.83	45.31	9.52	68.2	-13.37	220	272	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5540.95	54.43	45.49	8.94	68.2	-13.77	100	83	Peak
5652.25	50.59	41.5	9.09	69.86	-19.27	100	83	Peak
5922.625	50.74	41.34	9.4	69.96	-19.22	100	83	Peak
*5948.875	54.39	44.96	9.43	68.2	-13.81	100	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.05	43.27	35.02	8.25	54	-10.73	205	261	Average
5139.05	55.54	47.29	8.25	74	-18.46	205	261	Peak
5180	98.85	90.54	8.31			205	261	Average
5180	105.3	96.99	8.31			205	261	Peak
*10360	54.52	40.22	14.3	68.2	-13.68	178	99	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5132.45	42.89	34.67	8.22	54	-11.11	200	102	Average
5132.45	53.5	45.28	8.22	74	-20.5	200	102	Peak
5180	94.66	86.35	8.31			200	102	Average
5180	101.22	92.91	8.31			200	102	Peak
*10360	53.93	39.63	14.3	68.2	-14.27	181	323	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5120	42.91	34.71	8.2	54	-11.09	205	261	Average
5120	53.35	45.15	8.2	74	-20.65	205	261	Peak
5200	99.53	91.18	8.35			205	261	Average
5200	106.13	97.78	8.35			205	261	Peak
5399.61	43.13	34.41	8.72	54	-10.87	205	261	Average
5399.61	54.13	45.41	8.72	74	-19.87	205	261	Peak
*10400	54.29	39.95	14.34	68.2	-13.91	157	99	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5118.35	42.64	34.44	8.2	54	-11.36	200	102	Average
5118.35	54.06	45.86	8.2	74	-19.94	200	102	Peak
5200	95.74	87.39	8.35			200	102	Average
5200	102.33	93.98	8.35			200	102	Peak
5393.45	43.2	34.49	8.71	54	-10.8	200	102	Average
5393.45	53.35	44.64	8.71	74	-20.65	200	102	Peak
*10400	54.93	40.59	14.34	68.2	-13.27	154	236	Peak

Remarks:

1. Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	99.76	91.32	8.44			214	256	Average
5240	106.3	97.86	8.44			214	256	Peak
5438.44	43.22	34.43	8.79	54	-10.78	214	256	Average
5438.44	53.61	44.82	8.79	74	-20.39	214	256	Peak
*10480	54.96	40.45	14.51	68.2	-13.24	104	253	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	95.69	87.25	8.44			200	102	Average
5240	102.25	93.81	8.44			200	102	Peak
5436.02	43.27	34.48	8.79	54	-10.73	200	102	Average
5436.02	54.4	45.61	8.79	74	-19.6	200	102	Peak
*10480	55.41	40.9	14.51	68.2	-12.79	154	199	Peak

Remarks:

1. Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.3	42.78	34.53	8.25	54	-11.22	214	256	Average
5147.3	53.86	45.61	8.25	74	-20.14	214	256	Peak
5260	98.67	90.21	8.46			214	256	Average
5260	106.23	97.77	8.46			214	256	Peak
*10520	54.35	39.76	14.59	68.2	-13.85	175	45	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.5	42.75	34.49	8.26	54	-11.25	203	88	Average
5139.5	53.46	45.2	8.26	74	-20.54	203	88	Peak
5260	100.7	92.24	8.46			203	88	Average
5260	108.36	99.9	8.46			203	88	Peak
*10520	55.46	40.87	14.59	68.2	-12.74	158	195	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5130.65	42.65	34.43	8.22	54	-11.35	214	256	Average
5130.65	54.24	46.02	8.22	74	-19.76	214	256	Peak
5300	98.27	89.73	8.54			214	256	Average
5300	106.07	97.53	8.54			214	256	Peak
5386.19	43.02	34.34	8.68	54	-10.98	214	256	Average
5386.19	54.9	46.22	8.68	74	-19.1	214	256	Peak
10600	46.46	31.78	14.68	54	-7.54	143	26	Average
10600	54.98	40.3	14.68	74	-19.02	143	26	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5119.85	42.73	34.53	8.2	54	-11.27	203	88	Average
5119.85	53.12	44.92	8.2	74	-20.88	203	88	Peak
5300	99.78	91.24	8.54			203	88	Average
5300	107.89	99.35	8.54			203	88	Peak
5356.93	43.18	34.55	8.63	54	-10.82	203	88	Average
5356.93	53.7	45.07	8.63	74	-20.3	203	88	Peak
10600	46.37	31.69	14.68	54	-7.63	178	177	Average
10600	54.52	39.84	14.68	74	-19.48	178	177	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	95.24	86.66	8.58			214	256	Average
5320	102.44	93.86	8.58			214	256	Peak
5372.11	42.97	34.3	8.67	54	-11.03	214	256	Average
5372.11	53.89	45.22	8.67	74	-20.11	214	256	Peak
10640	46.78	32.05	14.73	54	-7.22	153	32	Average
10640	55.05	40.32	14.73	74	-18.95	153	32	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	97.31	88.73	8.58			203	88	Average
5320	104.33	95.75	8.58			203	88	Peak
5367.82	43.1	34.43	8.67	54	-10.9	203	88	Average
5367.82	54.16	45.49	8.67	74	-19.84	203	88	Peak
10640	46.59	31.86	14.73	54	-7.41	151	111	Average
10640	55.68	40.95	14.73	74	-18.32	151	111	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5456.08	42.97	34.15	8.82	54	-11.03	214	256	Average
5456.08	53.91	45.09	8.82	74	-20.09	214	256	Peak
*5469.84	51.19	42.36	8.83	68.2	-17.01	214	256	Peak
5500	93.63	84.71	8.92			214	256	Average
5500	101.84	92.92	8.92			214	256	Peak
11000	47.41	32.33	15.08	54	-6.59	185	199	Average
11000	55	39.92	15.08	74	-19	185	199	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.68	43.31	34.49	8.82	54	-10.69	204	87	Average
5453.68	53.73	44.91	8.82	74	-20.27	204	87	Peak
*5469.04	51.77	42.94	8.83	68.2	-16.43	204	87	Peak
5500	96.75	87.83	8.92			204	87	Average
5500	104.02	95.1	8.92			204	87	Peak
11000	47.59	32.51	15.08	54	-6.41	140	246	Average
11000	55.63	40.55	15.08	74	-18.37	140	246	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	42.89	34.07	8.82	54	-11.11	214	256	Average
5459.92	53.46	44.64	8.82	74	-20.54	214	256	Peak
*5470	51.05	42.22	8.83	68.2	-17.15	214	256	Peak
5580	96.56	87.57	8.99			214	256	Average
5580	104.89	95.9	8.99			214	256	Peak
*5725	52.22	43.06	9.16	68.2	-15.98	214	256	Peak
11160	46.5	31.42	15.08	54	-7.5	178	199	Average
11160	55.77	40.69	15.08	74	-18.23	178	199	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5448.88	43.16	34.33	8.83	54	-10.84	204	87	Average
5448.88	53.95	45.12	8.83	74	-20.05	204	87	Peak
*5469.2	51.45	42.62	8.83	68.2	-16.75	204	87	Peak
5580	99.07	90.08	8.99			204	87	Average
5580	106.7	97.71	8.99			204	87	Peak
*5725.32	53.56	44.4	9.16	68.2	-14.64	204	87	Peak
11160	46.34	31.26	15.08	54	-7.66	137	352	Average
11160	55.19	40.11	15.08	74	-18.81	137	352	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	94.75	85.62	9.13			214	276	Average
5700	101.21	92.08	9.13			214	276	Peak
5725.24	51.96	42.8	9.16	68.2	-16.24	214	276	Peak
11400	47.22	32.12	15.1	54	-6.78	182	7	Average
*11400	55.8	40.7	15.1	74	-18.2	182	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	96.57	87.44	9.13			204	87	Average
5700	103	93.87	9.13			204	87	Peak
5725.88	53.12	43.96	9.16	68.2	-15.08	204	87	Peak
11400	47.37	32.27	15.1	54	-6.63	140	243	Average
*11400	55.46	40.36	15.1	74	-18.54	140	243	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	93.77	84.58	9.19			214	276	Average
5745	100.89	91.7	9.19			214	276	Peak
11490	47.15	32.03	15.12	54	-6.85	118	249	Average
11490	55.11	39.99	15.12	74	-18.89	118	249	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	95.28	86.09	9.19			181	87	Average
5745	102.03	92.84	9.19			181	87	Peak
11490	47.37	32.25	15.12	54	-6.63	159	326	Average
11490	55.05	39.93	15.12	74	-18.95	159	326	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5565.625	52.98	43.99	8.99	68.2	-15.22	214	276	Peak
5652.775	50.86	41.76	9.1	70.25	-19.39	214	276	Peak
5922.625	52.18	42.78	9.4	69.96	-17.78	214	276	Peak
*5949.925	54.16	44.73	9.43	68.2	-14.04	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5548.3	53.42	44.46	8.96	68.2	-14.78	181	87	Peak
5652.25	51.7	42.61	9.09	69.86	-18.16	181	87	Peak
5922.625	51.24	41.84	9.4	69.96	-18.72	181	87	Peak
*6020.8	54.12	44.61	9.51	68.2	-14.08	181	87	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	93.39	84.16	9.23			214	276	Average
5785	100.1	90.87	9.23			214	276	Peak
11570	46.89	31.58	15.31	54	-7.11	134	277	Average
11570	55.54	40.23	15.31	74	-18.46	134	277	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	95.33	86.1	9.23			181	87	Average
5785	102.77	93.54	9.23			181	87	Peak
11570	46.95	31.64	15.31	54	-7.05	175	199	Average
11570	55.24	39.93	15.31	74	-18.76	175	199	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5608.675	53.47	44.44	9.03	68.2	-14.73	214	276	Peak
5655.925	53.82	44.73	9.09	72.58	-18.76	214	276	Peak
5923.15	51.38	41.98	9.4	69.57	-18.19	214	276	Peak
*5972.5	54.98	45.53	9.45	68.2	-13.22	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5594.5	54.28	45.27	9.01	68.2	-13.92	181	87	Peak
5653.3	50.67	41.57	9.1	70.64	-19.97	181	87	Peak
5921.575	51.35	41.95	9.4	70.73	-19.38	181	87	Peak
*6001.9	54.18	44.69	9.49	68.2	-14.02	181	87	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	93.79	84.5	9.29			214	276	Average
5825	100.45	91.16	9.29			214	276	Peak
11650	47.86	32.33	15.53	54	-6.14	155	285	Average
11650	55.76	40.23	15.53	74	-18.24	155	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	95.55	86.26	9.29			234	83	Average
5825	102.5	93.21	9.29			234	83	Peak
11650	47.69	32.16	15.53	54	-6.31	146	173	Average
11650	55.65	40.12	15.53	74	-18.35	146	173	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5598.175	52.78	43.77	9.01	68.2	-15.42	214	276	Peak
5654.875	53.88	44.79	9.09	71.81	-17.93	214	276	Peak
5923.15	52.1	42.7	9.4	69.57	-17.47	214	276	Peak
*5975.65	54.45	44.99	9.46	68.2	-13.75	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5610.775	53.32	44.29	9.03	68.2	-14.88	234	83	Peak
5654.35	52	42.91	9.09	71.42	-19.42	234	83	Peak
5921.575	51.98	42.58	9.4	70.73	-18.75	234	83	Peak
*5976.175	54.2	44.74	9.46	68.2	-14	234	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.15	44.28	36.03	8.25	54	-9.72	214	256	Average
5147.15	53.94	45.69	8.25	74	-20.06	214	256	Peak
5190	92.33	83.99	8.34			214	256	Average
5190	99.92	91.58	8.34			214	256	Peak
5374.42	43.48	34.82	8.66	54	-10.52	214	256	Average
5374.42	54.43	45.77	8.66	74	-19.57	214	256	Peak
*10380	55.11	40.76	14.35	68.2	-13.09	180	278	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147	43.39	35.14	8.25	54	-10.61	200	102	Average
5147	53.77	45.52	8.25	74	-20.23	200	102	Peak
5190	88.44	80.1	8.34			200	102	Average
5190	95.1	86.76	8.34			200	102	Peak
5399.83	43.28	34.56	8.72	54	-10.72	200	102	Average
5399.83	53.56	44.84	8.72	74	-20.44	200	102	Peak
*10380	54.72	40.37	14.35	68.2	-13.48	145	66	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.7	43.33	35.08	8.25	54	-10.67	214	256	Average
5146.7	54.2	45.95	8.25	74	-19.8	214	256	Peak
5230	95.52	87.12	8.4			214	256	Average
5230	102.54	94.14	8.4			214	256	Peak
5426.12	43.45	34.68	8.77	54	-10.55	214	256	Average
5426.12	54.17	45.4	8.77	74	-19.83	214	256	Peak
*10460	54.15	39.64	14.51	68.2	-14.05	187	89	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.1	43.1	34.85	8.25	54	-10.9	200	102	Average
5149.1	53.39	45.14	8.25	74	-20.61	200	102	Peak
5230	91.67	83.27	8.4			200	102	Average
5230	98.1	89.7	8.4			200	102	Peak
5449.66	43.4	34.57	8.83	54	-10.6	200	102	Average
5449.66	53.8	44.97	8.83	74	-20.2	200	102	Peak
*10460	54.99	40.48	14.51	68.2	-13.21	118	329	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5230 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5131.7	42.75	34.53	8.22	54	-11.25	214	256	Average
5131.7	54.03	45.81	8.22	74	-19.97	214	256	Peak
5270	94.96	86.47	8.49			214	256	Average
5270	102.75	94.26	8.49			214	256	Peak
5454.28	43.17	34.35	8.82	54	-10.83	214	256	Average
5454.28	53.57	44.75	8.82	74	-20.43	214	256	Peak
*10540	54.76	40.14	14.62	68.2	-13.44	178	25	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5122.25	42.74	34.54	8.2	54	-11.26	206	87	Average
5122.25	53.08	44.88	8.2	74	-20.92	206	87	Peak
5270	97.23	88.74	8.49			206	87	Average
5270	104.97	96.48	8.49			206	87	Peak
5435.03	43.51	34.72	8.79	54	-10.49	206	87	Average
5435.03	54.33	45.54	8.79	74	-19.67	206	87	Peak
*10540	54.1	39.48	14.62	68.2	-14.1	199	299	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5270 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5145.2	42.76	34.51	8.25	54	-11.24	214	256	Average
5145.2	53.52	45.27	8.25	74	-20.48	214	256	Peak
5310	93.49	84.94	8.55			214	256	Average
5310	100.66	92.11	8.55			214	256	Peak
5352.42	43.27	34.64	8.63	54	-10.73	214	256	Average
5352.42	53.62	44.99	8.63	74	-20.38	214	256	Peak
10620	46.84	32.13	14.71	54	-7.16	163	245	Average
10620	54.14	39.43	14.71	74	-19.86	163	245	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.55	42.82	34.56	8.26	54	-11.18	206	87	Average
5140.55	53.71	45.45	8.26	74	-20.29	206	87	Peak
5310	94.86	86.31	8.55			206	87	Average
5310	102.89	94.34	8.55			206	87	Peak
5351.65	44.5	35.87	8.63	54	-9.5	206	72	Average
5351.65	54.58	45.95	8.63	74	-19.42	206	72	Peak
10620	46.93	32.22	14.71	54	-7.07	131	145	Average
10620	54.93	40.22	14.71	74	-19.07	131	145	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5310 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5452.56	43.17	34.35	8.82	54	-10.83	214	256	Average
5452.56	53.49	44.67	8.82	74	-20.51	214	256	Peak
*5469.68	52.53	43.7	8.83	68.2	-15.67	214	256	Peak
5510	92.26	83.35	8.91			214	256	Average
5510	99.57	90.66	8.91			214	256	Peak
*5725.8	52.43	43.27	9.16	68.2	-15.77	214	256	Peak
11020	46.56	31.49	15.07	54	-7.44	155	19	Average
11020	55.01	39.94	15.07	74	-18.99	155	19	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	43.83	35.01	8.82	54	-10.17	204	87	Average
5459.6	53.95	45.13	8.82	74	-20.05	204	87	Peak
*5470	53.35	44.52	8.83	68.2	-14.85	204	87	Peak
5510	94.48	85.57	8.91			204	87	Average
5510	101.49	92.58	8.91			204	87	Peak
*5725.96	52.73	43.57	9.16	68.2	-15.47	204	87	Peak
11020	47.34	32.27	15.07	54	-6.66	144	246	Average
11020	57.54	42.47	15.07	74	-16.46	144	246	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5510 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.8	42.84	34.02	8.82	54	-11.16	214	256	Average
5450.8	53.9	45.08	8.82	74	-20.1	214	256	Peak
*5469.52	52.4	43.57	8.83	68.2	-15.8	214	256	Peak
5550	94.24	85.27	8.97			214	256	Average
5550	101.95	92.98	8.97			214	256	Peak
*5725.72	51.53	42.37	9.16	68.2	-16.67	214	256	Peak
11100	46.71	31.62	15.09	54	-7.29	158	85	Average
11100	56.31	41.22	15.09	74	-17.69	158	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5439.28	43.18	34.39	8.79	54	-10.82	204	87	Average
5439.28	54.03	45.24	8.79	74	-19.97	204	87	Peak
*5469.68	51.85	43.02	8.83	68.2	-16.35	204	87	Peak
5550	97.53	88.56	8.97			204	87	Average
5550	104.8	95.83	8.97			204	87	Peak
*5725	54.29	45.13	9.16	68.2	-13.91	204	87	Peak
11100	47.31	32.22	15.09	54	-6.69	157	155	Average
11100	55.76	40.67	15.09	74	-18.24	157	155	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5550 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.48	43.32	34.5	8.82	54	-10.68	214	276	Average
5454.48	53.71	44.89	8.82	74	-20.29	214	276	Peak
*5469.68	51.76	42.93	8.83	68.2	-16.44	214	276	Peak
5670	91.52	82.42	9.1			214	276	Average
5670	98.28	89.18	9.1			214	276	Peak
*5725	52.61	43.45	9.16	68.2	-15.59	214	276	Peak
11340	47.24	32.15	15.09	54	-6.76	141	178	Average
11340	55.58	40.49	15.09	74	-18.42	141	178	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5380.4	43.32	34.64	8.68	54	-10.68	204	87	Average
5380.4	53.3	44.62	8.68	74	-20.7	204	87	Peak
*5469.68	51.94	43.11	8.83	68.2	-16.26	204	87	Peak
5670	93.53	84.43	9.1			204	87	Average
5670	100.87	91.77	9.1			204	87	Peak
*5725.72	52.67	43.51	9.16	68.2	-15.53	204	87	Peak
11340	47.11	32.02	15.09	54	-6.89	153	255	Average
11340	55.55	40.46	15.09	74	-18.45	153	255	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5670 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	89.49	80.28	9.21			214	276	Average
5755	96.6	87.39	9.21			214	276	Peak
11510	47.33	32.22	15.11	54	-6.67	178	199	Average
11510	55.67	40.56	15.11	74	-18.33	178	199	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	91.49	82.28	9.21			234	83	Average
5755	98.19	88.98	9.21			234	83	Peak
11510	47.63	32.52	15.11	54	-6.37	119	325	Average
11510	55.58	40.47	15.11	74	-18.42	119	325	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5638.6	53.81	44.74	9.07	68.2	-14.39	214	276	Peak
5651.725	54.37	45.28	9.09	69.48	-15.11	214	276	Peak
5922.1	53.21	43.81	9.4	70.35	-17.14	214	276	Peak
*5966.2	54.48	45.03	9.45	68.2	-13.72	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5650.15	53.32	44.23	9.09	68.31	-14.99	234	83	Peak
5653.3	52.01	42.91	9.1	70.64	-18.63	234	83	Peak
5921.575	50.64	41.24	9.4	70.73	-20.09	234	83	Peak
*5994.55	53.62	44.13	9.49	68.2	-14.58	234	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5755 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	90.28	81.04	9.24			214	276	Average
5795	97.23	87.99	9.24			214	276	Peak
11590	47.54	32.17	15.37	54	-6.46	149	329	Average
11590	56.16	40.79	15.37	74	-17.84	149	329	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	92.67	83.43	9.24			234	83	Average
5795	99.55	90.31	9.24			234	83	Peak
11590	47.62	32.25	15.37	54	-6.38	118	256	Average
11590	55.21	39.84	15.37	74	-18.79	118	256	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5612.875	54	44.97	9.03	68.2	-14.2	214	276	Peak
5656.45	54.24	45.15	9.09	72.97	-18.73	214	276	Peak
5921.05	52.74	43.36	9.38	71.12	-18.38	214	276	Peak
*5931.025	54.17	44.77	9.4	68.2	-14.03	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5610.775	53.6	44.57	9.03	68.2	-14.6	234	83	Peak
5653.3	49.76	40.66	9.1	70.64	-20.88	234	83	Peak
5922.625	51.25	41.85	9.4	69.96	-18.71	234	83	Peak
*5990.875	54.13	44.64	9.49	68.2	-14.07	234	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.55	46.14	37.89	8.25	54	-7.86	214	256	Average
5146.55	55.48	47.23	8.25	74	-18.52	214	256	Peak
5210	90.8	82.44	8.36			214	256	Average
5210	97.51	89.15	8.36			214	256	Peak
5413.14	43.64	34.91	8.73	54	-10.36	214	256	Average
5413.14	53.65	44.92	8.73	74	-20.35	214	256	Peak
*10420	55.48	41.07	14.41	68.2	-12.72	103	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	45.06	36.81	8.25	54	-8.94	200	102	Average
5149.7	54.51	46.26	8.25	74	-19.49	200	102	Peak
5210	86.79	78.43	8.36			200	102	Average
5210	93.9	85.54	8.36			200	102	Peak
5442.95	43.79	35	8.79	54	-10.21	200	102	Average
5442.95	54.07	45.28	8.79	74	-19.93	200	102	Peak
*10420	54.09	39.68	14.41	68.2	-14.11	154	199	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5210 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138.9	42.76	34.51	8.25	54	-11.24	214	256	Average
5138.9	53.45	45.2	8.25	74	-20.55	214	256	Peak
5290	88.97	80.44	8.53			214	256	Average
5290	97.52	88.99	8.53			214	256	Peak
5351.54	43.93	35.3	8.63	54	-10.07	214	256	Average
5351.54	53.82	45.19	8.63	74	-20.18	214	256	Peak
*10580	54.34	39.69	14.65	68.2	-13.86	108	98	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.55	42.79	34.53	8.26	54	-11.21	203	88	Average
5140.55	53.65	45.39	8.26	74	-20.35	203	88	Peak
5290	91.38	82.85	8.53			203	88	Average
5290	99.71	91.18	8.53			203	88	Peak
5350.11	44.61	35.98	8.63	54	-9.39	196	92	Average
5350.11	55.52	46.89	8.63	74	-18.48	196	92	Peak
*10580	54.5	39.85	14.65	68.2	-13.7	114	156	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5290 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	44.17	35.35	8.82	54	-9.83	214	251	Average
5459.6	54.78	45.96	8.82	74	-19.22	214	251	Peak
*5469.36	53.49	44.66	8.83	68.2	-14.71	214	251	Peak
5530	89.64	80.71	8.93			214	251	Average
5530	97.13	88.2	8.93			214	251	Peak
*5725.48	53.63	44.47	9.16	68.2	-14.57	214	251	Peak
11060	47.74	32.66	15.08	54	-6.26	141	240	Average
11060	55.58	40.5	15.08	74	-18.42	141	240	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5457.36	44.85	36.03	8.82	54	-9.15	204	87	Average
5457.36	55.28	46.46	8.82	74	-18.72	204	87	Peak
*5469.52	53.75	44.92	8.83	68.2	-14.45	204	87	Peak
5530	91.98	83.05	8.93			204	87	Average
5530	99.41	90.48	8.93			204	87	Peak
*5725.72	53.77	44.61	9.16	68.2	-14.43	204	87	Peak
11060	47.23	32.15	15.08	54	-6.77	153	53	Average
11060	55.35	40.27	15.08	74	-18.65	153	53	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5530 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5452.08	43	34.18	8.82	54	-11	214	251	Average
5452.08	53.73	44.91	8.82	74	-20.27	214	251	Peak
*5469.2	52.53	43.7	8.83	68.2	-15.67	214	251	Peak
5610	94.22	85.19	9.03			214	251	Average
5610	101.81	92.78	9.03			214	251	Peak
*5725.08	52.45	43.29	9.16	68.2	-15.75	214	251	Peak
11220	47.51	32.42	15.09	54	-6.49	187	78	Average
11220	55.35	40.26	15.09	74	-18.65	187	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.64	43.36	34.54	8.82	54	-10.64	204	87	Average
5454.64	53.47	44.65	8.82	74	-20.53	204	87	Peak
*5469.36	52.97	44.14	8.83	68.2	-15.23	204	87	Peak
5610	96.22	87.19	9.03			204	87	Average
5610	103.72	94.69	9.03			204	87	Peak
*5725.8	54.02	44.86	9.16	68.2	-14.18	204	87	Peak
11220	47.78	32.69	15.09	54	-6.22	186	336	Average
11220	56.19	41.1	15.09	74	-17.81	186	336	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5610 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	85.29	76.06	9.23			214	276	Average
5775	92.16	82.93	9.23			214	276	Peak
11550	48.14	32.87	15.27	54	-5.86	118	245	Average
11550	55.69	40.42	15.27	74	-18.31	118	245	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	87.46	78.23	9.23			234	83	Average
5775	94.72	85.49	9.23			234	83	Peak
11550	47.92	32.65	15.27	54	-6.08	139	265	Average
11550	54.97	39.7	15.27	74	-19.03	139	265	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5525.2	54.61	45.67	8.94	68.2	-13.59	214	276	Peak
5652.25	53.33	44.24	9.09	69.86	-16.53	214	276	Peak
5922.625	51.53	42.13	9.4	69.96	-18.43	214	276	Peak
*5964.625	54.17	44.72	9.45	68.2	-14.03	214	276	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5579.8	53.28	44.29	8.99	68.2	-14.92	234	83	Peak
5651.725	52.79	43.7	9.09	69.48	-16.69	234	83	Peak
5918.425	53.04	43.66	9.38	73.07	-20.03	234	83	Peak
*5982.475	53.83	44.37	9.46	68.2	-14.37	234	83	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5775 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

802.11ac (VHT160)

EUT Test Condition		Measurement Detail	
Channel	Channel 50	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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5143.55	43.58	35.32	8.26	54	-10.42	214	256	Average
5143.55	53.11	44.85	8.26	74	-20.89	214	256	Peak
5250	84.88	76.43	8.45			214	256	Average
5250	91.36	82.91	8.45			214	256	Peak
5370.79	43.77	35.1	8.67	54	-10.23	214	256	Average
5370.79	54.15	45.48	8.67	74	-19.85	214	256	Peak
*10500	56.24	41.68	14.56	68.2	-11.96	105	325	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5122.7	43.44	35.22	8.22	54	-10.56	200	102	Average
5122.7	53.44	45.22	8.22	74	-20.56	200	102	Peak
5250	80.29	71.84	8.45			200	102	Average
5250	87.47	79.02	8.45			200	102	Peak
5392.02	43.82	35.14	8.68	54	-10.18	200	102	Average
5392.02	54.05	45.37	8.68	74	-19.95	200	102	Peak
*10500	55.94	41.38	14.56	68.2	-12.26	159	208	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- 5250 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 114	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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.96	45.42	36.6	8.82	54	-8.58	206	221	Average
5458.96	56	47.18	8.82	74	-18	206	221	Peak
*5469.2	54.41	45.58	8.83	68.2	-13.79	206	221	Peak
5570	86.73	77.74	8.99			214	251	Average
5570	93.59	84.6	8.99			214	251	Peak
*5724.92	54.4	45.24	9.16	68.2	-13.8	214	223	Peak
11140	48.59	33.51	15.08	54	-5.41	190	5	Average
11140	56.19	41.11	15.08	74	-17.81	190	5	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.64	47.74	38.92	8.82	54	-6.26	215	72	Average
5458.64	59.03	50.21	8.82	74	-14.97	215	72	Peak
*5469.36	59.88	51.05	8.83	68.2	-8.32	215	72	Peak
5570	88.26	79.27	8.99			204	87	Average
5570	95.35	86.36	8.99			204	87	Peak
*5725.64	57.2	48.04	9.16	68.2	-11	231	87	Peak
11140	48.53	33.45	15.08	54	-5.47	155	285	Average
11140	55.27	40.19	15.08	74	-18.73	155	285	Peak

Remarks:

9. Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
10. 5570 MHz: Fundamental Frequency
11. *: Out of Restricted Band
12. The emission levels of other frequencies were very low against the limit

9 kHz ~ 30 MHz Data:

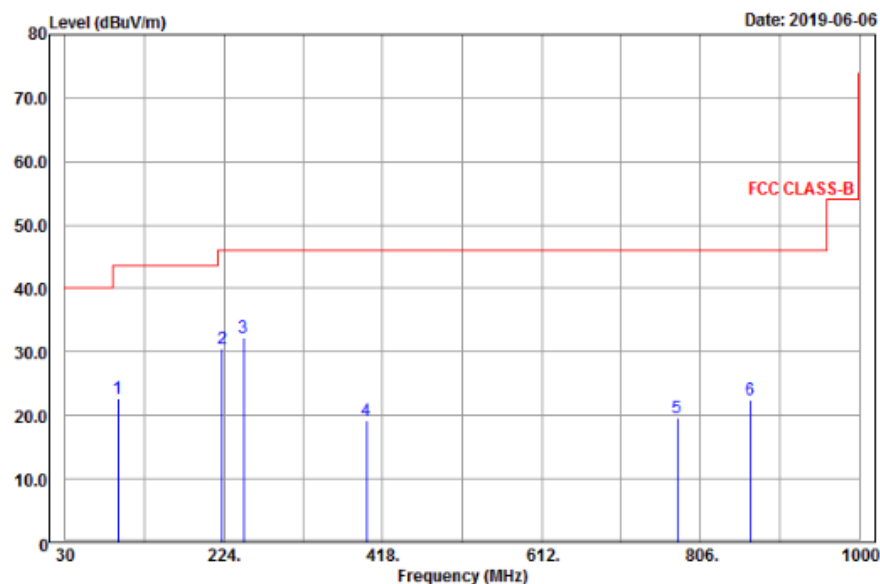
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

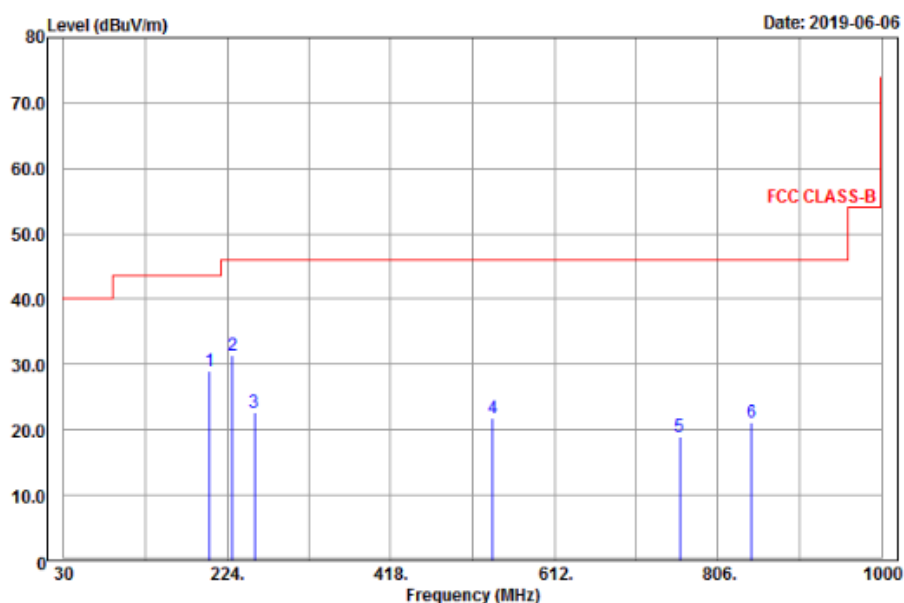
802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 40	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	Karl Lee

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
94.53	22.58	41.84	-19.26	43.5	-20.92	153	26	Peak
222.24	30.57	49.71	-19.14	46	-15.43	187	88	Peak
247.62	32.27	50.28	-18.01	46	-13.73	105	146	Peak
398	19.18	34.11	-14.93	46	-26.82	151	11	Peak
778.1	19.66	28.38	-8.72	46	-26.34	145	201	Peak
867	22.38	29.41	-7.03	46	-23.62	185	197	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
203.07	28.99	48.53	-19.54	43.5	-14.51	124	203	Peak
230.07	31.41	49.98	-18.57	46	-14.59	187	88	Peak
256.26	22.69	40.43	-17.74	46	-23.31	162	33	Peak
539.4	21.86	34.41	-12.55	46	-24.14	163	33	Peak
760.6	18.95	27.94	-8.99	46	-27.05	185	165	Peak
846	21.19	28.66	-7.47	46	-24.81	124	211	Peak

Remarks:

- Emission Level = Read Level + Factor
Margin value = Emission level – Limit value
- The emission levels of other frequencies were very low against the limit

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	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	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-12040.

4.2.3 Test Procedures

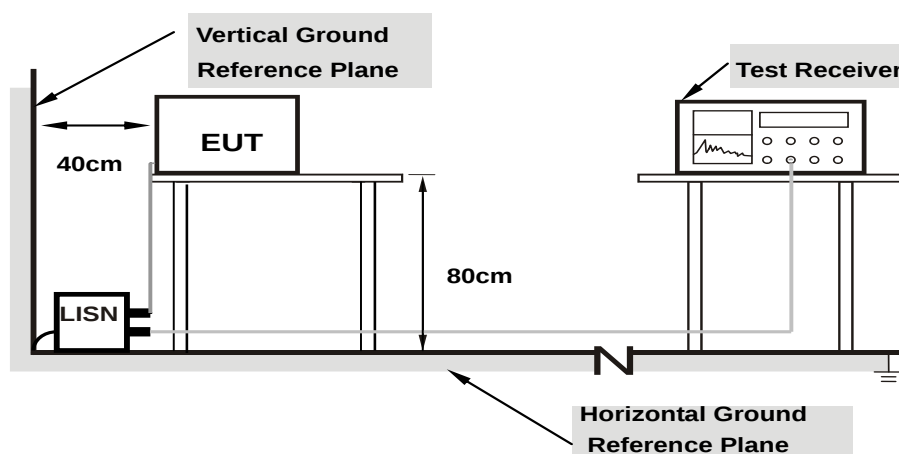
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

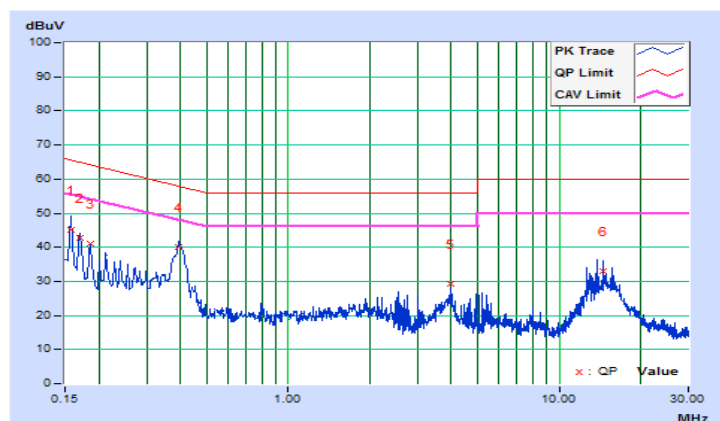
4.2.7 Test Results

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	Jisyoung Wang	Test Date	2019/6/9

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	0.15782	9.69	35.57	22.22	45.26	31.91	65.58	55.58	-20.32	-23.67
2	0.16967	9.69	33.03	19.68	42.72	29.37	64.98	54.98	-22.26	-25.61
3	0.18519	9.68	31.36	10.23	41.04	19.91	64.25	54.25	-23.21	-34.34
4	0.39633	9.68	30.55	5.66	40.23	15.34	57.93	47.93	-17.70	-32.59
5	3.95834	9.75	19.45	3.96	29.20	13.71	56.00	46.00	-26.80	-32.29
6	14.57008	9.90	23.17	5.92	33.07	15.82	60.00	50.00	-26.93	-34.18

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

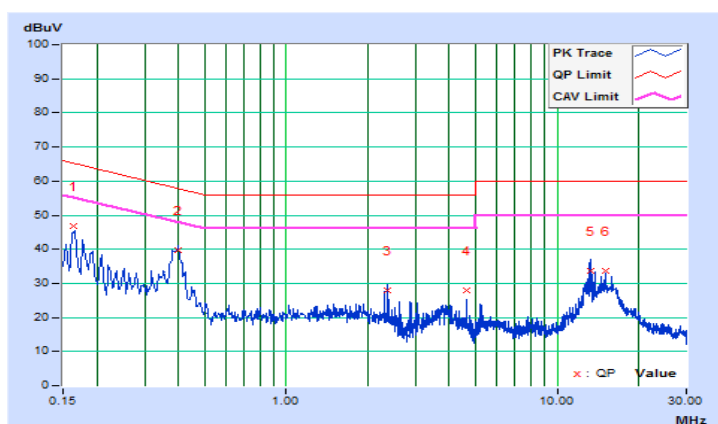


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Jisyong Wang	Test Date	2019/6/9

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	0.16396	9.66	37.17	24.98	46.83	34.64	65.26	55.26	-18.43	-20.62
2	0.39949	9.65	30.20	10.12	39.85	19.77	57.86	47.86	-18.01	-28.09
3	2.37088	9.68	18.29	1.88	27.97	11.56	56.00	46.00	-28.03	-34.44
4	4.64259	9.73	18.16	1.04	27.89	10.77	56.00	46.00	-28.11	-35.23
5	13.24459	9.90	23.76	5.97	33.66	15.87	60.00	50.00	-26.34	-34.13
6	15.02755	9.93	23.81	10.42	33.74	20.35	60.00	50.00	-26.26	-29.65

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

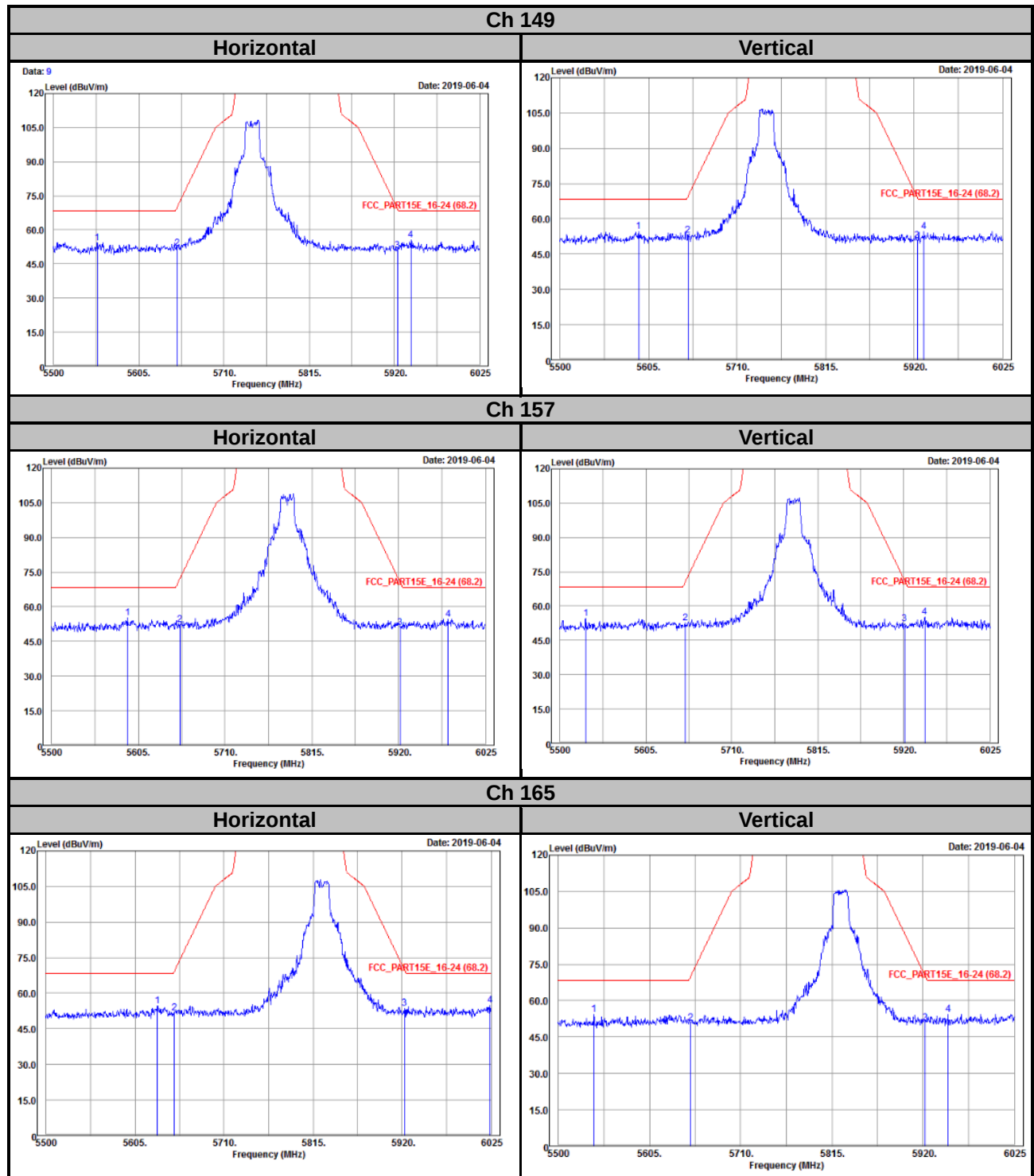


5 Pictures of Test Arrangements

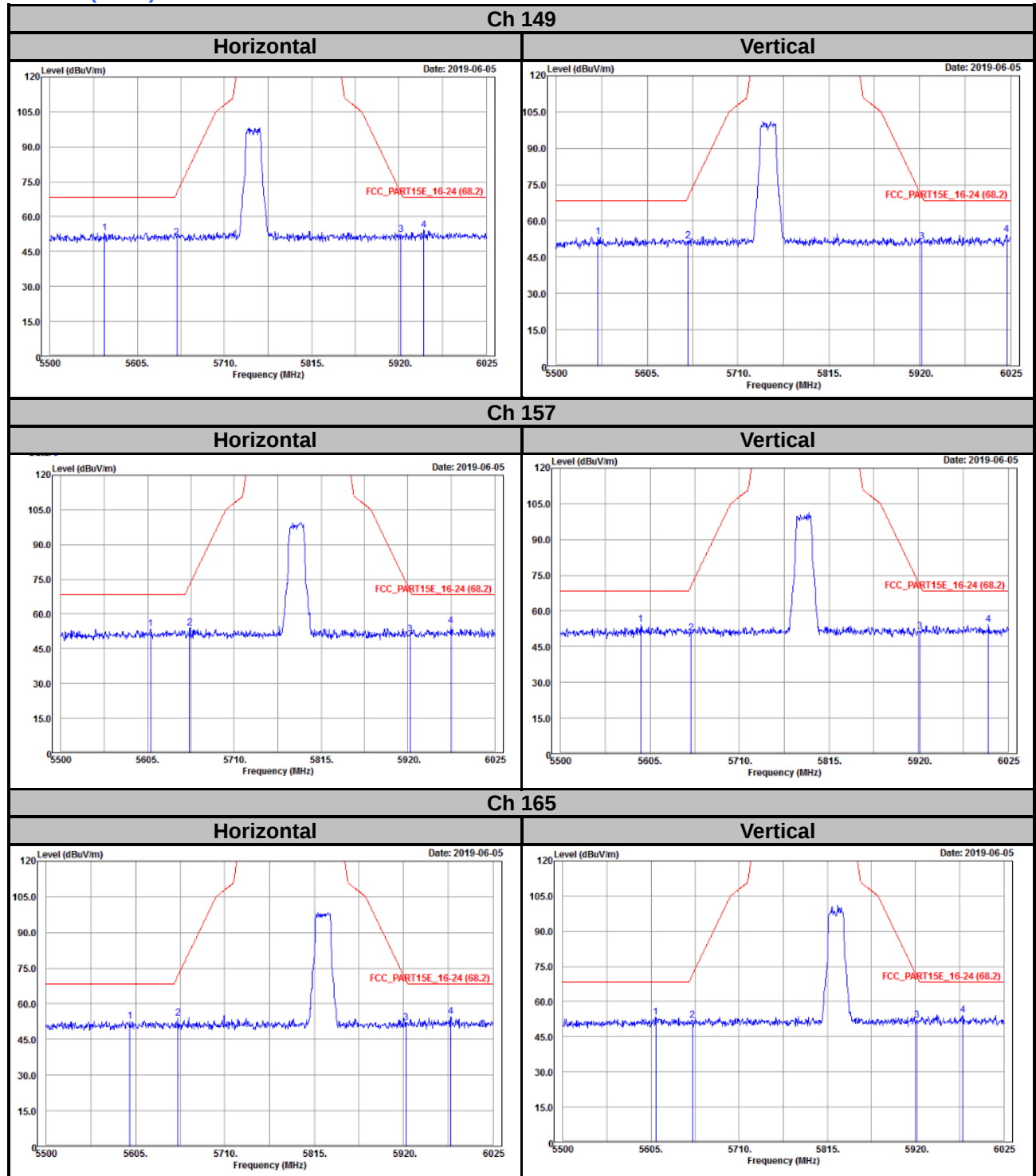
Please refer to the attached file (Test Setup Photo).

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

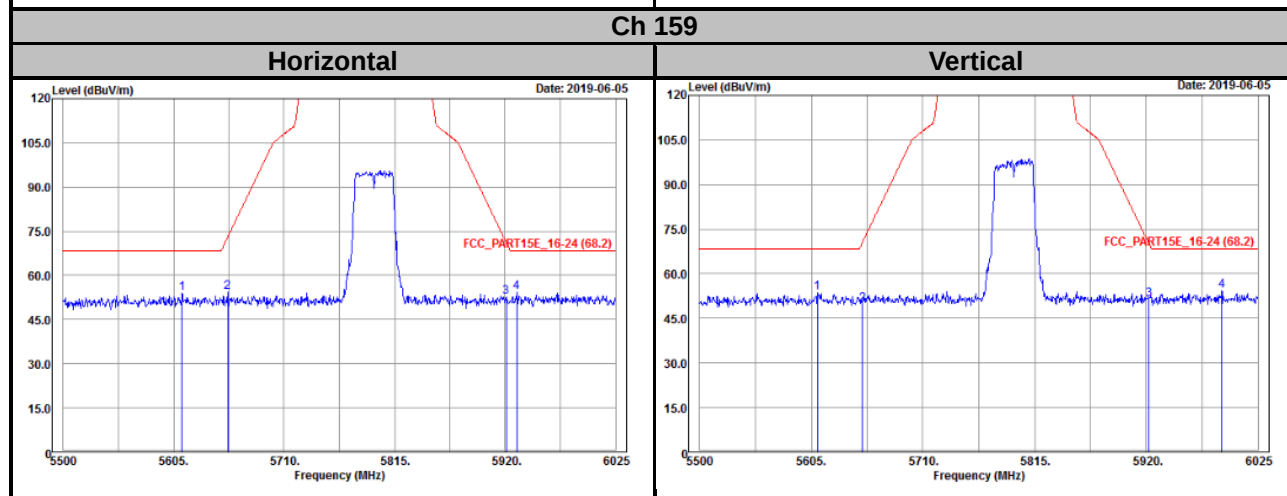
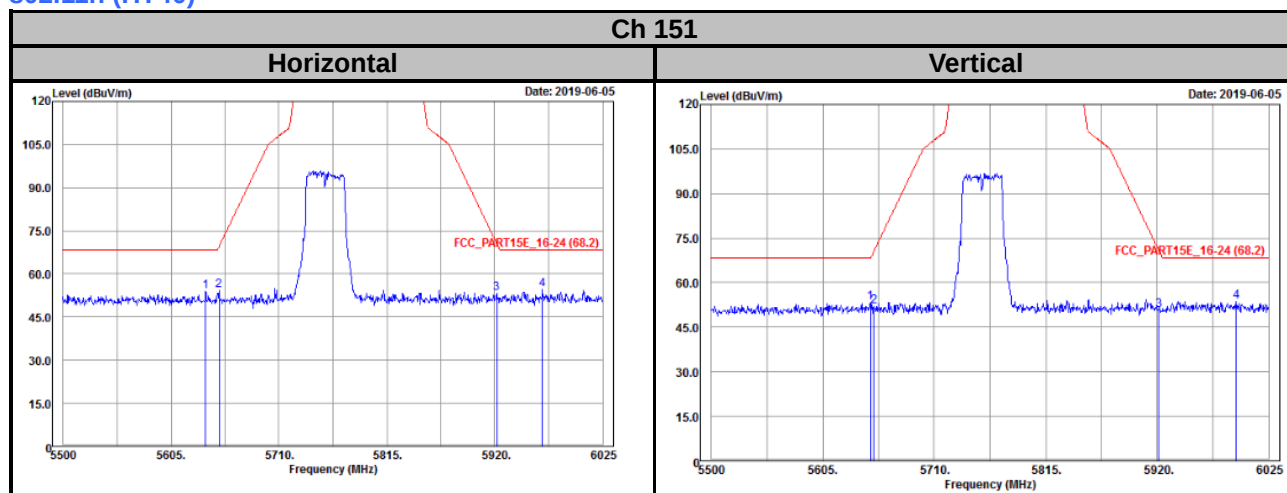
802.11a



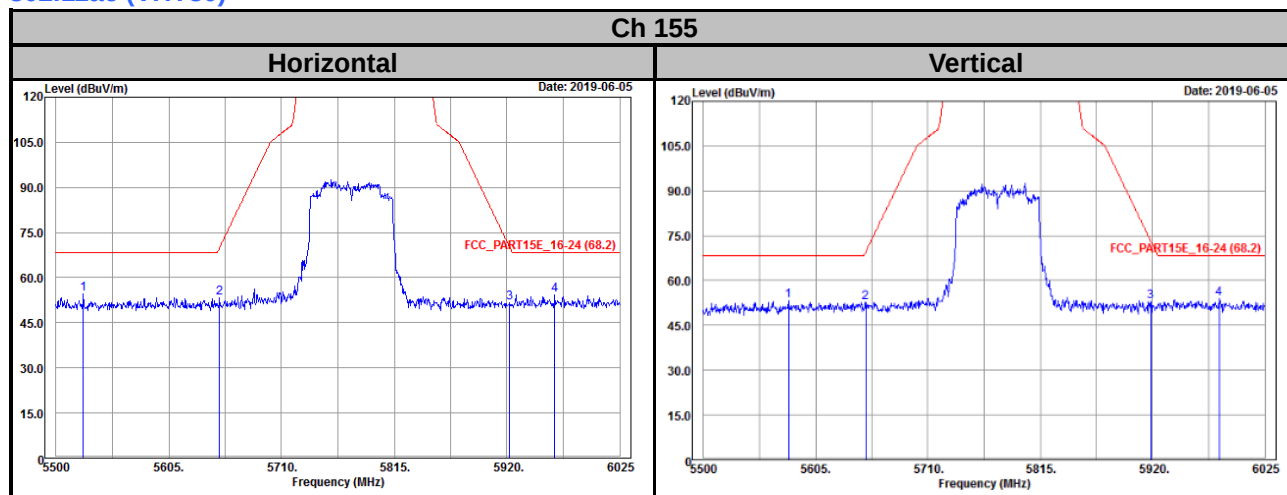
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of 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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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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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