

Partial FCC Test Report

Report No.: RF170602C23-3

FCC ID: GKR-CAX00WB

Test Model: QCNFA425

Received Date: Jun. 02, 2017

Test Date: Jun. 16, 2017 ~ Jun. 26, 2017

Issued Date: Jun. 28, 2017

Applicant: COMPAL ELECTRONICS, INC.

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Release Control Record

Issue No.	Description	Date Issued
RF170602C23-3	Original Release	Jun. 28, 2017

1 Certificate of Conformity

Product: Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 1216 Type Card

Brand: Qualcomm Atheros

Test Model: QCNFA425

Sample Status: Identical Prototype

Applicant: COMPAL ELECTRONICS, INC.

Test Date: Jun. 16, 2017 ~ Jun. 26, 2017

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by : Evonne Liu, **Date:** Jun. 28, 2017
Evonne Liu / Specialist

Approved by : David Huang, **Date:** Jun. 28, 2017
David Huang / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.83 dB at 0.50663 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 -1.03 dB at 5352.75 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
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

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

Note: Test items for AC Power Conducted Emission, Radiated Emissions, and Conducted Power were performed for this report. For other test data, please refer to BV CPS Report No.: RF150401E01-1 and RF150401E01A-5 for module (Brand: Qualcomm Atheros, Model: QCNFA425).

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	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	Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 1216 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA425
Status of EUT	Identical Prototype
Power Supply Rating	5.0 Vdc (Host equipment)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to V9
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20) 6 for 802.11n (HT40) 3 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Antenna Type	Refer to BV CPS Report No.: RF150401E01-1
Antenna Connector	Refer to BV CPS Report No.: RF150401E01-1
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

- Physically, the EUT provides 1 completed transmitter and 1 receiver.

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

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

2. The EUT is authorized for use in specific End-product. Please refer to below for more details.

Product	Brand	Model	Antenna Type
Rugged Tablet	COMPAL	CAXA0 ; CXXXXX-CAXA0-XXXXXX- XXXX (X:0~9,A~Z)	PIFA antenna with -0.16 dBi gain (5180 ~ 5240 MHz) -0.16 dBi gain (5260 ~ 5320 MHz) 0.15 dBi gain (5500 ~ 5720 MHz) 0.02 dBi gain (5745 ~ 5825 MHz)

3. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	DELTA	ADP-65JH HB	I/P: 100-240 Vac, 1.5 A O/P: 19 Vdc, 3.42 A 0.9 m power cable
Battery	Getac	CAX00	7.2 Vdc, 3950 mAh
BT/WLAN Module	Qualcomm Atheros	QCNFA425	Chip factory: AZWAVE, AW-CM251NF

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5720 MHz

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680
116	5580	140	5700
120	5600	144	5720

6 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	126	5630
110	5550	134	5670
118	5590	142	5710

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	138	5690
122	5610		

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 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. The worst case was found when positioned on **X-plane**.

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)
-	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 138	106, 122, 138	OFDM	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
-	5260-5320	802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
-	5500-5720	802.11a	100 to 144	100	OFDM	BPSK	MCS0
-	5745-5825	802.11n (HT20)	149 to 165	165	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5720	802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0

Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 138	106, 122, 138	OFDM	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

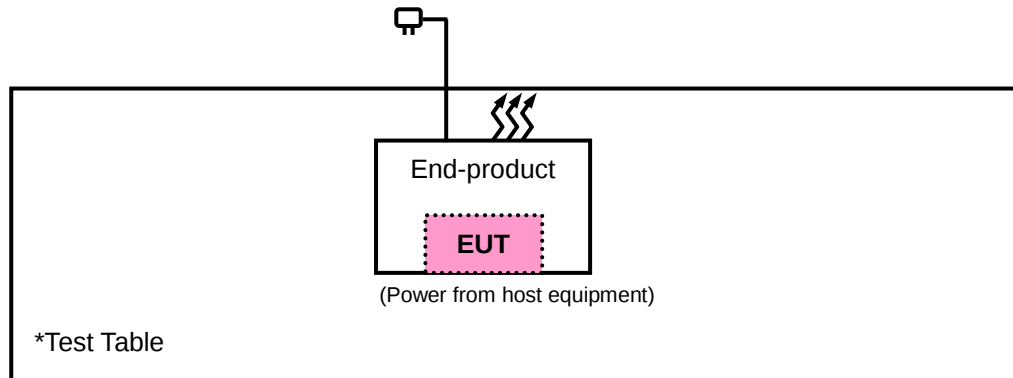
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
APCM	25 deg. C, 65 % RH	5.0 Vdc	Getaz Yang

3.3 Description of Support Units

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

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01r03

644545 D01 Guidance for IEEE 802 11ac v01r02

ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r03		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

^{*1} beyond 75 MHz or more above of the band edge.

^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Sep. 09, 2016	Sep. 08, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 16, 2016	Dec. 15, 2017
HORN Antenna ETS-Lindgren	3117	00143293	Dec. 29, 2016	Dec. 28, 2017
Bluetooth Tester	CBT	100980	Apr. 19, 2017	Apr. 18, 2018
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Agilent Communications Tester-Wireless	8960 Series 10	MY53201073	Jul. 03, 2015	Jul. 02, 2017
Preamplifier Agilent	310N	187226	Jun. 24, 2016	Jun. 23, 2017
Preamplifier Agilent	83017A	MY39501357	Jun. 24, 2016	Jun. 23, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 24, 2016	Jun. 23, 2017
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
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017

- Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 149147.
5. The IC Site Registration No. is IC7450I-1.

4.1.4 Test Procedures

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

Note:

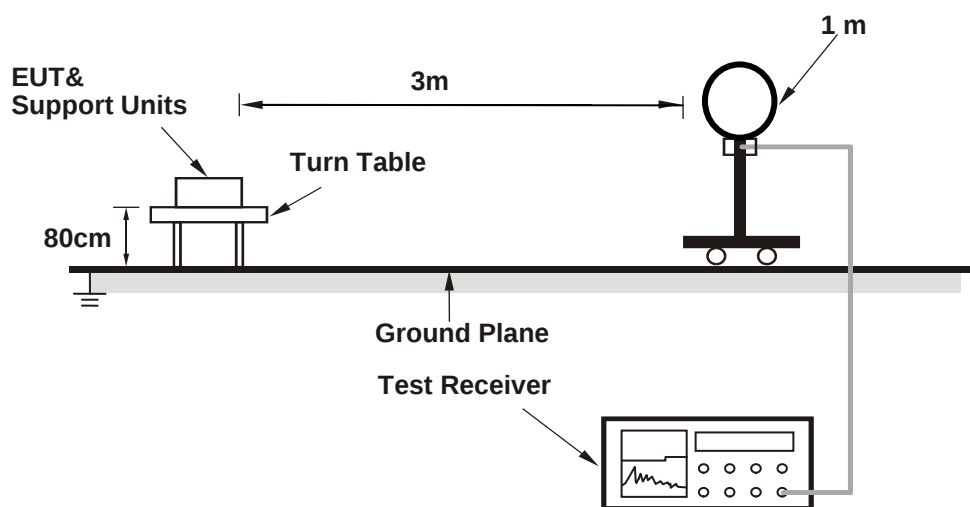
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T (Duty cycle < 98 %) for Average detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

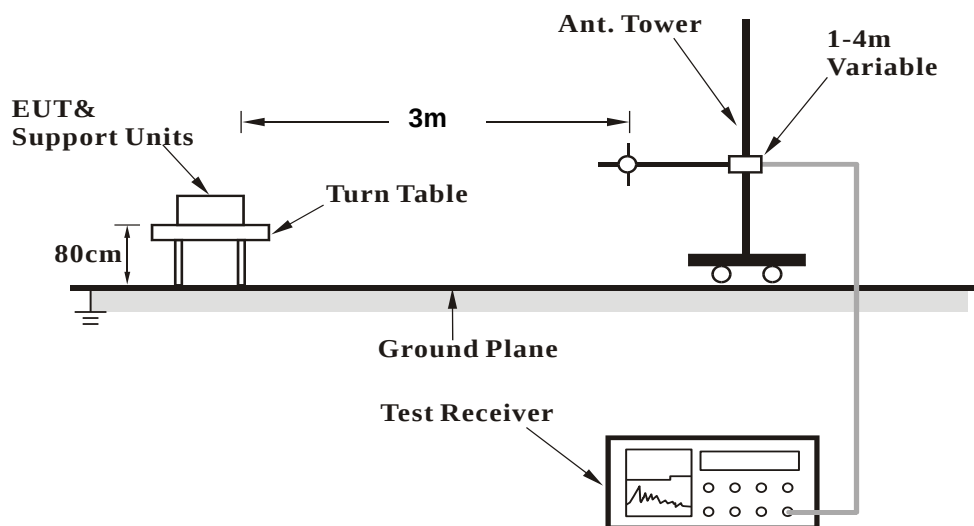
No deviation.

4.1.6 Test Set Up

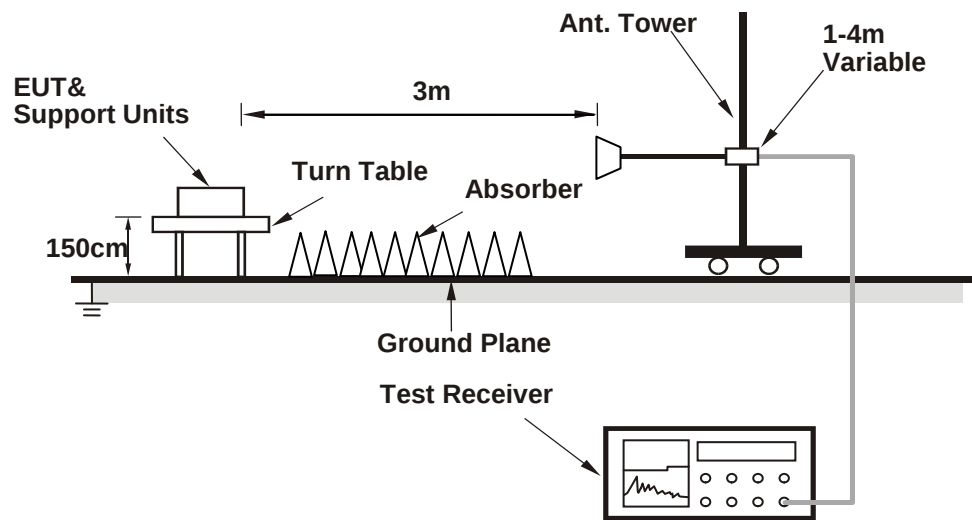
<Radiated emission below 30MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

- 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 :

802.11a

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	45.62	37.37	54	-8.38	34.12	8.13	34	125	4	Average
5149.7	62.22	53.97	74	-11.78	34.12	8.13	34	125	4	Peak
5180	96.36	88.05			34.15	8.16	34	125	4	Average
5180	104.18	95.87			34.15	8.16	34	125	4	Peak
*10360	46.34	32.04	54	-7.66	37.12	12.3	35.12	144	108	Average
*10360	55.66	41.36	74	-18.34	37.12	12.3	35.12	144	108	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	47.27	39.02	54	-6.73	34.12	8.13	34	200	206	Average
5150	62.69	54.44	74	-11.31	34.12	8.13	34	200	206	Peak
5180	97.75	89.44			34.15	8.16	34	200	206	Average
5180	105.55	97.24			34.15	8.16	34	200	206	Peak
*10360	46.42	32.12	54	-7.58	37.12	12.3	35.12	162	117	Average
*10360	55.58	41.28	74	-18.42	37.12	12.3	35.12	162	117	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5062.1	42.95	34.85	54	-11.05	34.05	8.03	33.98	140	4	Average
5062.1	52.87	44.77	74	-21.13	34.05	8.03	33.98	140	4	Peak
5220	96.18	87.79			34.17	8.22	34	140	4	Average
5220	103.57	95.18			34.17	8.22	34	140	4	Peak
5381.13	43.02	34.34	54	-10.98	34.31	8.41	34.04	140	4	Average
5381.13	53.26	44.58	74	-20.74	34.31	8.41	34.04	140	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5137.25	42.61	34.36	54	-11.39	34.11	8.13	33.99	196	212	Average
5137.25	53.55	45.3	74	-20.45	34.11	8.13	33.99	196	212	Peak
5220	97.56	89.17			34.17	8.22	34	196	212	Average
5220	104.99	96.6			34.17	8.22	34	196	212	Peak
5359.13	42.66	34.03	54	-11.34	34.28	8.38	34.03	196	212	Average
5359.13	53.53	44.9	74	-20.47	34.28	8.38	34.03	196	212	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	95.81	87.37			34.19	8.26	34.01	138	2	Average
5240	103.2	94.76			34.19	8.26	34.01	138	2	Peak
5365.07	43.45	34.81	54	-10.55	34.29	8.38	34.03	138	2	Average
5365.07	53.35	44.71	74	-20.65	34.29	8.38	34.03	138	2	Peak
*10480	46.72	32.21	54	-7.28	37.19	12.53	35.21	185	204	Average
*10480	55.75	41.24	74	-18.25	37.19	12.53	35.21	185	204	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	97.5	89.06			34.19	8.26	34.01	224	213	Average
5240	105.3	96.86			34.19	8.26	34.01	224	213	Peak
5406.32	42.8	34.08	54	-11.2	34.32	8.44	34.04	224	213	Average
5406.32	53.31	44.59	74	-20.69	34.32	8.44	34.04	224	213	Peak
*10480	46.26	31.75	54	-7.74	37.19	12.53	35.21	127	342	Average
*10480	55.13	40.62	74	-18.87	37.19	12.53	35.21	127	342	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5116.85	42.54	34.34	54	-11.46	34.09	8.1	33.99	200	3	Average
5116.85	53.17	44.97	74	-20.83	34.09	8.1	33.99	200	3	Peak
5260	96.22	87.76			34.21	8.26	34.01	200	3	Average
5260	103.72	95.26			34.21	8.26	34.01	200	3	Peak
*10520	46.29	31.7	54	-7.71	37.21	12.61	35.23	141	4	Average
*10520	56.29	41.7	74	-17.71	37.21	12.61	35.23	141	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.25	42.51	34.26	54	-11.49	34.11	8.13	33.99	228	211	Average
5134.25	53.21	44.96	74	-20.79	34.11	8.13	33.99	228	211	Peak
5260	100.24	91.78			34.21	8.26	34.01	228	211	Average
5260	107.4	98.94			34.21	8.26	34.01	228	211	Peak
*10520	46.45	31.86	54	-7.55	37.21	12.61	35.23	121	22	Average
*10520	56.43	41.84	74	-17.57	37.21	12.61	35.23	121	22	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.55	42.43	34.18	54	-11.57	34.11	8.13	33.99	200	3	Average
5134.55	52.76	44.51	74	-21.24	34.11	8.13	33.99	200	3	Peak
5300	96.66	88.12			34.24	8.32	34.02	200	3	Average
5300	103.33	94.79			34.24	8.32	34.02	200	3	Peak
5444.05	42.9	34.11	54	-11.1	34.35	8.48	34.04	200	3	Average
5444.05	53.26	44.47	74	-20.74	34.35	8.48	34.04	200	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5071.1	42.49	34.39	54	-11.51	34.05	8.03	33.98	228	211	Average
5071.1	52.98	44.88	74	-21.02	34.05	8.03	33.98	228	211	Peak
5300	100.25	91.71			34.24	8.32	34.02	228	211	Average
5300	107.68	99.14			34.24	8.32	34.02	228	211	Peak
5350.88	43.2	34.57	54	-10.8	34.28	8.38	34.03	228	211	Average
5350.88	56.35	47.72	74	-17.65	34.28	8.38	34.03	228	211	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	96.88	88.3			34.25	8.35	34.02	200	3	Average
5320	103	94.42			34.25	8.35	34.02	200	3	Peak
5350.11	44.72	36.09	54	-9.28	34.28	8.38	34.03	200	3	Average
5350.11	62.15	53.52	74	-11.85	34.28	8.38	34.03	200	3	Peak
10640	46.77	32.04	54	-7.23	37.31	12.71	35.29	124	344	Average
10640	57.39	42.66	74	-16.61	37.31	12.71	35.29	124	344	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	100.47	91.89			34.25	8.35	34.02	244	216	Average
5320	107.65	99.07			34.25	8.35	34.02	244	216	Peak
5350	47.39	38.76	54	-6.61	34.28	8.38	34.03	244	216	Average
5350	67.75	59.12	74	-6.25	34.28	8.38	34.03	244	216	Peak
10640	46.67	31.94	54	-7.33	37.31	12.71	35.29	127	310	Average
10640	57	42.27	74	-17	37.31	12.71	35.29	127	310	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	44.09	35.27	54	-9.91	34.36	8.51	34.05	130	5	Average
5459.92	58.27	49.45	74	-15.73	34.36	8.51	34.05	130	5	Peak
*5470.96	47.3	38.44	54	-6.7	34.37	8.54	34.05	130	5	Average
*5470.96	62.85	53.99	74	-11.15	34.37	8.54	34.05	130	5	Peak
5500	97.62	88.7			34.4	8.57	34.05	130	5	Average
5500	104.86	95.94			34.4	8.57	34.05	130	5	Peak
11000	48.25	33.17	54	-5.75	37.6	12.96	35.48	196	227	Average
11000	57.67	42.59	74	-16.33	37.6	12.96	35.48	196	227	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	48.06	39.24	54	-5.94	34.36	8.51	34.05	211	211	Average
5459.76	65.06	56.24	74	-8.94	34.36	8.51	34.05	211	211	Peak
*5470.96	52.96	44.1	54	-1.04	34.37	8.54	34.05	211	211	Average
*5470.96	64.06	55.2	74	-9.94	34.37	8.54	34.05	211	211	Peak
5500	99.53	90.61			34.4	8.57	34.05	211	211	Average
5500	107.13	98.21			34.4	8.57	34.05	211	211	Peak
11000	48.27	33.19	54	-5.73	37.6	12.96	35.48	127	164	Average
11000	57.85	42.77	74	-16.15	37.6	12.96	35.48	127	164	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5443.12	43.45	34.66	54	-10.55	34.35	8.48	34.04	128	13	Average
5443.12	53.32	44.53	74	-20.68	34.35	8.48	34.04	128	13	Peak
*5468.88	43.56	34.73	54	-10.44	34.37	8.51	34.05	128	13	Average
*5468.88	52.09	43.26	74	-21.91	34.37	8.51	34.05	128	13	Peak
5580	97.22	88.23			34.47	8.6	34.08	128	13	Average
5580	104.83	95.84			34.47	8.6	34.08	128	13	Peak
*5725.96	43.96	34.8	54	-10.04	34.62	8.65	34.11	128	13	Average
*5725.96	54.32	45.16	74	-19.68	34.62	8.65	34.11	128	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.2	42.94	34.12	54	-11.06	34.36	8.51	34.05	211	211	Average
5453.2	53.55	44.73	74	-20.45	34.36	8.51	34.05	211	211	Peak
*5468.88	42.99	34.16	54	-11.01	34.37	8.51	34.05	211	211	Average
*5468.88	52.21	43.38	74	-21.79	34.37	8.51	34.05	211	211	Peak
5580	98.79	55.72			34.47	8.6	0	211	211	Average
5580	106.86	63.79			34.47	8.6	0	211	211	Peak
*5724.12	43.53	34.37	54	-10.47	34.62	8.65	34.11	211	211	Average
*5724.12	54.43	45.27	74	-19.57	34.62	8.65	34.11	211	211	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	96.26	87.13			34.59	8.64	34.1	106	26	Average
5700	104.12	94.99			34.59	8.64	34.1	106	26	Peak
*5724.04	51.32	42.16	54	-2.68	34.62	8.65	34.11	106	26	Average
*5724.04	64.13	54.97	74	-9.87	34.62	8.65	34.11	106	26	Peak
11400	47.69	32.59	54	-6.31	37.84	12.67	35.41	139	342	Average
11400	56.93	41.83	74	-17.07	37.84	12.67	35.41	139	342	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	98.39	89.26			34.59	8.64	34.1	216	260	Average
5700	105.99	96.86			34.59	8.64	34.1	216	260	Peak
*5724.04	52.84	43.68	54	-1.16	34.62	8.65	34.11	216	260	Average
*5724.04	64.94	55.78	74	-9.06	34.62	8.65	34.11	216	260	Peak
11400	47.85	32.75	54	-6.15	37.84	12.67	35.41	126	155	Average
11400	56.85	41.75	74	-17.15	37.84	12.67	35.41	126	155	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 144	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5375.76	43.15	34.49	54	-10.85	34.29	8.41	34.04	232	29	Average
5375.76	53.83	45.17	74	-20.17	34.29	8.41	34.04	232	29	Peak
*5470	52.92	44.09	68.2	-15.28	34.37	8.51	34.05	232	29	Peak
5720	98.18	89.02			34.62	8.65	34.11	232	29	Average
5720	105.51	96.35			34.62	8.65	34.11	232	29	Peak
*5852	63.87	54.57	74	-10.13	34.74	8.7	34.14	232	29	Peak
*5870	64.79	55.46	68.2	-3.41	34.76	8.71	34.14	232	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5363.92	42.97	34.33	54	-11.03	34.29	8.38	34.03	104	73	Average
5363.92	53.86	45.22	74	-20.14	34.29	8.38	34.03	104	73	Peak
*5468.08	52.28	43.45	74	-21.72	34.37	8.51	34.05	104	73	Peak
5720	95.47	86.31			34.62	8.65	34.11	104	73	Average
5720	103.52	94.36			34.62	8.65	34.11	104	73	Peak
*5852	58.47	49.17	74	-15.53	34.74	8.7	34.14	104	73	Peak
*5868	58.79	49.46	68.2	-9.41	34.76	8.71	34.14	104	73	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	97.09	87.9			34.64	8.66	34.11	124	28	Average
5745	104.87	95.68			34.64	8.66	34.11	124	28	Peak
11490	48.54	33.42	54	-5.46	37.89	12.62	35.39	122	131	Average
11490	57.37	42.25	74	-16.63	37.89	12.62	35.39	122	131	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	94.77	85.58			34.64	8.66	34.11	103	77	Average
5745	102.36	93.17			34.64	8.66	34.11	103	77	Peak
11490	48.78	33.66	54	-5.22	37.89	12.62	35.39	180	162	Average
11490	58.47	43.35	74	-15.53	37.89	12.62	35.39	180	162	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5610.25	45.34	36.31	54	-8.66	34.5	8.61	34.08	124	28	Average
*5610.25	54.52	45.49	74	-19.48	34.5	8.61	34.08	124	28	Peak
5652.25	52.01	42.92	75.4	-23.39	34.56	8.62	34.09	124	28	Peak
5922.625	52.74	43.34	75.48	-22.74	34.83	8.73	34.16	124	28	Peak
*5932.6	45.63	36.23	54	-8.37	34.83	8.73	34.16	124	28	Average
*5932.6	54.72	45.32	74	-19.28	34.83	8.73	34.16	124	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5624.425	45.25	36.2	54	-8.75	34.52	8.61	34.08	103	77	Average
*5624.425	54.27	45.22	74	-19.73	34.52	8.61	34.08	103	77	Peak
5651.725	52.81	43.72	75.08	-22.27	34.56	8.62	34.09	103	77	Peak
5922.1	55.14	45.74	75.81	-20.67	34.83	8.73	34.16	103	77	Peak
*6018.175	45.88	36.37	54	-8.12	34.92	8.77	34.18	103	77	Average
*6018.175	55.06	45.55	74	-18.94	34.92	8.77	34.18	103	77	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	96.75	87.52			34.68	8.68	34.13	138	28	Average
5785	104.6	95.37			34.68	8.68	34.13	138	28	Peak
11570	48.54	33.23	54	-5.46	38	12.68	35.37	137	93	Average
11570	57.74	42.43	74	-16.26	38	12.68	35.37	137	93	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	94.72	85.49			34.68	8.68	34.13	102	77	Average
5785	102.84	93.61			34.68	8.68	34.13	102	77	Peak
11570	48.21	32.9	54	-5.79	38	12.68	35.37	194	108	Average
11570	57.32	42.01	74	-16.68	38	12.68	35.37	194	108	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5561.425	45.43	36.46	54	-8.57	34.45	8.59	34.07	138	28	Average
*5561.425	54.69	45.72	74	-19.31	34.45	8.59	34.07	138	28	Peak
5651.725	53.72	44.63	75.08	-21.36	34.56	8.62	34.09	138	28	Peak
5923.15	53.55	44.15	75.15	-21.6	34.83	8.73	34.16	138	28	Peak
*6011.875	45.94	36.44	54	-8.06	34.92	8.76	34.18	138	28	Average
*6011.875	55.05	45.55	74	-18.95	34.92	8.76	34.18	138	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5630.725	45.67	36.62	54	-8.33	34.52	8.62	34.09	102	77	Average
*5630.725	54.9	45.85	74	-19.1	34.52	8.62	34.09	102	77	Peak
5651.725	52.6	43.51	75.08	-22.48	34.56	8.62	34.09	102	77	Peak
5922.625	54.05	44.65	75.48	-21.43	34.83	8.73	34.16	102	77	Peak
*5976.7	46.05	36.59	54	-7.95	34.88	8.75	34.17	102	77	Average
*5976.7	55.2	45.74	74	-18.8	34.88	8.75	34.17	102	77	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	96.91	87.62			34.73	8.69	34.13	129	24	Average
5825	104.39	95.1			34.73	8.69	34.13	129	24	Peak
11650	48.45	32.92	54	-5.55	38.09	12.8	35.36	164	139	Average
11650	57.8	42.27	74	-16.2	38.09	12.8	35.36	164	139	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	94.71	85.42			34.73	8.69	34.13	101	92	Average
5825	102.3	93.01			34.73	8.69	34.13	101	92	Peak
11650	48.56	33.03	54	-5.44	38.09	12.8	35.36	129	105	Average
11650	58.26	42.73	74	-15.74	38.09	12.8	35.36	129	105	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5592.4	45.92	36.91	54	-8.08	34.49	8.6	34.08	129	24	Average
*5592.4	55.04	46.03	74	-18.96	34.49	8.6	34.08	129	24	Peak
5653.825	53.28	44.19	76.39	-23.11	34.56	8.63	34.1	129	24	Peak
5922.625	53.42	44.02	75.48	-22.06	34.83	8.73	34.16	129	24	Peak
*5985.625	45.85	36.39	54	-8.15	34.88	8.75	34.17	129	24	Average
*5985.625	55.03	45.57	74	-18.97	34.88	8.75	34.17	129	24	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5577.175	45.53	36.53	54	-8.47	34.47	8.6	34.07	101	92	Average
*5577.175	54.71	45.71	74	-19.29	34.47	8.6	34.07	101	92	Peak
5653.3	54.27	45.17	76.06	-21.79	34.56	8.63	34.09	101	92	Peak
5922.625	53.17	43.77	75.48	-22.31	34.83	8.73	34.16	101	92	Peak
*6005.575	45.64	36.15	54	-8.36	34.9	8.76	34.17	101	92	Average
*6005.575	54.76	45.27	74	-19.24	34.9	8.76	34.17	101	92	Peak

Remarks:

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

802.11n (HT20)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	44.75	36.5	54	-9.25	34.12	8.13	34	125	4	Peak
5149.7	61.52	53.27	74	-12.48	34.12	8.13	34	125	4	Peak
5180	95.1	86.79			34.15	8.16	34	125	4	Average
5180	103.09	94.78			34.15	8.16	34	125	4	Peak
*10360	46.29	31.99	54	-7.71	37.12	12.3	35.12	129	340	Average
*10360	55.98	41.68	74	-18.02	37.12	12.3	35.12	129	340	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	45.69	37.44	54	-8.31	34.12	8.13	34	200	206	Peak
5149.85	62.32	54.07	74	-11.68	34.12	8.13	34	200	206	Peak
5180	96.74	88.43			34.15	8.16	34	200	206	Average
5180	104.69	96.38			34.15	8.16	34	200	206	Peak
*10360	46.32	32.02	54	-7.68	37.12	12.3	35.12	127	159	Average
*10360	55.17	40.87	74	-18.83	37.12	12.3	35.12	127	159	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.25	42.57	34.32	54	-11.43	34.11	8.13	33.99	140	4	Average
5134.25	53.52	45.27	74	-20.48	34.11	8.13	33.99	140	4	Peak
5220	95.85	87.46			34.17	8.22	34	140	4	Average
5220	103.15	94.76			34.17	8.22	34	140	4	Peak
5450.76	42.67	33.85	54	-11.33	34.36	8.51	34.05	140	4	Average
5450.76	53.37	44.55	74	-20.63	34.36	8.51	34.05	140	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5110.85	42.7	34.5	54	-11.3	34.09	8.1	33.99	196	212	Average
5110.85	53.19	44.99	74	-20.81	34.09	8.1	33.99	196	212	Peak
5220	97.05	88.66			34.17	8.22	34	196	212	Average
5220	104.83	96.44			34.17	8.22	34	196	212	Peak
5443.94	42.67	33.88	54	-11.33	34.35	8.48	34.04	196	212	Average
5443.94	53.06	44.27	74	-20.94	34.35	8.48	34.04	196	212	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	95.57	87.13			34.19	8.26	34.01	138	2	Average
5240	103.11	94.67			34.19	8.26	34.01	138	2	Peak
5441.41	42.67	33.88	54	-11.33	34.35	8.48	34.04	138	2	Average
5441.41	53.22	44.43	74	-20.78	34.35	8.48	34.04	138	2	Peak
*10480	49.04	34.53	54	-4.96	37.19	12.53	35.21	169	145	Average
*10480	56.72	42.21	74	-17.28	37.19	12.53	35.21	169	145	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	97.37	88.93			34.19	8.26	34.01	224	213	Average
5240	105.29	96.85			34.19	8.26	34.01	224	213	Peak
5444	42.41	33.62	54	-11.59	34.35	8.48	34.04	224	213	Average
5444	53.44	44.65	74	-20.56	34.35	8.48	34.04	224	213	Peak
*10480	48.04	33.53	54	-5.96	37.19	12.53	35.21	122	165	Average
*10480	56.04	41.53	74	-17.96	37.19	12.53	35.21	122	165	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5102.6	42.47	34.31	54	-11.53	34.08	8.07	33.99	200	3	Average
5102.6	53.56	45.4	74	-20.44	34.08	8.07	33.99	200	3	Peak
5260	95.63	87.17			34.21	8.26	34.01	200	3	Average
5260	102.05	93.59			34.21	8.26	34.01	200	3	Peak
*10520	46.6	32.01	54	-7.4	37.21	12.61	35.23	120	2	Average
*10520	56.35	41.76	74	-17.65	37.21	12.61	35.23	120	2	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.1	42.82	34.56	54	-11.18	34.12	8.13	33.99	228	211	Average
5140.1	53.25	44.99	74	-20.75	34.12	8.13	33.99	228	211	Peak
5260	99.72	91.26			34.21	8.26	34.01	228	211	Average
5260	106.44	97.98			34.21	8.26	34.01	228	211	Peak
*10520	46.38	31.79	54	-7.62	37.21	12.61	35.23	100	0	Average
*10520	56.43	41.84	74	-17.57	37.21	12.61	35.23	100	0	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5070.35	42.63	34.53	54	-11.37	34.05	8.03	33.98	200	3	Average
5070.35	53.17	45.07	74	-20.83	34.05	8.03	33.98	200	3	Peak
5300	95.75	87.21			34.24	8.32	34.02	200	3	Average
5300	102.86	94.32			34.24	8.32	34.02	200	3	Peak
5352.2	42.81	34.18	54	-11.19	34.28	8.38	34.03	200	3	Average
5352.2	54.02	45.39	74	-19.98	34.28	8.38	34.03	200	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138	42.74	34.49	54	-11.26	34.11	8.13	33.99	244	216	Average
5138	53.59	45.34	74	-20.41	34.11	8.13	33.99	244	216	Peak
5300	99.43	90.89			34.24	8.32	34.02	244	216	Average
5300	106.39	97.85			34.24	8.32	34.02	244	216	Peak
5350.22	43.98	35.35	54	-10.02	34.28	8.38	34.03	244	216	Average
5350.22	55.17	46.54	74	-18.83	34.28	8.38	34.03	244	216	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	95.44	86.86			34.25	8.35	34.02	200	3	Average
5320	102.31	93.73			34.25	8.35	34.02	200	3	Peak
5350.11	46.57	37.94	54	-7.43	34.28	8.38	34.03	200	3	Average
5350.11	60.08	51.45	74	-13.92	34.28	8.38	34.03	200	3	Peak
10640	46.65	31.92	54	-7.35	37.31	12.71	35.29	124	228	Average
10640	57.14	42.41	74	-16.86	37.31	12.71	35.29	124	228	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.25	90.67			34.25	8.35	34.02	244	216	Average
5320	106.02	97.44			34.25	8.35	34.02	244	216	Peak
5350	49.99	41.36	54	-4.01	34.28	8.38	34.03	244	216	Average
5350	62.89	54.26	74	-11.11	34.28	8.38	34.03	244	216	Peak
10640	46.72	31.99	54	-7.28	37.31	12.71	35.29	111	247	Average
10640	56.55	41.82	74	-17.45	37.31	12.71	35.29	111	247	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	44.09	35.27	54	-9.91	34.36	8.51	34.05	130	5	Average
5459.92	58.27	49.45	74	-15.73	34.36	8.51	34.05	130	5	Peak
*5470.96	47.3	38.44	54	-6.7	34.37	8.54	34.05	130	5	Average
*5470.96	62.85	53.99	74	-11.15	34.37	8.54	34.05	130	5	Peak
5500	97.62	88.7			34.4	8.57	34.05	130	5	Average
5500	104.86	95.94			34.4	8.57	34.05	130	5	Peak
11000	48.25	33.17	54	-5.75	37.6	12.96	35.48	196	227	Average
11000	57.67	42.59	74	-16.33	37.6	12.96	35.48	196	227	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	48.06	39.24	54	-5.94	34.36	8.51	34.05	211	211	Average
5459.76	65.06	56.24	74	-8.94	34.36	8.51	34.05	211	211	Peak
*5470.96	52.96	44.1	54	-1.04	34.37	8.54	34.05	211	211	Average
*5470.96	64.06	55.2	74	-9.94	34.37	8.54	34.05	211	211	Peak
5500	99.53	90.61			34.4	8.57	34.05	211	211	Average
5500	107.13	98.21			34.4	8.57	34.05	211	211	Peak
11000	48.27	33.19	54	-5.73	37.6	12.96	35.48	127	164	Average
11000	57.85	42.77	74	-16.15	37.6	12.96	35.48	127	164	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5443.12	43.45	34.66	54	-10.55	34.35	8.48	34.04	128	13	Average
5443.12	53.32	44.53	74	-20.68	34.35	8.48	34.04	128	13	Peak
*5468.88	43.56	34.73	54	-10.44	34.37	8.51	34.05	128	13	Average
*5468.88	52.09	43.26	74	-21.91	34.37	8.51	34.05	128	13	Peak
5580	97.22	88.23			34.47	8.6	34.08	128	13	Average
5580	104.83	95.84			34.47	8.6	34.08	128	13	Peak
*5725.96	43.96	34.8	54	-10.04	34.62	8.65	34.11	128	13	Average
*5725.96	54.32	45.16	74	-19.68	34.62	8.65	34.11	128	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.2	42.94	34.12	54	-11.06	34.36	8.51	34.05	211	211	Average
5453.2	53.55	44.73	74	-20.45	34.36	8.51	34.05	211	211	Peak
*5468.88	42.99	34.16	54	-11.01	34.37	8.51	34.05	211	211	Average
*5468.88	52.21	43.38	74	-21.79	34.37	8.51	34.05	211	211	Peak
5580	98.79	55.72			34.47	8.6	0	211	211	Average
5580	106.86	63.79			34.47	8.6	0	211	211	Peak
*5724.12	43.53	34.37	54	-10.47	34.62	8.65	34.11	211	211	Average
*5724.12	54.43	45.27	74	-19.57	34.62	8.65	34.11	211	211	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	96.26	87.13			34.59	8.64	34.1	106	26	Average
5700	104.12	94.99			34.59	8.64	34.1	106	26	Peak
*5724.04	51.32	42.16	54	-2.68	34.62	8.65	34.11	106	26	Average
*5724.04	64.13	54.97	74	-9.87	34.62	8.65	34.11	106	26	Peak
11400	47.69	32.59	54	-6.31	37.84	12.67	35.41	139	342	Average
11400	56.93	41.83	74	-17.07	37.84	12.67	35.41	139	342	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	98.39	89.26			34.59	8.64	34.1	216	260	Average
5700	105.99	96.86			34.59	8.64	34.1	216	260	Peak
*5724.04	52.84	43.68	54	-1.16	34.62	8.65	34.11	216	260	Average
*5724.04	64.94	55.78	74	-9.06	34.62	8.65	34.11	216	260	Peak
11400	47.85	32.75	54	-6.15	37.84	12.67	35.41	126	155	Average
11400	56.85	41.75	74	-17.15	37.84	12.67	35.41	126	155	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 144	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5427.44	43.06	34.29	54	-10.94	34.33	8.48	34.04	232	29	Average
5427.44	54.02	45.25	74	-19.98	34.33	8.48	34.04	232	29	Peak
*5468.24	52.49	43.66	68.2	-15.71	34.37	8.51	34.05	232	29	Peak
5720	97.3	88.14			34.62	8.65	34.11	232	29	Average
5720	105.38	96.22			34.62	8.65	34.11	232	29	Peak
*5854	57.78	48.46	74	-16.22	34.76	8.7	34.14	232	29	Peak
*5868	57.92	48.59	68.2	-10.28	34.76	8.71	34.14	232	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5384.88	43.01	34.33	54	-10.99	34.31	8.41	34.04	104	73	Average
5384.88	53.66	44.98	74	-20.34	34.31	8.41	34.04	104	73	Peak
*5469.84	52.36	43.53	68.2	-15.84	34.37	8.51	34.05	104	73	Peak
5720	95.55	86.39			34.62	8.65	34.11	104	73	Average
5720	103	93.84			34.62	8.65	34.11	104	73	Peak
*5852	56.81	47.51	74	-17.19	34.74	8.7	34.14	104	73	Peak
*5868	58.51	49.18	68.2	-9.69	34.76	8.71	34.14	104	73	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	96.06	86.87			34.64	8.66	34.11	124	28	Average
5745	103.94	94.75			34.64	8.66	34.11	124	28	Peak
11490	47.74	32.62	54	-6.26	37.89	12.62	35.39	169	36	Average
11490	56.92	41.8	74	-17.08	37.89	12.62	35.39	169	36	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	94.08	84.89			34.64	8.66	34.11	103	77	Average
5745	101.73	92.54			34.64	8.66	34.11	103	77	Peak
11490	47.85	32.73	54	-6.15	37.89	12.62	35.39	168	124	Average
11490	56.57	41.45	74	-17.43	37.89	12.62	35.39	168	124	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5574.025	45.42	36.43	54	-8.58	34.47	8.59	34.07	124	28	Average
*5574.025	54.2	45.21	74	-19.8	34.47	8.59	34.07	124	28	Peak
5651.725	51.84	42.75	75.08	-23.24	34.56	8.62	34.09	124	28	Peak
5922.625	52.14	42.74	75.48	-23.34	34.83	8.73	34.16	124	28	Peak
*5971.45	45.76	36.31	54	-8.24	34.87	8.75	34.17	124	28	Average
*5971.45	54.72	45.27	74	-19.28	34.87	8.75	34.17	124	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5632.3	45.22	36.17	54	-8.78	34.52	8.62	34.09	103	77	Average
*5632.3	54.03	44.98	74	-19.97	34.52	8.62	34.09	103	77	Peak
5651.725	52.39	43.3	75.08	-22.69	34.56	8.62	34.09	103	77	Peak
5922.625	52.41	43.01	75.48	-23.07	34.83	8.73	34.16	103	77	Peak
*5991.925	45.38	35.89	54	-8.62	34.9	8.76	34.17	103	77	Average
*5991.925	54.46	44.97	74	-19.54	34.9	8.76	34.17	103	77	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	96.42	87.19			34.68	8.68	34.13	138	28	Average
5785	103.77	94.54			34.68	8.68	34.13	138	28	Peak
11570	48.25	32.94	54	-5.75	38	12.68	35.37	185	322	Average
11570	57.57	42.26	74	-16.43	38	12.68	35.37	185	322	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	94.25	85.02			34.68	8.68	34.13	102	77	Average
5785	101.96	92.73			34.68	8.68	34.13	102	77	Peak
11570	48.33	33.02	54	-5.67	38	12.68	35.37	119	169	Average
11570	57.51	42.2	74	-16.49	38	12.68	35.37	119	169	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5541.475	44.86	35.92	54	-9.14	34.43	8.58	34.07	138	28	Average
*5541.475	53.53	44.59	74	-20.47	34.43	8.58	34.07	138	28	Peak
5651.2	52.07	42.98	74.75	-22.68	34.56	8.62	34.09	138	28	Peak
5921.575	53.32	43.92	76.14	-22.82	34.83	8.73	34.16	138	28	Peak
*6015.025	45.64	36.14	54	-8.36	34.92	8.76	34.18	138	28	Average
*6015.025	54.86	45.36	74	-19.14	34.92	8.76	34.18	138	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5624.425	46.58	37.53	54	-7.42	34.52	8.61	34.08	102	77	Average
*5624.425	55.43	46.38	74	-18.57	34.52	8.61	34.08	102	77	Peak
5651.2	52.49	43.4	74.75	-22.26	34.56	8.62	34.09	102	77	Peak
5923.15	53.65	44.25	75.15	-21.5	34.83	8.73	34.16	102	77	Peak
*5973.025	46.25	36.79	54	-7.75	34.88	8.75	34.17	102	77	Average
*5973.025	55.35	45.89	74	-18.65	34.88	8.75	34.17	102	77	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	96.81	87.52			34.73	8.69	34.13	129	24	Average
5825	104.7	95.41			34.73	8.69	34.13	129	24	Peak
11650	48.96	33.43	54	-5.04	38.09	12.8	35.36	177	150	Average
11650	57.92	42.39	74	-16.08	38.09	12.8	35.36	177	150	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	94.64	85.35			34.73	8.69	34.13	101	92	Average
5825	102.94	93.65			34.73	8.69	34.13	101	92	Peak
11650	49.28	33.75	54	-4.72	38.09	12.8	35.36	128	243	Average
11650	58.88	43.35	74	-15.12	38.09	12.8	35.36	128	243	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5560.9	45.31	36.34	54	-8.69	34.45	8.59	34.07	129	24	Average
*5560.9	54.12	45.15	74	-19.88	34.45	8.59	34.07	129	24	Peak
5651.2	53.12	44.03	74.75	-21.63	34.56	8.62	34.09	129	24	Peak
5921.575	53.94	44.54	76.14	-22.2	34.83	8.73	34.16	129	24	Peak
*5974.6	45.83	36.37	54	-8.17	34.88	8.75	34.17	129	24	Average
*5974.6	54.68	45.22	74	-19.32	34.88	8.75	34.17	129	24	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5598.175	45.24	36.23	54	-8.76	34.49	8.6	34.08	101	92	Average
*5598.175	54.08	45.07	74	-19.92	34.49	8.6	34.08	101	92	Peak
5651.725	52.84	43.75	75.08	-22.24	34.56	8.62	34.09	101	92	Peak
5923.675	52.56	43.16	74.83	-22.27	34.83	8.73	34.16	101	92	Peak
*5975.65	45.91	36.45	54	-8.09	34.88	8.75	34.17	101	92	Average
*5975.65	54.83	45.37	74	-19.17	34.88	8.75	34.17	101	92	Peak

Remarks:

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

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	52.75	44.5	54	-1.25	34.12	8.13	34	199	207	Average
5150	64.31	56.06	74	-9.69	34.12	8.13	34	199	207	Peak
5190	91.56	83.22			34.15	8.19	34	199	207	Average
5190	98.75	90.41			34.15	8.19	34	199	207	Peak
5359.24	43.23	34.6	54	-10.77	34.28	8.38	34.03	199	207	Average
5359.24	52.71	44.08	74	-21.29	34.28	8.38	34.03	199	207	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	51.19	42.94	54	-2.81	34.12	8.13	34	125	4	Average
5149.85	60.95	52.7	74	-13.05	34.12	8.13	34	125	4	Peak
5190	89.81	81.47			34.15	8.19	34	125	4	Average
5190	96.73	88.39			34.15	8.19	34	125	4	Peak
5402.36	43.13	34.41	54	-10.87	34.32	8.44	34.04	125	4	Average
5402.36	53.46	44.74	74	-20.54	34.32	8.44	34.04	125	4	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5093.15	42.59	34.43	54	-11.41	34.08	8.07	33.99	138	2	Average
5093.15	52.89	44.73	74	-21.11	34.08	8.07	33.99	138	2	Peak
5230	91.51	83.11			34.19	8.22	34.01	138	2	Average
5230	98.86	90.46			34.19	8.22	34.01	138	2	Peak
5373.87	42.68	34.02	54	-11.32	34.29	8.41	34.04	138	2	Average
5373.87	55.02	46.36	74	-18.98	34.29	8.41	34.04	138	2	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.5	43.11	34.86	54	-10.89	34.12	8.13	34	224	213	Average
5148.5	55.55	47.3	74	-18.45	34.12	8.13	34	224	213	Peak
5230	93.28	84.88			34.19	8.22	34.01	224	213	Average
5230	100.6	92.2			34.19	8.22	34.01	224	213	Peak
5364.3	43.14	34.5	54	-10.86	34.29	8.38	34.03	224	213	Average
5364.3	53.89	45.25	74	-20.11	34.29	8.38	34.03	224	213	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5130.2	42.89	34.67	54	-11.11	34.11	8.1	33.99	200	3	Average
5130.2	52.78	44.56	74	-21.22	34.11	8.1	33.99	200	3	Peak
5270	92.35	83.86			34.21	8.29	34.01	200	3	Average
5270	98.16	89.67			34.21	8.29	34.01	200	3	Peak
5361.44	43.12	34.48	54	-10.88	34.29	8.38	34.03	200	3	Average
5361.44	54.86	46.22	74	-19.14	34.29	8.38	34.03	200	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5137.7	43.04	34.79	54	-10.96	34.11	8.13	33.99	222	214	Average
5137.7	53.18	44.93	74	-20.82	34.11	8.13	33.99	222	214	Peak
5270	96.69	88.2			34.21	8.29	34.01	222	214	Average
5270	102.48	93.99			34.21	8.29	34.01	222	214	Peak
5352.97	43.85	35.22	54	-10.15	34.28	8.38	34.03	222	214	Average
5352.97	59.62	50.99	74	-14.38	34.28	8.38	34.03	222	214	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5032.55	43.01	34.95	54	-10.99	34.03	8	33.97	200	3	Average
5032.55	53.28	45.22	74	-20.72	34.03	8	33.97	200	3	Peak
5310	91.52	82.97			34.25	8.32	34.02	200	3	Average
5310	97.39	88.84			34.25	8.32	34.02	200	3	Peak
5350	47.52	38.89	54	-6.48	34.28	8.38	34.03	200	3	Average
5350	60.02	51.39	74	-13.98	34.28	8.38	34.03	200	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.25	42.85	34.6	54	-11.15	34.12	8.13	34	222	214	Average
5146.25	54.2	45.95	74	-19.8	34.12	8.13	34	222	214	Peak
5310	94.19	85.64			34.25	8.32	34.02	222	214	Average
5310	101	92.45			34.25	8.32	34.02	222	214	Peak
5350.11	52.6	43.97	54	-1.4	34.28	8.38	34.03	222	214	Average
5350.11	63.48	54.85	74	-10.52	34.28	8.38	34.03	222	214	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	44.99	36.17	54	-9.01	34.36	8.51	34.05	130	5	Average
5460	54.71	45.89	74	-19.29	34.36	8.51	34.05	130	5	Peak
*5470.32	49.51	40.68	54	-4.49	34.37	8.51	34.05	130	5	Average
*5470.32	59.38	50.55	74	-14.62	34.37	8.51	34.05	130	5	Peak
5510	90.91	82			34.4	8.57	34.06	130	5	Average
5510	97.77	88.86			34.4	8.57	34.06	130	5	Peak
*5724.12	43.93	34.77	54	-10.07	34.62	8.65	34.11	130	5	Average
*5724.12	53.04	43.88	74	-20.96	34.62	8.65	34.11	130	5	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	46.59	37.77	54	-7.41	34.36	8.51	34.05	208	212	Average
5460	62.34	53.52	74	-11.66	34.36	8.51	34.05	208	212	Peak
*5470.32	52.96	44.13	54	-1.04	34.37	8.51	34.05	208	212	Average
*5470.32	63.68	54.85	74	-10.32	34.37	8.51	34.05	208	212	Peak
5510	93.03	84.12			34.4	8.57	34.06	208	212	Average
5510	100.96	92.05			34.4	8.57	34.06	208	212	Peak
*5725.32	43.17	34.01	54	-10.83	34.62	8.65	34.11	208	212	Average
*5725.32	53.17	44.01	74	-20.83	34.62	8.65	34.11	208	212	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5449.2	43.05	34.22	54	-10.95	34.36	8.51	34.04	135	16	Average
5449.2	54.32	45.49	74	-19.68	34.36	8.51	34.04	135	16	Peak
*5469.68	43.06	34.23	54	-10.94	34.37	8.51	34.05	135	16	Average
*5469.68	52.43	43.6	74	-21.57	34.37	8.51	34.05	135	16	Peak
5550	92.51	83.54			34.45	8.59	34.07	135	16	Average
5550	99.63	90.66			34.45	8.59	34.07	135	16	Peak
*5725.32	43.39	34.23	54	-10.61	34.62	8.65	34.11	135	16	Average
*5725.32	52.78	43.62	74	-21.22	34.62	8.65	34.11	135	16	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	43.5	34.68	54	-10.5	34.36	8.51	34.05	194	211	Average
5459.6	57.2	48.38	74	-16.8	34.36	8.51	34.05	194	211	Peak
*5469.84	44.04	35.21	54	-9.96	34.37	8.51	34.05	194	211	Average
*5469.84	54.28	45.45	74	-19.72	34.37	8.51	34.05	194	211	Peak
5550	94.42	85.45			34.45	8.59	34.07	194	211	Average
5550	101.47	92.5			34.45	8.59	34.07	194	211	Peak
*5725.08	43.26	34.1	54	-10.74	34.62	8.65	34.11	194	211	Average
*5725.08	52.89	43.73	74	-21.11	34.62	8.65	34.11	194	211	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446	43.53	34.7	54	-10.47	34.36	8.51	34.04	106	26	Average
5446	53.26	44.43	74	-20.74	34.36	8.51	34.04	106	26	Peak
*5470.8	43.4	34.54	54	-10.6	34.37	8.54	34.05	106	26	Average
*5470.8	53.09	44.23	74	-20.91	34.37	8.54	34.05	106	26	Peak
5670	93.71	84.61			34.57	8.63	34.1	106	26	Average
5670	101.33	92.23			34.57	8.63	34.1	106	26	Peak
*5723.96	50.93	41.77	54	-3.07	34.62	8.65	34.11	106	26	Average
*5723.96	59.77	50.61	74	-14.23	34.62	8.65	34.11	106	26	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5442	43.47	34.68	54	-10.53	34.35	8.48	34.04	208	260	Average
5442	53.84	45.05	74	-20.16	34.35	8.48	34.04	208	260	Peak
*5470.8	43.57	34.71	54	-10.43	34.37	8.54	34.05	208	260	Average
*5470.8	53.12	44.26	74	-20.88	34.37	8.54	34.05	208	260	Peak
5670	95.36	86.26			34.57	8.63	34.1	208	260	Average
5670	102.41	93.31			34.57	8.63	34.1	208	260	Peak
*5723.96	52.44	43.28	54	-1.56	34.62	8.65	34.11	208	260	Average
*5723.96	62.11	52.95	74	-11.89	34.62	8.65	34.11	208	260	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 142	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5352.24	43.42	34.79	54	-10.58	34.28	8.38	34.03	232	29	Average
5352.24	54.84	46.21	74	-19.16	34.28	8.38	34.03	232	29	Peak
*5469.68	52.88	44.05	68.2	-15.32	34.37	8.51	34.05	232	29	Peak
5710	95.03	85.88			34.61	8.65	34.11	232	29	Average
5710	102.43	93.28			34.61	8.65	34.11	232	29	Peak
*5860	57.92	48.6	74	-16.08	34.76	8.7	34.14	232	29	Peak
*5870	58.42	49.09	68.2	-9.78	34.76	8.71	34.14	232	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5369.36	43.67	35	54	-10.33	34.29	8.41	34.03	104	73	Average
5369.36	53.1	44.43	74	-20.9	34.29	8.41	34.03	104	73	Peak
*5468.56	52.28	43.45	68.2	-15.92	34.37	8.51	34.05	104	73	Peak
5710	92.51	83.36			34.61	8.65	34.11	104	73	Average
5710	99.6	90.45			34.61	8.65	34.11	104	73	Peak
*5852	57.38	48.08	74	-16.62	34.74	8.7	34.14	104	73	Peak
*5870	57.89	48.56	68.2	-10.31	34.76	8.71	34.14	104	73	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5710 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	93.72	84.51			34.66	8.66	34.11	124	28	Average
5755	101.14	91.93			34.66	8.66	34.11	124	28	Peak
11510	48.63	33.52	54	-5.37	37.9	12.6	35.39	143	136	Average
11510	58.24	43.13	74	-15.76	37.9	12.6	35.39	143	136	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	91.98	82.77			34.66	8.66	34.11	103	77	Average
5755	99.39	90.18			34.66	8.66	34.11	103	77	Peak
11510	47.89	32.78	54	-6.11	37.9	12.6	35.39	139	74	Average
11510	56.61	41.5	74	-17.39	37.9	12.6	35.39	139	74	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5619.7	45.64	36.59	54	-8.36	34.52	8.61	34.08	124	28	Average
*5619.7	54.82	45.77	74	-19.18	34.52	8.61	34.08	124	28	Peak
5652.775	53.1	44	75.73	-22.63	34.56	8.63	34.09	124	28	Peak
5923.675	53.99	44.59	74.83	-20.84	34.83	8.73	34.16	124	28	Peak
*5948.875	46.14	36.71	54	-7.86	34.85	8.74	34.16	124	28	Average
*5948.875	55.4	45.97	74	-18.6	34.85	8.74	34.16	124	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5599.75	45.1	36.08	54	-8.9	34.5	8.6	34.08	103	77	Average
*5599.75	53.75	44.73	74	-20.25	34.5	8.6	34.08	103	77	Peak
5652.775	53.37	44.27	75.73	-22.36	34.56	8.63	34.09	103	77	Peak
5921.575	53.12	43.72	76.14	-23.02	34.83	8.73	34.16	103	77	Peak
*5937.85	46.31	36.91	54	-7.69	34.83	8.73	34.16	103	77	Average
*5937.85	55.31	45.91	74	-18.69	34.83	8.73	34.16	103	77	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	92.96	83.72			34.69	8.68	34.13	116	25	Average
5795	100.19	90.95			34.69	8.68	34.13	116	25	Peak
11590	48.05	32.68	54	-5.95	38.02	12.72	35.37	137	155	Average
11590	57.1	41.73	74	-16.9	38.02	12.72	35.37	137	155	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	90.71	81.47			34.69	8.68	34.13	102	76	Average
5795	97.88	88.64			34.69	8.68	34.13	102	76	Peak
11590	47.96	32.59	54	-6.04	38.02	12.72	35.37	189	213	Average
11590	57.19	41.82	74	-16.81	38.02	12.72	35.37	189	213	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5638.6	44.22	35.15	54	-9.78	34.54	8.62	34.09	116	25	Average
*5638.6	53.98	44.91	74	-20.02	34.54	8.62	34.09	116	25	Peak
5651.2	51.32	42.23	74.75	-23.43	34.56	8.62	34.09	116	25	Peak
5923.15	53.54	44.14	75.15	-21.61	34.83	8.73	34.16	116	25	Peak
*6010.3	45.63	36.12	54	-8.37	34.92	8.76	34.17	116	25	Average
*6010.3	54.9	45.39	74	-19.1	34.92	8.76	34.17	116	25	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5622.325	45.82	36.77	54	-8.18	34.52	8.61	34.08	102	76	Average
*5622.325	54.9	45.85	74	-19.1	34.52	8.61	34.08	102	76	Peak
5651.2	52.98	43.89	74.75	-21.77	34.56	8.62	34.09	102	76	Peak
5923.15	54.31	44.91	75.15	-20.84	34.83	8.73	34.16	102	76	Peak
*5999.275	46.21	36.72	54	-7.79	34.9	8.76	34.17	102	76	Average
*5999.275	55.35	45.86	74	-18.65	34.9	8.76	34.17	102	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: Out of Restricted Band

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.45	51.61	43.36	54	-2.39	34.12	8.13	34	125	3	Peak
5147.45	60.57	52.32	74	-13.43	34.12	8.13	34	125	3	Peak
5210	89.13	80.77			34.17	8.19	34	125	3	Average
5210	97.18	88.82			34.17	8.19	34	125	3	Peak
5457.47	43.39	34.57	54	-10.61	34.36	8.51	34.05	125	3	Average
5457.47	52.91	44.09	74	-21.09	34.36	8.51	34.05	125	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.45	62.8	54.55	74	-11.2	34.12	8.13	34	259	212	Peak
5147.45	52.81	44.56	54	-1.19	34.12	8.13	34	259	212	Peak
5210	89.03	80.67			34.17	8.19	34	259	212	Average
5210	98.58	90.22			34.17	8.19	34	259	212	Peak
5388.28	43.51	34.83	54	-10.49	34.31	8.41	34.04	259	212	Average
5388.28	53.72	45.04	74	-20.28	34.31	8.41	34.04	259	212	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5121.5	43.15	34.95	54	-10.85	34.09	8.1	33.99	200	3	Average
5121.5	53.9	45.7	74	-20.1	34.09	8.1	33.99	200	3	Peak
5290	86.54	78.01			34.23	8.32	34.02	200	3	Average
5290	92.81	84.28			34.23	8.32	34.02	200	3	Peak
5352.53	46.22	37.59	54	-7.78	34.28	8.38	34.03	200	3	Average
5352.53	55.81	47.18	74	-18.19	34.28	8.38	34.03	200	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5111.6	43.45	35.25	54	-10.55	34.09	8.1	33.99	222	214	Average
5111.6	53.68	45.48	74	-20.32	34.09	8.1	33.99	222	214	Peak
5290	90.55	82.02			34.23	8.32	34.02	222	214	Average
5290	96.24	87.71			34.23	8.32	34.02	222	214	Peak
5352.75	52.97	44.34	54	-1.03	34.28	8.38	34.03	222	214	Average
5352.75	59.79	51.16	74	-14.21	34.28	8.38	34.03	222	214	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.8	44.73	35.91	54	-9.27	34.36	8.51	34.05	128	13	Average
5458.8	54.16	45.34	74	-19.84	34.36	8.51	34.05	128	13	Peak
*5470.32	44.74	35.91	54	-9.26	34.37	8.51	34.05	128	13	Average
*5470.32	53.63	44.8	74	-20.37	34.37	8.51	34.05	128	13	Peak
5530	86.75	77.82			34.42	8.58	34.07	128	13	Average
5530	94.3	85.37			34.42	8.58	34.07	128	13	Peak
*5725.64	44.1	34.94	54	-9.9	34.62	8.65	34.11	128	13	Average
*5725.64	52.48	43.32	74	-21.52	34.62	8.65	34.11	128	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.64	48.69	39.87	54	-5.31	34.36	8.51	34.05	209	212	Average
5458.64	59.62	50.8	74	-14.38	34.36	8.51	34.05	209	212	Peak
*5470.64	48.66	39.83	54	-5.34	34.37	8.51	34.05	209	212	Average
*5470.64	61.66	52.83	74	-12.34	34.37	8.51	34.05	209	212	Peak
5530	89.73	80.8			34.42	8.58	34.07	209	212	Average
5530	96.75	87.82			34.42	8.58	34.07	209	212	Peak
*5725.64	43.21	34.05	54	-10.79	34.62	8.65	34.11	209	212	Average
*5725.64	52.91	43.75	74	-21.09	34.62	8.65	34.11	209	212	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.8	44.27	35.45	54	-9.73	34.36	8.51	34.05	128	13	Average
5458.8	53.31	44.49	74	-20.69	34.36	8.51	34.05	128	13	Peak
*5469.68	44.83	36	54	-9.17	34.37	8.51	34.05	128	13	Average
*5469.68	54.79	45.96	74	-19.21	34.37	8.51	34.05	128	13	Peak
5610	89.23	80.2			34.5	8.61	34.08	128	13	Average
5610	98.06	89.03			34.5	8.61	34.08	128	13	Peak
*5723.96	49.51	40.35	54	-4.49	34.62	8.65	34.11	128	13	Average
*5723.96	58.42	49.26	74	-15.58	34.62	8.65	34.11	128	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	48.26	39.44	54	-5.74	34.36	8.51	34.05	223	211	Average
5459.6	58.25	49.43	74	-15.75	34.36	8.51	34.05	223	211	Peak
*5470.96	49.94	41.08	54	-4.06	34.37	8.54	34.05	223	211	Average
*5470.96	61.07	52.21	74	-12.93	34.37	8.54	34.05	223	211	Peak
5610	91.83	82.8			34.5	8.61	34.08	223	211	Average
5610	100.01	90.98			34.5	8.61	34.08	223	211	Peak
*5724.44	51.01	41.85	54	-2.99	34.62	8.65	34.11	223	211	Average
*5724.44	61.2	52.04	74	-12.8	34.62	8.65	34.11	223	211	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 138	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5434.32	43.92	35.13	54	-10.08	34.35	8.48	34.04	226	29	Average
5434.32	54.27	45.48	74	-19.73	34.35	8.48	34.04	226	29	Peak
5470.48	52.58	43.75	68.2	-15.62	34.37	8.51	34.05	226	29	Peak
5690	90.42	81.29			34.59	8.64	34.1	226	29	Average
5690	98.99	89.86			34.59	8.64	34.1	226	29	Peak
5860	59.23	49.91	74	-14.77	34.76	8.7	34.14	226	29	Peak
5862	59.86	50.53	68.2	-8.34	34.76	8.71	34.14	226	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5437.84	43.78	34.99	54	-10.22	34.35	8.48	34.04	104	73	Average
5437.84	53.92	45.13	74	-20.08	34.35	8.48	34.04	104	73	Peak
5469.36	52.78	43.95	68.2	-15.42	34.37	8.51	34.05	104	73	Peak
5690	88.15	79.02			34.59	8.64	34.1	104	73	Average
5690	96.28	87.15			34.59	8.64	34.1	104	73	Peak
5854	58.37	49.05	74	-15.63	34.76	8.7	34.14	104	73	Peak
5870	57.69	48.36	68.2	-10.51	34.76	8.71	34.14	104	73	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5690 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	91.63	82.4			34.68	8.67	34.12	138	24	Average
5775	99.93	90.7			34.68	8.67	34.12	138	24	Peak
11550	47.26	31.99	54	-6.74	37.97	12.68	35.38	129	246	Average
11550	56.4	41.13	74	-17.6	37.97	12.68	35.38	129	246	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	89.91	80.68			34.68	8.67	34.12	103	77	Average
5775	98.55	89.32			34.68	8.67	34.12	103	77	Peak
11550	47.75	32.48	54	-6.25	37.97	12.68	35.38	109	134	Average
11550	56.89	41.62	74	-17.11	37.97	12.68	35.38	109	134	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5615.5	46.55	37.5	54	-7.45	34.52	8.61	34.08	138	24	Average
*5615.5	55.4	46.35	74	-18.6	34.52	8.61	34.08	138	24	Peak
5652.25	57.07	47.98	75.4	-18.33	34.56	8.62	34.09	138	24	Peak
5921.575	55.76	46.36	76.14	-20.38	34.83	8.73	34.16	138	24	Peak
*5933.65	46.75	37.35	54	-7.25	34.83	8.73	34.16	138	24	Average
*5933.65	55.45	46.05	74	-18.55	34.83	8.73	34.16	138	24	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5638.6	46.78	37.71	54	-7.22	34.54	8.62	34.09	103	77	Average
*5638.6	55.64	46.57	74	-18.36	34.54	8.62	34.09	103	77	Peak
5651.725	56.07	46.98	75.08	-19.01	34.56	8.62	34.09	103	77	Peak
5921.575	53.1	43.7	76.14	-23.04	34.83	8.73	34.16	103	77	Peak
*5978.275	47.11	37.65	54	-6.89	34.88	8.75	34.17	103	77	Average
*5978.275	56.28	46.82	74	-17.72	34.88	8.75	34.17	103	77	Peak

Remarks:

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

9 kHz ~ 30 MHz DATA:

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

30 MHz ~ 1 GHz WORST-CASE DATA:

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
99.66	23.14	41.84	43.5	-20.36	12.28	1.28	32.26	154	44	Peak
138	23.41	45.75	43.5	-20.09	8.54	1.38	32.26	104	124	Peak
293.52	29.73	46.89	46	-16.27	12.94	2.03	32.13	127	297	Peak
323.8	25.96	42.33	46	-20.04	13.62	2.11	32.1	135	295	Peak
647.9	26.06	36.81	46	-19.94	18.41	2.99	32.15	198	305	Peak
810.3	24.83	33.03	46	-21.17	20.49	3.32	32.01	177	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
45.93	25.56	42.47	40	-14.44	14.41	0.9	32.22	197	2	Peak
138	20.03	42.37	43.5	-23.47	8.54	1.38	32.26	180	44	Peak
294.87	27.62	44.76	46	-18.38	12.96	2.03	32.13	147	7	Peak
300	26.97	44.02	46	-19.03	13.06	2.03	32.14	109	147	Peak
499.5	27.86	40.98	46	-18.14	16.35	2.63	32.1	147	7	Peak
749.4	28.87	37.99	46	-17.13	19.81	3.22	32.15	197	7	Peak

Remarks:

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

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 58	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
98.85	23.36	42.14	43.5	-20.14	12.15	1.28	32.21	185	298	Peak
138.81	23.2	45.61	43.5	-20.3	8.48	1.38	32.27	200	201	Peak
264.09	24.78	42.4	46	-21.22	12.55	1.94	32.11	107	77	Peak
330.8	24.69	40.78	46	-21.31	13.81	2.19	32.09	170	47	Peak
594	24.21	35.7	46	-21.79	17.83	2.87	32.19	193	325	Peak
897.1	23.63	30.2	46	-22.37	21.44	3.49	31.5	123	326	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
76.17	20.9	43.64	40	-19.1	8.37	1.11	32.22	124	1	Peak
138.27	19.48	41.89	43.5	-24.02	8.48	1.38	32.27	187	90	Peak
291.9	26.46	43.66	46	-19.54	12.9	2.03	32.13	163	188	Peak
300	27.2	44.25	46	-18.8	13.06	2.03	32.14	182	300	Peak
647.9	22.4	33.15	46	-23.6	18.41	2.99	32.15	154	226	Peak
836.2	22.17	29.82	46	-23.83	20.84	3.38	31.87	124	208	Peak

Remarks:

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

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 100	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
99.66	23.17	41.87	43.5	-20.33	12.28	1.28	32.26	117	173	Peak
138.54	23.16	45.57	43.5	-20.34	8.48	1.38	32.27	154	138	Peak
264.09	24.65	42.27	46	-21.35	12.55	1.94	32.11	106	105	Peak
323.8	27.29	43.66	46	-18.71	13.62	2.11	32.1	159	136	Peak
594	24.25	35.74	46	-21.75	17.83	2.87	32.19	178	287	Peak
749.4	35.3	44.42	46	-10.7	19.81	3.22	32.15	162	242	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
60.51	23.49	41.45	40	-16.51	13.37	0.9	32.23	160	251	Peak
138.54	20.04	42.45	43.5	-23.46	8.48	1.38	32.27	136	360	Peak
243.03	13.93	32.03	46	-32.07	12.17	1.85	32.12	185	123	Peak
327.3	22.69	38.98	46	-23.31	13.7	2.11	32.1	187	178	Peak
587.7	17.96	29.58	46	-28.04	17.75	2.82	32.19	175	225	Peak
850.9	22.75	30.07	46	-23.25	21.03	3.44	31.79	143	210	Peak

Remarks:

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

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
97.77	24.9	43.75	43.5	-18.6	12.02	1.28	32.15	197	77	Peak
138.27	22.53	44.94	43.5	-20.97	8.48	1.38	32.27	184	266	Peak
264.09	25.32	42.94	46	-20.68	12.55	1.94	32.11	138	318	Peak
377.7	27.91	43.24	46	-18.09	14.56	2.26	32.15	180	336	Peak
647.9	25.21	35.96	46	-20.79	18.41	2.99	32.15	154	147	Peak
792.1	26.29	34.84	46	-19.71	20.25	3.27	32.07	180	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
44.04	29.5	46.65	40	-10.5	14.17	0.9	32.22	144	204	Peak
138.54	19.59	42	43.5	-23.91	8.48	1.38	32.27	185	5	Peak
292.44	27.29	44.47	46	-18.71	12.92	2.03	32.13	132	251	Peak
301.4	26.95	43.95	46	-19.05	13.1	2.03	32.13	190	80	Peak
624.1	19.29	30.37	46	-26.71	18.16	2.93	32.17	136	66	Peak
823.6	22.4	30.26	46	-23.6	20.69	3.38	31.93	124	296	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- Note:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

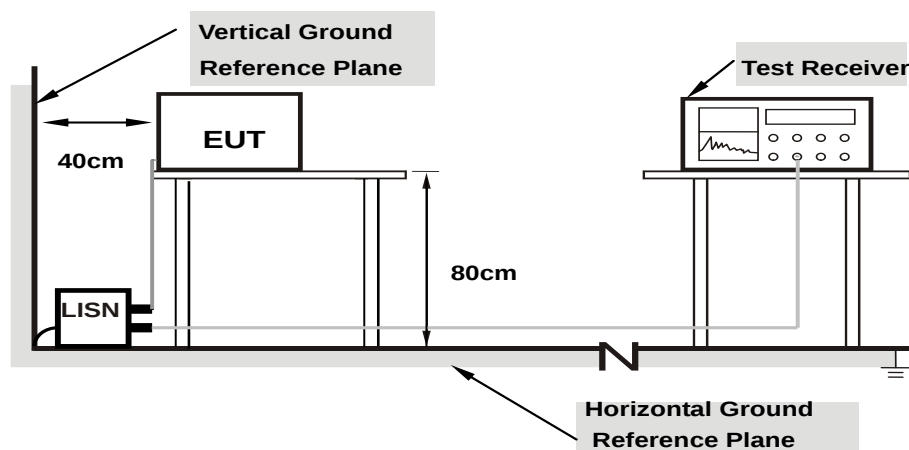
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

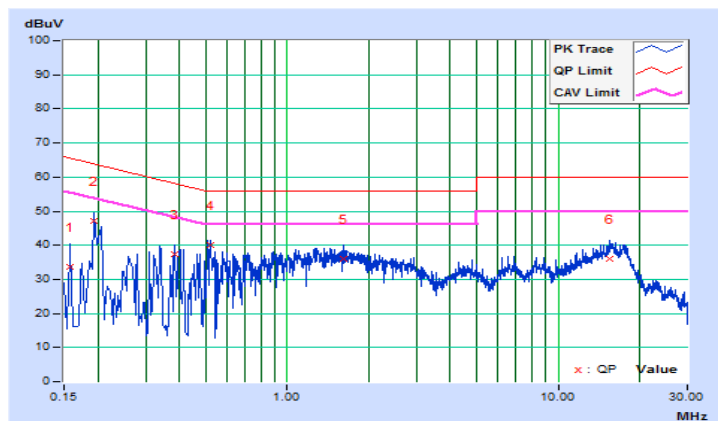
4.2.7 Test Results

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	Getaz Yang	Test Date	2017/6/20

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	0.15800	10.35	23.38	4.01	33.73	14.36	65.57	55.57	-31.84	-41.21
2	0.19400	10.37	36.68	23.06	47.05	33.43	63.86	53.86	-16.81	-20.43
3	0.38218	10.40	27.11	15.66	37.51	26.06	58.23	48.23	-20.72	-22.17
4	0.51800	10.40	29.73	16.01	40.13	26.41	56.00	46.00	-15.87	-19.59
5	1.61800	10.44	25.52	12.02	35.96	22.46	56.00	46.00	-20.04	-23.54
6	15.56200	11.12	25.05	17.93	36.17	29.05	60.00	50.00	-23.83	-20.95

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

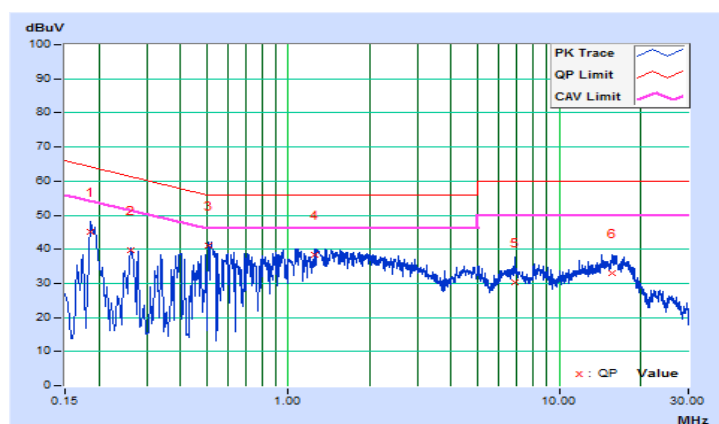


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Getaz Yang	Test Date	2017/6/20

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	0.18568	10.13	34.84	17.02	44.97	27.15	64.23	54.23	-19.26	-27.08
2	0.26221	10.15	29.58	17.82	39.73	27.97	61.36	51.36	-21.63	-23.39
3	0.50663	10.16	31.01	17.36	41.17	27.52	56.00	46.00	-14.83	-18.48
4	1.24600	10.18	28.15	11.81	38.33	21.99	56.00	46.00	-17.67	-24.01
5	6.86600	10.44	19.98	13.59	30.42	24.03	60.00	50.00	-29.58	-25.97
6	15.71800	10.78	22.29	16.18	33.07	26.96	60.00	50.00	-26.93	-23.04

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

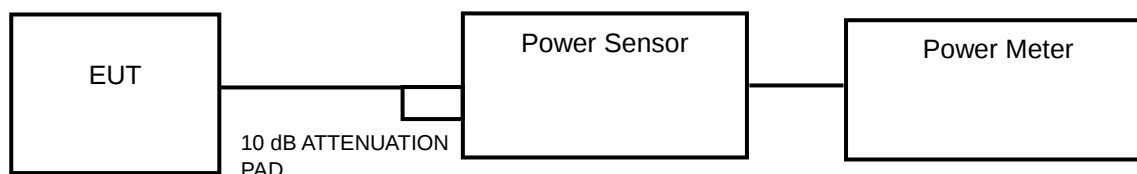
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

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

4.3.2 Test Setup

<Power Output Measurement>



or



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

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

<802.11ac (VHT80)>

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.90	12.28	24	Pass
44	5220	16.22	12.10	24	Pass
48	5240	15.96	12.03	24	Pass
52	5260	16.48	12.17	24	Pass
60	5300	15.70	11.96	24	Pass
64	5320	16.98	12.30	24	Pass
100	5500	26.73	14.27	24	Pass
116	5580	26.98	14.31	24	Pass
140	5700	19.01	12.79	24	Pass
144	5720	19.28	12.85	24	Pass
149	5745	18.75	12.73	30	Pass
157	5785	19.14	12.82	30	Pass
165	5825	18.11	12.58	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.14	12.08	24	Pass
44	5220	15.96	12.03	24	Pass
48	5240	16.11	12.07	24	Pass
52	5260	16.03	12.05	24	Pass
60	5300	16.41	12.15	24	Pass
64	5320	16.67	12.22	24	Pass
100	5500	23.23	13.66	24	Pass
116	5580	25.00	13.98	24	Pass
140	5700	18.71	12.72	24	Pass
144	5720	17.10	12.33	24	Pass
149	5745	16.87	12.27	30	Pass
157	5785	17.66	12.47	30	Pass
165	5825	17.02	12.31	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	12.45	10.95	24	Pass
46	5230	13.55	11.32	24	Pass
54	5270	12.68	11.03	24	Pass
62	5310	12.25	10.88	24	Pass
102	5510	11.59	10.64	24	Pass
110	5550	20.23	13.06	24	Pass
134	5670	22.13	13.45	24	Pass
142	5710	14.83	11.71	24	Pass
151	5755	17.14	12.34	30	Pass
159	5795	16.03	12.05	30	Pass

802.11ac (VHT80)

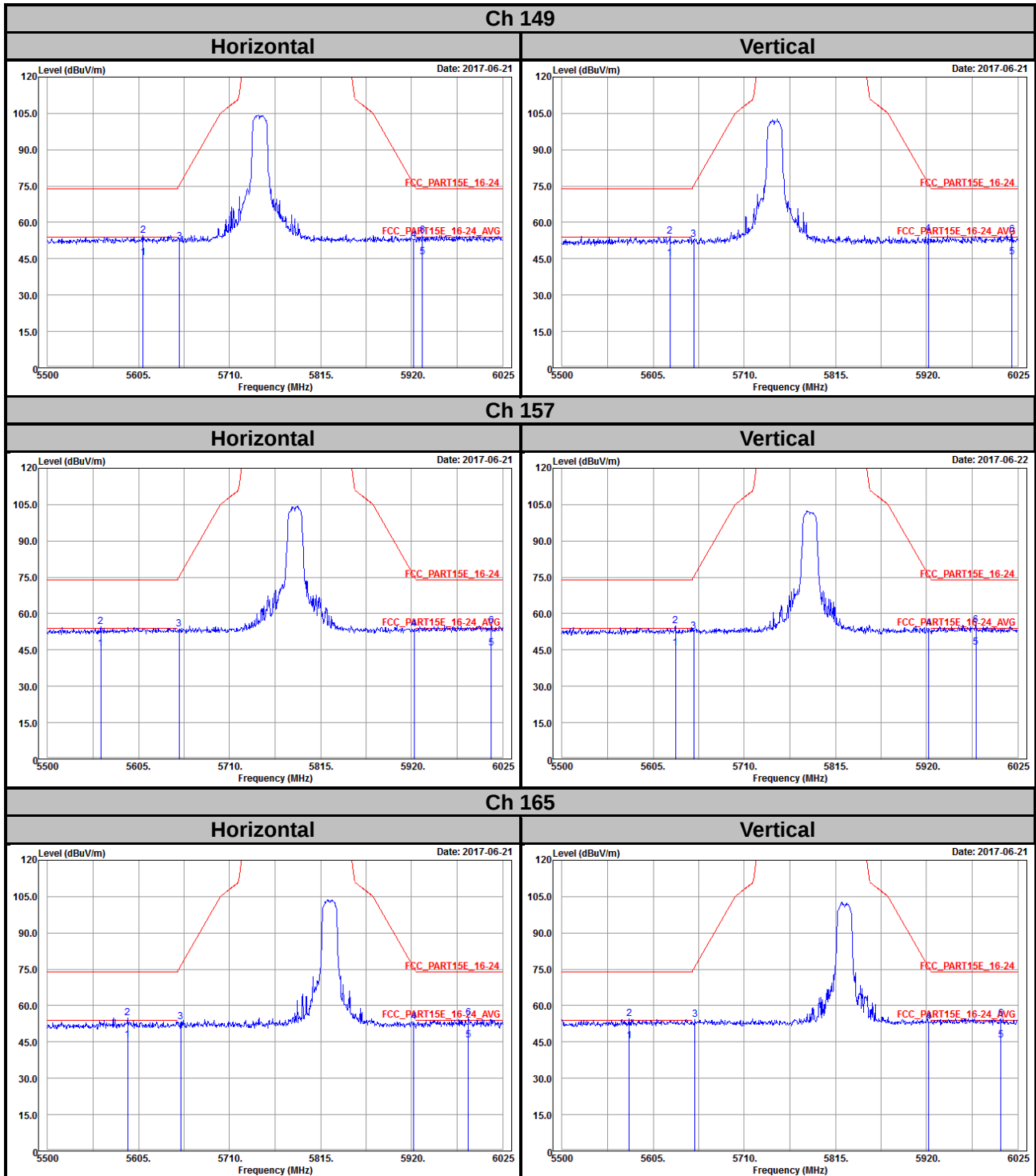
Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	7.74	8.89	24	Pass
58	5290	7.78	8.91	24	Pass
106	5530	13.65	11.35	24	Pass
122	5610	16.22	12.1	24	Pass
138	5690	13.40	11.27	24	Pass
155	5775	15.74	11.97	30	Pass

5 Pictures of Test Arrangements

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

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

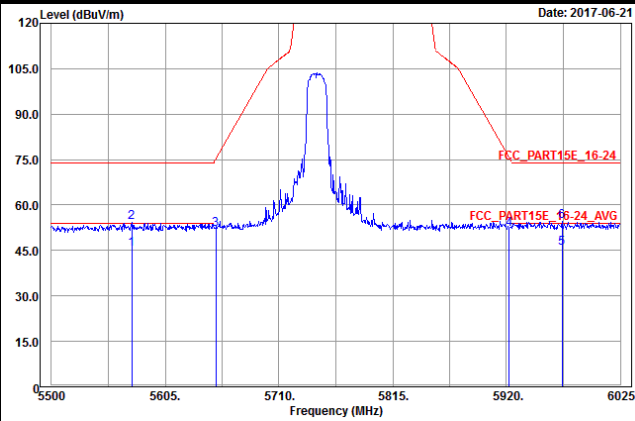
802.11a



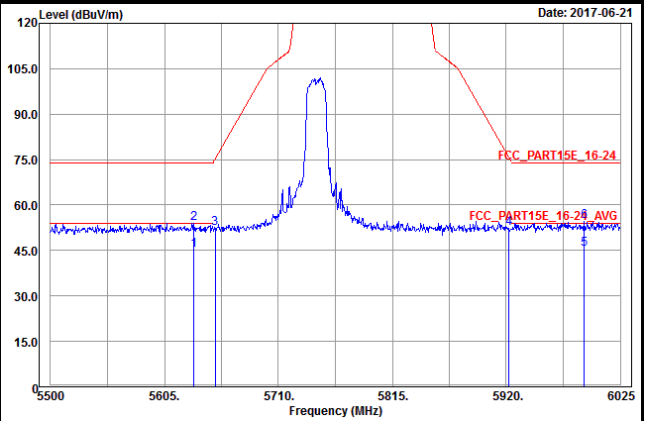
802.11n (HT20)

Ch 149

Horizontal

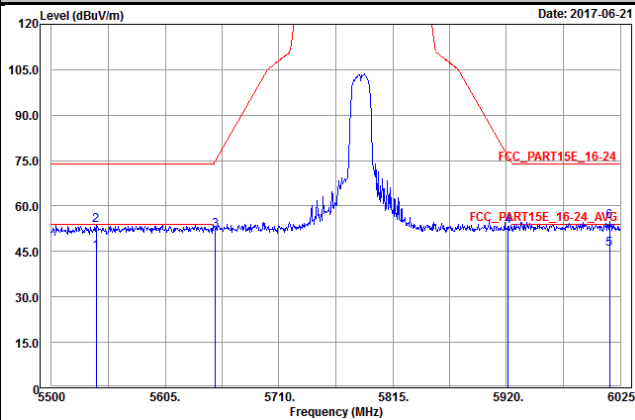


Vertical

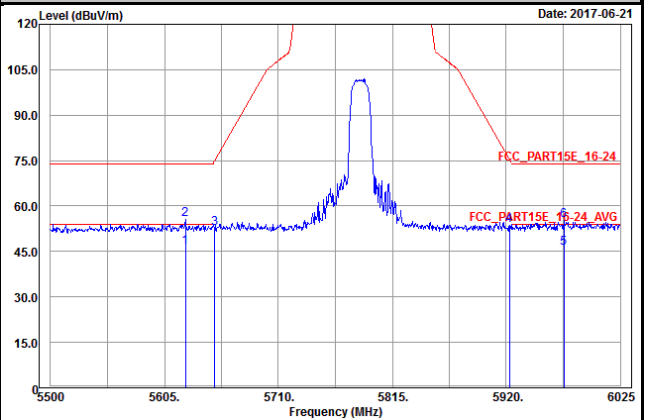


Ch 157

Horizontal

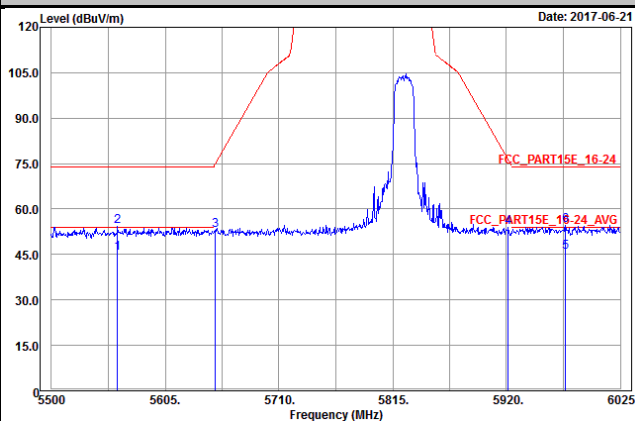


Vertical

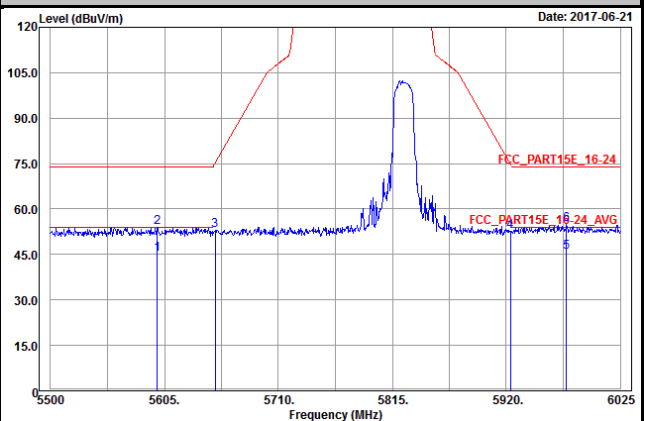


Ch 165

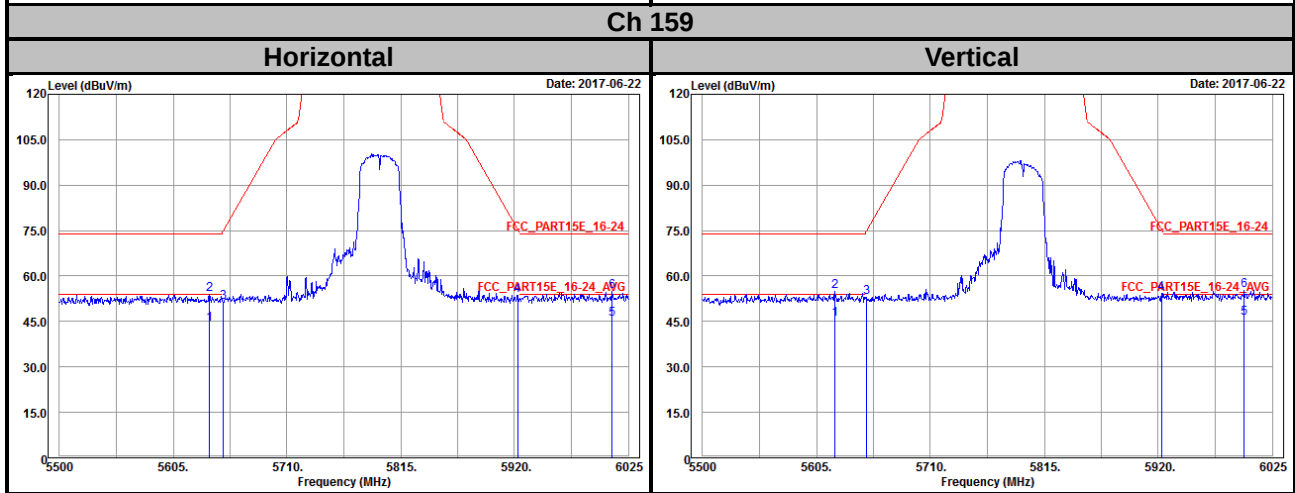
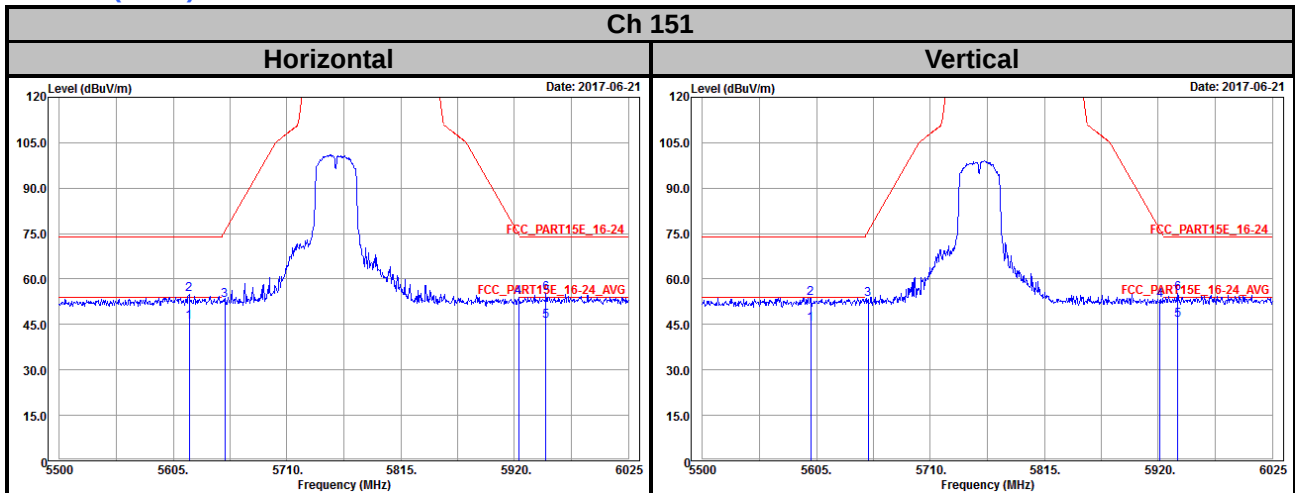
Horizontal



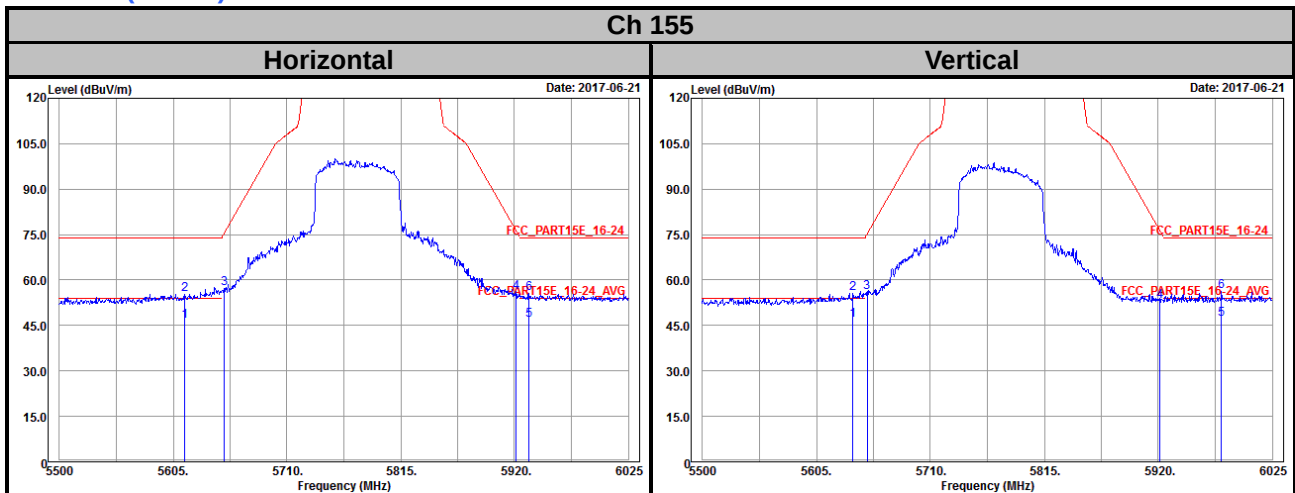
Vertical



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information on the Testing Laboratories

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

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

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

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