

FCC Test Report

Report No.: RF180918C26-4

FCC ID: 2AAWQ-CAPRICA5

Test Model: Caprica5

Received Date: Sep. 18, 2018

Test Date: Jun. 19 ~ Oct. 03, 2019

Issued Date: Oct. 18, 2019

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**FCC Registration /
Designation Number:** 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RF180918C26-4	Original Release	Oct. 18, 2019

1 Certificate of Conformity

Product: Wireless module

Brand: XPERI

Test Model: Caprica5


Sample Status: Engineering Sample


Applicant: Phorus, Inc.

Test Date: Jun. 19 ~ Oct. 03, 2019

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

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

Prepared by :  , **Date:** Oct. 18, 2019
Gina Liu / Specialist

Approved by :  , **Date:** Oct. 18, 2019
Dylan Chiou / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -13.8 dB at 0.15782 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 -1.01 dB at 5350 MHz and 5350.22 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless module
Brand	XPERI
Test Model	Caprica5
Status of EUT	Engineering Sample
Power Supply Rating	18 Vdc (adapter) 3.3 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 200.0 Mbps 802.11ac: up to 433.3 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 5 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	157.761 mW for 5180 ~ 5240 MHz 157.398 mW for 5260 ~ 5320 MHz 145.211 mW for 5500 ~ 5700 MHz 132.434 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 6.06 dBi gain Dipole antenna with 5 dBi gain
Antenna Connector	IPEX Compatible
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT20)	1TX
802.11ac (VHT40)	1TX
802.11ac (VHT80)	1TX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains following accessory devices. (Not for sale together)

Product	Brand	Model	Description
Adapter	ADAPTER TECH.	ATS090T-P180	I/P: 100-240 Vac, 50-60 Hz, 1.2A MAX. O/P: 18Vdc, 5.0A, 90W MAX. 1.5m non-shielded cable with 1 core

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

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), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

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

2 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

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	
A	√	√	√	√	EUT with Dipole Antenna
B	√	√	√	-	EUT with PIFA Antenna

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:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
- "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
	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	6.5
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	29.3
	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	6.5
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1 GHz):

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	13.5

Power Line Conducted Emission Test:

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	13.5

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

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao, Karl Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Thomas Wei
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Wayne Lin

3.3 Duty Cycle of Test Signal

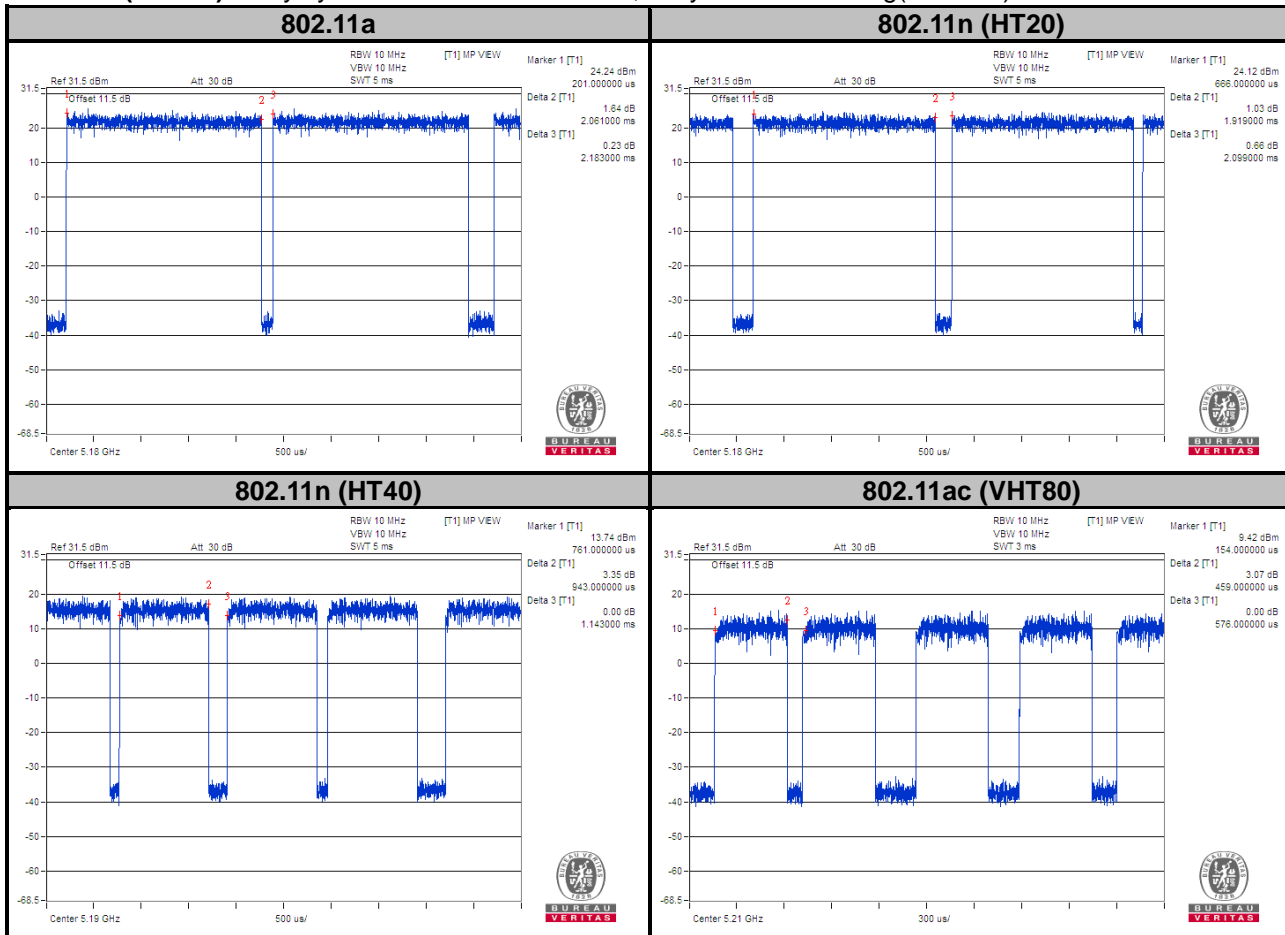
MODULATION TYPE: BPSK

802.11a: Duty cycle = $2.061/2.183 = 0.944$, Duty factor = $10 * \log(1/0.944) = 0.25$

802.11n (HT20): Duty cycle = $1.919/2.099 = 0.914$, Duty factor = $10 * \log(1/0.914) = 0.39$

802.11n (HT40): Duty cycle = $0.943/1.143 = 0.825$, Duty factor = $10 * \log(1/0.825) = 0.84$

802.11ac (VHT80): Duty cycle = $0.459/0.576 = 0.797$, Duty factor = $10 * \log(1/0.797) = 0.99$



3.4 Description of Support Units

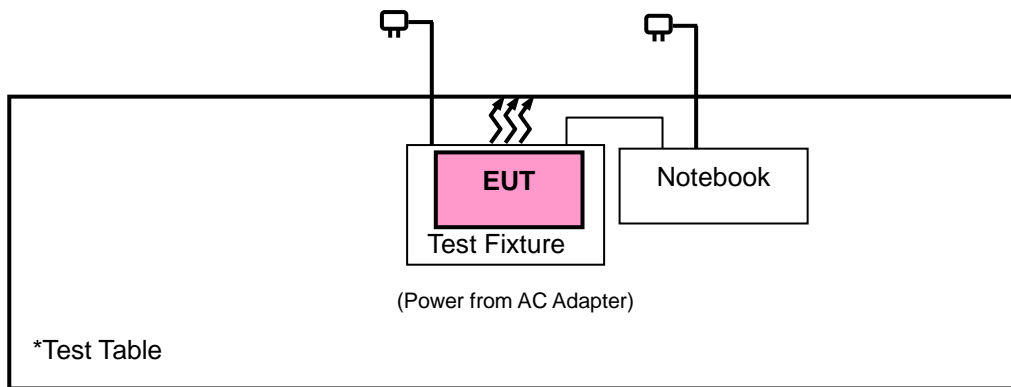
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Notebook	DELL	E5410	1HC2XM1	N/A

Note:

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

^{*1} beyond 75 MHz or more above of the band edge.
^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.
^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 20, 2018	Aug. 19, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 27, 2018	Nov. 26, 2019
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2018	Nov. 24, 2019
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent	310N	187226	Jun. 18, 2019	Jun. 17, 2020
Preamplifier Agilent	83017A	MY39501357	Jun. 18, 2019	Jun. 17, 2020
Power Meter Anritsu	ML2495A	1012010	Sep. 05, 2018	Sep. 04, 2019
Power Sensor Anritsu	MA2411B	1315050	Sep. 04, 2018	Sep. 03, 2019
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC -SMS-100-SMS-12 0+RFC-SMS-100-S MS-400)	Jun. 18, 2019	Jun. 17, 2020
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC -SMS-100-SMS-24)	Jun. 18, 2019	Jun. 17, 2020
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.

4.1.4 Test Procedures

For Radiated Emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated Emission above 30 MHz

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

Note:

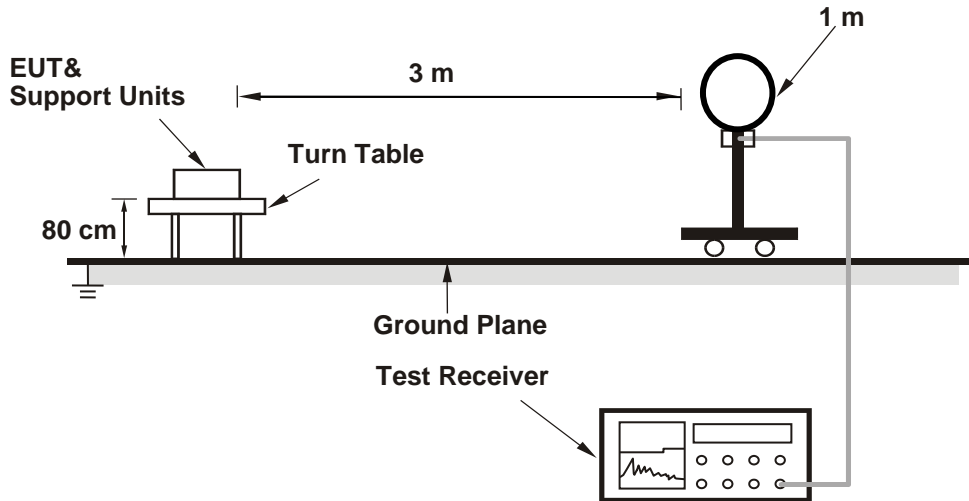
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK)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

4.1.5 Deviation from Test Standard

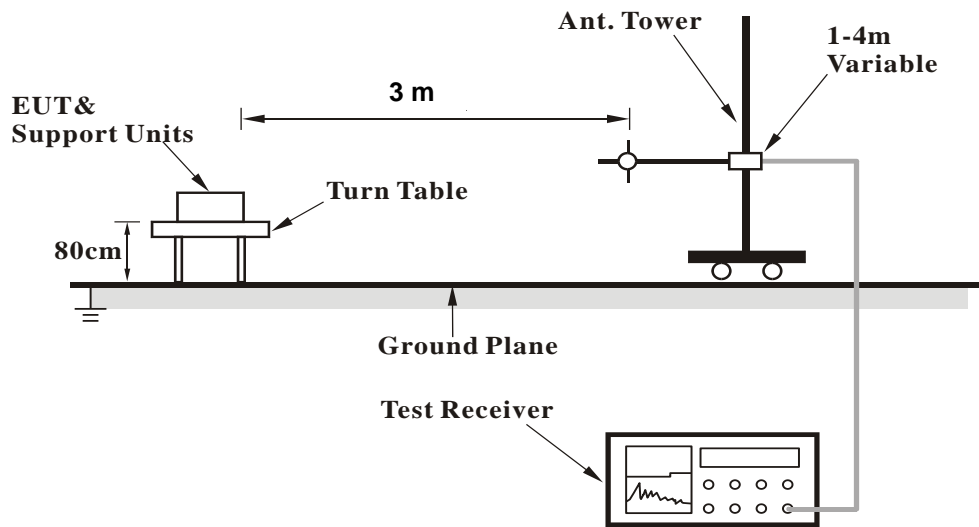
No deviation.

4.1.6 Test Setup

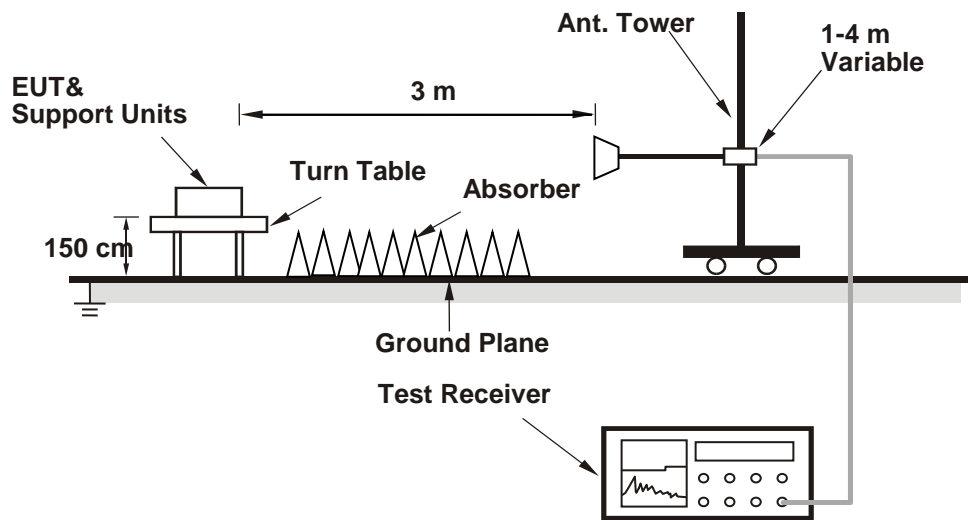
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Mode A

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	45.68	37.43	8.25	54	-8.32	134	100	Average
5149.85	56.2	47.95	8.25	74	-17.8	134	100	Peak
5180	94.65	86.34	8.31			134	100	Average
5180	101.19	92.88	8.31			134	100	Peak
*10360	54.61	40.31	14.3	68.2	-13.59	175	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.55	52.56	44.31	8.25	54	-1.44	178	192	Average
5149.55	63.11	54.86	8.25	74	-10.89	178	192	Peak
5180	102.31	94	8.31			178	192	Average
5180	109.43	101.12	8.31			178	192	Peak
*10360	54.53	40.23	14.3	68.2	-13.67	152	119	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.3	43.36	35.11	8.25	54	-10.64	134	100	Average
5147.3	54.57	46.32	8.25	74	-19.43	134	100	Peak
5200	95.47	87.12	8.35			134	100	Average
5200	102.24	93.89	8.35			134	100	Peak
5444.38	42.53	33.74	8.79	54	-11.47	134	100	Average
5444.38	53.72	44.93	8.79	74	-20.28	134	100	Peak
*10400	54.37	40.03	14.34	68.2	-13.83	190	197	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.95	46.85	38.6	8.25	54	-7.15	178	192	Average
5148.95	59.65	51.4	8.25	74	-14.35	178	192	Peak
5200	103.45	95.1	8.35			178	192	Average
5200	110.84	102.49	8.35			178	192	Peak
5447.35	42.79	33.96	8.83	54	-11.21	178	192	Average
5447.35	53.49	44.66	8.83	74	-20.51	178	192	Peak
*10400	54.63	40.29	14.34	68.2	-13.57	175	114	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	95.41	86.97	8.44			134	100	Average
5240	102.71	94.27	8.44			134	100	Peak
5445.26	42.71	33.89	8.82	54	-11.29	134	100	Average
5445.26	53.35	44.53	8.82	74	-20.65	134	100	Peak
*10480	54.45	39.94	14.51	68.2	-13.75	119	157	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	103.95	95.51	8.44			178	192	Average
5240	110.46	102.02	8.44			178	192	Peak
5454.83	42.69	33.87	8.82	54	-11.31	178	192	Average
5454.83	53.8	44.98	8.82	74	-20.2	178	192	Peak
*10480	55.36	40.85	14.51	68.2	-12.84	155	326	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5135.9	42.64	34.39	8.25	54	-11.36	263	249	Average
5135.9	53.11	44.86	8.25	74	-20.89	263	249	Peak
5260	93.86	85.4	8.46			263	249	Average
5260	101.11	92.65	8.46			263	249	Peak
*10520	55.31	40.72	14.59	68.2	-12.89	196	171	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5116.4	42.73	34.53	8.2	54	-11.27	254	325	Average
5116.4	53.58	45.38	8.2	74	-20.42	254	325	Peak
5260	102.17	93.71	8.46			254	325	Average
5260	109.35	100.89	8.46			254	325	Peak
*10520	54.35	39.76	14.59	68.2	-13.85	137	115	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5144.75	42.57	34.32	8.25	54	-11.43	263	249	Average
5144.75	53.34	45.09	8.25	74	-20.66	263	249	Peak
5300	93.86	85.32	8.54			263	249	Average
5300	101.17	92.63	8.54			263	249	Peak
5350.44	43.18	34.55	8.63	54	-10.82	263	249	Average
5350.44	54.22	45.59	8.63	74	-19.78	263	249	Peak
10600	45.31	30.63	14.68	54	-8.69	125	133	Average
10600	54.89	40.21	14.68	74	-19.11	125	133	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.15	42.92	34.67	8.25	54	-11.08	238	325	Average
5147.15	54.06	45.81	8.25	74	-19.94	238	325	Peak
5300	101.91	93.37	8.54			238	325	Average
5300	109.47	100.93	8.54			238	325	Peak
5350	47.13	38.5	8.63	54	-6.87	238	325	Average
5350	62.97	54.34	8.63	74	-11.03	238	325	Peak
10600	46.38	31.7	14.68	54	-7.62	158	131	Average
10600	55.97	41.29	14.68	74	-18.03	158	131	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.56	83.98	8.58			262	249	Average
5320	100.48	91.9	8.58			262	249	Peak
5350.11	44.72	36.09	8.63	54	-9.28	262	249	Average
5350.11	56.68	48.05	8.63	74	-17.32	262	249	Peak
10640	46.27	31.54	14.73	54	-7.73	136	239	Average
10640	55.68	40.95	14.73	74	-18.32	136	239	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	101.28	92.7	8.58			244	322	Average
5320	108	99.42	8.58			244	322	Peak
5350	52.48	43.85	8.63	54	-1.52	244	322	Average
5350	64.68	56.05	8.63	74	-9.32	244	322	Peak
10640	45.77	31.04	14.73	54	-8.23	163	108	Average
10640	55.18	40.45	14.73	74	-18.82	163	108	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.12	43.03	34.21	8.82	54	-10.97	102	94	Average
5459.12	54.27	45.45	8.82	74	-19.73	102	94	Peak
*5470	53.96	45.13	8.83	68.2	-14.24	102	94	Peak
5500	92.56	83.64	8.92			102	94	Average
5500	99.24	90.32	8.92			102	94	Peak
11000	46.5	31.42	15.08	54	-7.5	162	326	Average
11000	55.84	40.76	15.08	74	-18.16	162	326	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	46.57	37.75	8.82	54	-7.43	100	222	Average
5460	62.04	53.22	8.82	74	-11.96	100	222	Peak
*5470	67.09	58.26	8.83	68.2	-1.11	100	222	Peak
5500	101.52	92.6	8.92			100	222	Average
5500	108.86	99.94	8.92			100	222	Peak
11000	46.34	31.26	15.08	54	-7.66	185	197	Average
11000	55.98	40.9	15.08	74	-18.02	185	197	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.32	42.61	33.79	8.82	54	-11.39	102	94	Average
5454.32	53.55	44.73	8.82	74	-20.45	102	94	Peak
*5469.84	51.4	42.57	8.83	68.2	-16.8	102	94	Peak
5580	94.59	85.6	8.99			102	94	Average
5580	101.68	92.69	8.99			102	94	Peak
*5725.16	51.5	42.34	9.16	68.2	-16.7	102	94	Peak
11160	46.56	31.48	15.08	54	-7.44	187	196	Average
11160	56.3	41.22	15.08	74	-17.7	187	196	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5423.28	43.23	34.46	8.77	54	-10.77	100	222	Average
5423.28	53.87	45.1	8.77	74	-20.13	100	222	Peak
*5470	51.79	42.96	8.83	68.2	-16.41	100	222	Peak
5580	103.52	94.53	8.99			100	222	Average
5580	110.02	101.03	8.99			100	222	Peak
*5725.24	52.42	43.26	9.16	68.2	-15.78	100	222	Peak
11160	46.7	31.62	15.08	54	-7.3	152	356	Average
11160	56.19	41.11	15.08	74	-17.81	152	356	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	89.65	80.52	9.13			102	94	Average
5700	96.41	87.28	9.13			102	94	Peak
*5725.32	54.1	44.94	9.16	68.2	-14.1	102	94	Peak
11400	46.74	31.64	15.1	54	-7.26	140	216	Average
11400	55.89	40.79	15.1	74	-18.11	140	216	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	98.59	89.46	9.13			100	222	Average
5700	105.84	96.71	9.13			100	222	Peak
*5725.8	66.7	57.54	9.16	68.2	-1.5	100	222	Peak
11400	46.63	31.53	15.1	54	-7.37	187	175	Average
11400	56.25	41.15	15.1	74	-17.75	187	175	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	93.65	84.46	9.19			100	85	Average
5745	100.73	91.54	9.19			100	85	Peak
11490	46.38	31.26	15.12	54	-7.62	131	303	Average
11490	56.34	41.22	15.12	74	-17.66	131	303	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	104.59	95.4	9.19			138	208	Average
5745	111.71	102.52	9.19			138	208	Peak
11490	46.58	31.46	15.12	54	-7.42	174	143	Average
11490	56.14	41.02	15.12	74	-17.86	174	143	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5582.95	53.02	44.01	9.01	68.2	-15.18	100	85	Peak
5653.825	51.83	42.74	9.09	71.03	-19.2	100	85	Peak
5922.625	50.2	40.8	9.4	69.96	-19.76	100	85	Peak
*5952.55	53.99	44.56	9.43	68.2	-14.21	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5571.4	54.74	45.75	8.99	68.2	-13.46	138	208	Peak
5656.45	53.02	43.93	9.09	72.97	-19.95	138	208	Peak
5922.1	52.09	42.69	9.4	70.35	-18.26	138	208	Peak
*5965.15	53.68	44.23	9.45	68.2	-14.52	138	208	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	93.74	84.51	9.23			100	85	Average
5785	100.12	90.89	9.23			100	85	Peak
11570	46.41	31.1	15.31	54	-7.59	137	145	Average
11570	55.65	40.34	15.31	74	-18.35	137	145	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	104.49	95.26	9.23			138	208	Average
5785	111.6	102.37	9.23			138	208	Peak
11570	46.8	31.49	15.31	54	-7.2	141	232	Average
11570	56.64	41.33	15.31	74	-17.36	141	232	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5635.975	53.18	44.11	9.07	68.2	-15.02	100	85	Peak
5655.4	50.87	41.78	9.09	72.2	-21.33	100	85	Peak
5922.625	50.43	41.03	9.4	69.96	-19.53	100	85	Peak
*5949.925	54.21	44.78	9.43	68.2	-13.99	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5640.175	53.45	44.38	9.07	68.2	-14.75	138	208	Peak
5657.5	53.01	43.92	9.09	73.75	-20.74	138	208	Peak
5924.725	52.04	42.64	9.4	68.4	-16.36	138	208	Peak
*6002.425	54.09	44.6	9.49	68.2	-14.11	138	208	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	93.74	84.45	9.29			100	85	Average
5825	100.88	91.59	9.29			100	85	Peak
11650	47	31.47	15.53	54	-7	155	285	Average
11650	55.62	40.09	15.53	74	-18.38	155	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	104.46	95.17	9.29			138	208	Average
5825	111.78	102.49	9.29			138	208	Peak
11650	46.96	31.43	15.53	54	-7.04	145	164	Average
11650	56.11	40.58	15.53	74	-17.89	145	164	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5620.75	53.71	44.66	9.05	68.2	-14.49	100	85	Peak
5656.975	50.67	41.58	9.09	73.36	-22.69	100	85	Peak
5922.625	52.8	43.4	9.4	69.96	-17.16	100	85	Peak
5932.075	54.59	45.19	9.4	68.2	-13.61	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5623.9	53.82	44.77	9.05	68.2	-14.38	138	208	Peak
5652.25	52.62	43.53	9.09	69.86	-17.24	138	208	Peak
5922.625	53.92	44.52	9.4	69.96	-16.04	138	208	Peak
6006.625	53.84	44.33	9.51	68.2	-14.36	138	208	Peak

Remarks:

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

802.11n (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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	46.05	37.8	8.25	54	-7.95	134	100	Average
5149.4	57.06	48.81	8.25	74	-16.94	134	100	Peak
5180	93.87	85.56	8.31			134	100	Average
5180	100.4	92.09	8.31			134	100	Peak
*10360	54.13	39.83	14.3	68.2	-14.07	124	134	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	52.98	44.73	8.25	54	-1.02	178	192	Average
5150	63.7	55.45	8.25	74	-10.3	178	192	Peak
5180	100.65	92.34	8.31			178	192	Average
5180	107.93	99.62	8.31			178	192	Peak
*10360	53.06	38.76	14.3	68.2	-15.14	153	266	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	43.5	35.25	8.25	54	-10.5	134	100	Average
5150	54.55	46.3	8.25	74	-19.45	134	100	Peak
5200	95.87	87.52	8.35			134	100	Average
5200	102.79	94.44	8.35			134	100	Peak
5460	42.74	33.92	8.82	54	-11.26	134	100	Average
5460	53.6	44.78	8.82	74	-20.4	134	100	Peak
*10400	53.38	39.04	14.34	68.2	-14.82	185	174	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	47.81	39.56	8.25	54	-6.19	178	192	Average
5150	59.54	51.29	8.25	74	-14.46	178	192	Peak
5200	103.48	95.13	8.35			178	192	Average
5200	110.52	102.17	8.35			178	192	Peak
5445.92	42.71	33.88	8.83	54	-11.29	178	192	Average
5445.92	53.86	45.03	8.83	74	-20.14	178	192	Peak
*10400	53.5	39.16	14.34	68.2	-14.7	155	135	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	95.25	86.81	8.44			134	100	Average
5240	102.75	94.31	8.44			134	100	Peak
5445.37	42.57	33.75	8.82	54	-11.43	134	100	Average
5445.37	53.52	44.7	8.82	74	-20.48	134	100	Peak
*10480	54.22	39.71	14.51	68.2	-13.98	187	56	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	103.59	95.15	8.44			178	192	Average
5240	110.1	101.66	8.44			178	192	Peak
5399.39	42.97	34.25	8.72	54	-11.03	178	192	Average
5399.39	54	45.28	8.72	74	-20	178	192	Peak
*10480	54.27	39.76	14.51	68.2	-13.93	144	119	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5143.4	42.54	34.28	8.26	54	-11.46	263	249	Average
5143.4	53.21	44.95	8.26	74	-20.79	263	249	Peak
5260	92.31	83.85	8.46			263	249	Average
5260	100.18	91.72	8.46			263	249	Peak
*10520	55.47	40.88	14.59	68.2	-12.73	112	64	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5126.45	42.85	34.63	8.22	54	-11.15	254	325	Average
5126.45	53.18	44.96	8.22	74	-20.82	254	325	Peak
5260	101.45	92.99	8.46			254	325	Average
5260	108.79	100.33	8.46			254	325	Peak
*10520	54.12	39.53	14.59	68.2	-14.08	142	211	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.1	42.61	34.36	8.25	54	-11.39	263	249	Average
5134.1	53.26	45.01	8.25	74	-20.74	263	249	Peak
5300	93.51	84.97	8.54			263	249	Average
5300	100.88	92.34	8.54			263	249	Peak
5350.55	43.22	34.59	8.63	54	-10.78	263	249	Average
5350.55	53.29	44.66	8.63	74	-20.71	263	249	Peak
10600	45.17	30.49	14.68	54	-8.83	125	105	Average
10600	54.63	39.95	14.68	74	-19.37	125	105	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5136.8	42.73	34.48	8.25	54	-11.27	238	325	Average
5136.8	53.28	45.03	8.25	74	-20.72	238	325	Peak
5300	101.47	92.93	8.54			238	325	Average
5300	108.64	100.1	8.54			238	325	Peak
5350.22	47.8	39.17	8.63	54	-6.2	238	325	Average
5350.22	59.44	50.81	8.63	74	-14.56	238	325	Peak
10600	46.37	31.69	14.68	54	-7.63	146	296	Average
10600	55.74	41.06	14.68	74	-18.26	146	296	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.26	83.68	8.58			263	249	Average
5320	99.77	91.19	8.58			263	249	Peak
5350	45.28	36.65	8.63	54	-8.72	263	249	Average
5350	56.26	47.63	8.63	74	-17.74	263	249	Peak
10640	45.86	31.13	14.73	54	-8.14	160	312	Average
10640	55.49	40.76	14.73	74	-18.51	160	312	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.31	90.73	8.58			244	322	Average
5320	106.85	98.27	8.58			244	322	Peak
5350.11	52.29	43.66	8.63	54	-1.71	244	322	Average
5350.11	65.26	56.63	8.63	74	-8.74	244	322	Peak
10640	45.67	30.94	14.73	54	-8.33	187	112	Average
10640	55.32	40.59	14.73	74	-18.68	187	112	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	43.43	34.61	8.82	54	-10.57	102	94	Average
5459.76	54.71	45.89	8.82	74	-19.29	102	94	Peak
*5470	55.43	46.6	8.83	68.2	-12.77	102	94	Peak
5500	92.8	83.88	8.92			102	94	Average
5500	99.87	90.95	8.92			102	94	Peak
11000	46.56	31.48	15.08	54	-7.44	144	169	Average
11000	54.64	39.56	15.08	74	-19.36	144	169	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	48.11	39.29	8.82	54	-5.89	100	222	Average
5459.76	60.5	51.68	8.82	74	-13.5	100	222	Peak
*5469.68	66.49	57.66	8.83	68.2	-1.71	100	222	Peak
5500	101.71	92.79	8.92			100	222	Average
5500	108.76	99.84	8.92			100	222	Peak
11000	46.5	31.42	15.08	54	-7.5	171	255	Average
11000	54.17	39.09	15.08	74	-19.83	171	255	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5442.8	42.67	33.88	8.79	54	-11.33	102	94	Average
5442.8	53.76	44.97	8.79	74	-20.24	102	94	Peak
*5469.04	51.71	42.88	8.83	68.2	-16.49	102	94	Peak
5580	94.96	85.97	8.99			102	94	Average
5580	101.04	92.05	8.99			102	94	Peak
*5725.48	53.76	44.6	9.16	68.2	-14.44	102	94	Peak
11160	46.86	31.78	15.08	54	-7.14	122	313	Average
11160	55.43	40.35	15.08	74	-18.57	122	313	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5424.4	43.23	34.46	8.77	54	-10.77	100	222	Average
5424.4	53.75	44.98	8.77	74	-20.25	100	222	Peak
*5469.68	51.38	42.55	8.83	68.2	-16.82	100	222	Peak
5580	103.44	94.45	8.99			100	222	Average
5580	110.31	101.32	8.99			100	222	Peak
*5725.16	53.36	44.2	9.16	68.2	-14.84	100	222	Peak
11160	47.22	32.14	15.08	54	-6.78	155	263	Average
11160	55.29	40.21	15.08	74	-18.71	155	263	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	89.37	80.24	9.13			102	94	Average
5700	96.76	87.63	9.13			102	94	Peak
*5725.48	56.49	47.33	9.16	68.2	-11.71	102	94	Peak
11400	46.53	31.43	15.1	54	-7.47	197	263	Average
11400	54.9	39.8	15.1	74	-19.1	197	263	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	98.41	89.28	9.13			100	222	Average
5700	105.02	95.89	9.13			100	222	Peak
*5725	67.18	58.02	9.16	68.2	-1.02	100	222	Peak
11400	46.7	31.6	15.1	54	-7.3	184	178	Average
11400	55.97	40.87	15.1	74	-18.03	184	178	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	93.59	84.4	9.19			100	85	Average
5745	100.65	91.46	9.19			100	85	Peak
11490	46.74	31.62	15.12	54	-7.26	134	118	Average
11490	54.82	39.7	15.12	74	-19.18	134	118	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	104.36	95.17	9.19			138	208	Average
5745	111.32	102.13	9.19			138	208	Peak
11490	46.84	31.72	15.12	54	-7.16	189	345	Average
11490	55.78	40.66	15.12	74	-18.22	189	345	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5558.8	53.41	44.44	8.97	68.2	-14.79	100	85	Peak
5658.55	52.58	43.49	9.09	74.53	-21.95	100	85	Peak
5921.575	51.25	41.85	9.4	70.73	-19.48	100	85	Peak
*6013.45	53.86	44.36	9.5	68.2	-14.34	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5540.95	54.46	45.52	8.94	68.2	-13.74	138	208	Peak
5652.25	52.27	43.18	9.09	69.86	-17.59	138	208	Peak
5923.15	50.23	40.83	9.4	69.57	-19.34	138	208	Peak
*5983.525	53.32	43.86	9.46	68.2	-14.88	138	208	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	93.65	84.42	9.23			100	85	Average
5785	100.26	91.03	9.23			100	85	Peak
11570	46.52	31.21	15.31	54	-7.48	164	352	Average
11570	55.95	40.64	15.31	74	-18.05	164	352	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	104.14	94.91	9.23			138	208	Average
5785	111.37	102.14	9.23			138	208	Peak
11570	46.74	31.43	15.31	54	-7.26	109	140	Average
11570	55.37	40.06	15.31	74	-18.63	109	140	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5631.25	54.52	45.47	9.05	68.2	-13.68	100	85	Peak
5654.35	51.26	42.17	9.09	71.42	-20.16	100	85	Peak
5917.9	53.28	43.9	9.38	73.45	-20.17	100	85	Peak
*6017.125	53.29	43.78	9.51	68.2	-14.91	100	85	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5644.9	53.88	44.81	9.07	68.2	-14.32	138	208	Peak
5655.925	52.17	43.08	9.09	72.58	-20.41	138	208	Peak
5919.475	53.37	43.99	9.38	72.29	-18.92	138	208	Peak
*5925.775	54.31	44.91	9.4	68.2	-13.89	138	208	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	93.48	84.19	9.29			100	85	Average
5825	100.69	91.4	9.29			100	85	Peak
11650	46.8	31.27	15.53	54	-7.2	154	78	Average
11650	54.83	39.3	15.53	74	-19.17	154	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	103.56	94.27	9.29			138	208	Average
5825	110.84	101.55	9.29			138	208	Peak
11650	47.06	31.53	15.53	54	-6.94	189	255	Average
11650	55.62	40.09	15.53	74	-18.38	189	255	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5642.275	53.02	43.95	9.07	68.2	-15.18	100	85	Peak
5656.975	52.52	43.43	9.09	73.36	-20.84	100	85	Peak
5919.475	52.15	42.77	9.38	72.29	-20.14	100	85	Peak
*5933.65	53.52	44.12	9.4	68.2	-14.68	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5641.225	53.58	44.51	9.07	68.2	-14.62	138	208	Peak
5661.7	55.46	46.37	9.09	76.86	-21.4	138	208	Peak
5918.425	53.37	43.99	9.38	73.07	-19.7	138	208	Peak
*5943.1	54	44.57	9.43	68.2	-14.2	138	208	Peak

Remarks:

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

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	45.26	37.01	8.25	54	-8.74	134	100	Average
5149.4	56.01	47.76	8.25	74	-17.99	134	100	Peak
5190	87.11	78.77	8.34			134	100	Average
5190	94.13	85.79	8.34			134	100	Peak
5456.15	43.32	34.5	8.82	54	-10.68	134	100	Average
5456.15	52.92	44.1	8.82	74	-21.08	134	100	Peak
*10380	53.43	39.08	14.35	68.2	-14.77	182	99	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	52.86	44.61	8.25	54	-1.14	178	192	Average
5150	63.95	55.7	8.25	74	-10.05	178	192	Peak
5190	95.46	87.12	8.34			178	192	Average
5190	102.07	93.73	8.34			178	192	Peak
5443.83	43.14	34.35	8.79	54	-10.86	178	192	Average
5443.83	53.54	44.75	8.79	74	-20.46	178	192	Peak
*10380	53.43	39.08	14.35	68.2	-14.77	132	115	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	44.35	36.1	8.25	54	-9.65	134	100	Average
5150	54.28	46.03	8.25	74	-19.72	134	100	Peak
5230	92.55	84.15	8.4			134	100	Average
5230	99.06	90.66	8.4			134	100	Peak
5355.06	43.39	34.76	8.63	54	-10.61	134	100	Average
5355.06	53.49	44.86	8.63	74	-20.51	134	100	Peak
*10460	53.91	39.4	14.51	68.2	-14.29	190	254	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.1	50.34	42.09	8.25	54	-3.66	178	192	Average
5149.1	62.01	53.76	8.25	74	-11.99	178	192	Peak
5230	99.88	91.48	8.4			178	192	Average
5230	106.53	98.13	8.4			178	192	Peak
5351.87	44.06	35.43	8.63	54	-9.94	178	192	Average
5351.87	54.7	46.07	8.63	74	-19.3	178	192	Peak
*10460	53.88	39.37	14.51	68.2	-14.32	146	300	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.5	42.65	34.4	8.25	54	-11.35	263	249	Average
5148.5	53.51	45.26	8.25	74	-20.49	263	249	Peak
5270	89.86	81.37	8.49			263	249	Average
5270	97.46	88.97	8.49			263	249	Peak
5350.33	45.27	36.64	8.63	54	-8.73	263	249	Average
5350.33	56.72	48.09	8.63	74	-17.28	263	249	Peak
*10540	55.43	40.81	14.62	68.2	-12.77	146	37	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.65	43.26	35.01	8.25	54	-10.74	254	325	Average
5148.65	54.12	45.87	8.25	74	-19.88	254	325	Peak
5270	98.81	90.32	8.49			254	325	Average
5270	105.78	97.29	8.49			254	325	Peak
5350	52.42	43.79	8.63	54	-1.58	254	325	Average
5350	64.95	56.32	8.63	74	-9.05	254	325	Peak
*10540	54.59	39.97	14.62	68.2	-13.61	186	203	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.5	42.56	34.3	8.26	54	-11.44	263	249	Average
5139.5	53.42	45.16	8.26	74	-20.58	263	249	Peak
5310	85.27	76.72	8.55			263	249	Average
5310	93.3	84.75	8.55			263	249	Peak
5350	45.27	36.64	8.63	54	-8.73	263	249	Average
5350	57.55	48.92	8.63	74	-16.45	263	249	Peak
10620	44.82	30.11	14.71	54	-9.18	161	110	Average
10620	54.39	39.68	14.71	74	-19.61	161	110	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5135	42.58	34.33	8.25	54	-11.42	244	322	Average
5135	53.6	45.35	8.25	74	-20.4	244	322	Peak
5310	92.78	84.23	8.55			244	322	Average
5310	99.65	91.1	8.55			244	322	Peak
5350	52.99	44.36	8.63	54	-1.01	244	322	Average
5350	66.02	57.39	8.63	74	-7.98	244	322	Peak
10620	45.1	30.39	14.71	54	-8.9	159	231	Average
10620	54.46	39.75	14.71	74	-19.54	159	231	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	44.05	35.23	8.82	54	-9.95	102	94	Average
5460	54.17	45.35	8.82	74	-19.83	102	94	Peak
*5469.68	55.98	47.15	8.83	68.2	-12.22	102	94	Peak
5510	86.59	77.68	8.91			102	94	Average
5510	93.5	84.59	8.91			102	94	Peak
*5725.16	52.13	42.97	9.16	68.2	-16.07	102	94	Peak
11020	46.71	31.64	15.07	54	-7.29	161	246	Average
11020	54.76	39.69	15.07	74	-19.24	161	246	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	49.12	6.25	42.87	54	-4.88	100	222	Average
5460	59.47	50.65	8.82	74	-14.53	100	222	Peak
*5469.68	66.62	57.79	8.83	68.2	-1.58	100	222	Peak
5510	95.59	86.68	8.91			100	222	Average
5510	102.97	94.06	8.91			100	222	Peak
*5725	52.91	43.75	9.16	68.2	-15.29	100	222	Peak
11020	46.93	31.86	15.07	54	-7.07	156	164	Average
11020	56	40.93	15.07	74	-18	156	164	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5456.88	43.75	34.93	8.82	54	-10.25	102	94	Average
5456.88	54.22	45.4	8.82	74	-19.78	102	94	Peak
*5469.52	53.63	44.8	8.83	68.2	-14.57	102	94	Peak
5550	91.92	82.95	8.97			102	94	Average
5550	98.56	89.59	8.97			102	94	Peak
*5725.4	52.93	43.77	9.16	68.2	-15.27	102	94	Peak
11100	46.76	31.67	15.09	54	-7.24	178	8	Average
11100	54.02	38.93	15.09	74	-19.98	178	8	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.64	48.58	39.76	8.82	54	-5.42	100	222	Average
5458.64	59.81	50.99	8.82	74	-14.19	100	222	Peak
*5469.36	59.1	50.27	8.83	68.2	-9.1	100	222	Peak
5550	100.52	91.55	8.97			100	222	Average
5550	107.21	98.24	8.97			100	222	Peak
*5725.56	52.45	43.29	9.16	68.2	-15.75	100	222	Peak
11100	47.04	31.95	15.09	54	-6.96	166	165	Average
11100	54.89	39.8	15.09	74	-19.11	166	165	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.84	43.13	34.31	8.82	54	-10.87	102	94	Average
5453.84	53.61	44.79	8.82	74	-20.39	102	94	Peak
*5469.04	51.31	42.48	8.83	68.2	-16.89	102	94	Peak
5670	87.79	78.69	9.1			102	94	Average
5670	94.34	85.24	9.1			102	94	Peak
*5725.32	56.09	46.93	9.16	68.2	-12.11	102	94	Peak
11340	46.35	31.26	15.09	54	-7.65	195	65	Average
11340	55.74	40.65	15.09	74	-18.26	195	65	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.64	43.46	34.64	8.82	54	-10.54	100	222	Average
5450.64	53.1	44.28	8.82	74	-20.9	100	222	Peak
*5469.84	53.25	44.42	8.83	68.2	-14.95	100	222	Peak
5670	96.82	87.72	9.1			100	222	Average
5670	103.58	94.48	9.1			100	222	Peak
*5725.08	67.05	57.89	9.16	68.2	-1.15	100	222	Peak
11340	46.54	31.45	15.09	54	-7.46	187	49	Average
11340	55.06	39.97	15.09	74	-18.94	187	49	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	90.74	81.53	9.21			100	85	Average
5755	97.05	87.84	9.21			100	85	Peak
11510	47.12	32.01	15.11	54	-6.88	185	195	Average
11510	55.65	40.54	15.11	74	-18.35	185	195	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	101.26	92.05	9.21			138	208	Average
5755	108.56	99.35	9.21			138	208	Peak
11510	46.79	31.68	15.11	54	-7.21	145	25	Average
11510	55.7	40.59	15.11	74	-18.3	145	25	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5599.225	54.34	45.32	9.02	68.2	-13.86	100	85	Peak
5656.45	52.49	43.4	9.09	72.97	-20.48	100	85	Peak
5921.575	50.92	41.52	9.4	70.73	-19.81	100	85	Peak
*5964.625	53.37	43.92	9.45	68.2	-14.83	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5647	57.62	48.55	9.07	68.2	-10.58	138	208	Peak
5654.875	59.3	50.21	9.09	71.81	-12.51	138	208	Peak
5923.15	53.41	44.01	9.4	69.57	-16.16	138	208	Peak
*5929.975	54.48	45.08	9.4	68.2	-13.72	138	208	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	89.63	80.39	9.24			100	85	Average
5795	96.71	87.47	9.24			100	85	Peak
11590	46.53	31.16	15.37	54	-7.47	187	46	Average
11590	54.94	39.57	15.37	74	-19.06	187	46	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	100.25	91.01	9.24			138	208	Average
5795	107.88	98.64	9.24			138	208	Peak
11590	46.79	31.42	15.37	54	-7.21	154	145	Average
11590	55.12	39.75	15.37	74	-18.88	154	145	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5610.775	52.91	43.88	9.03	68.2	-15.29	100	85	Peak
5655.4	51.27	42.18	9.09	72.2	-20.93	100	85	Peak
5923.675	52.53	43.13	9.4	69.18	-16.65	100	85	Peak
*5934.175	53.24	43.84	9.4	68.2	-14.96	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5641.225	55.25	46.18	9.07	68.2	-12.95	138	208	Peak
5651.2	54.33	45.24	9.09	69.09	-14.76	138	208	Peak
5917.375	59.49	50.11	9.38	73.84	-14.35	138	208	Peak
*5925.25	53.68	44.28	9.4	68.2	-14.52	138	208	Peak

Remarks:

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

802.11ac (VHT80)

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5145.05	45.38	37.13	8.25	54	-8.62	134	100	Average
5145.05	56.23	47.98	8.25	74	-17.77	134	100	Peak
5210	84.15	75.79	8.36			134	100	Average
5210	91.08	82.72	8.36			134	100	Peak
5459.23	43.37	34.55	8.82	54	-10.63	134	100	Average
5459.23	53.08	44.26	8.82	74	-20.92	134	100	Peak
*10420	53.5	39.09	14.41	68.2	-14.7	153	266	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5141.45	52.77	44.51	8.26	54	-1.23	178	192	Average
5141.45	64.76	56.5	8.26	74	-9.24	178	192	Peak
5210	92.85	84.49	8.36			178	192	Average
5210	99.16	90.8	8.36			178	192	Peak
5451.97	43.46	34.64	8.82	54	-10.54	178	192	Average
5451.97	53.25	44.43	8.82	74	-20.75	178	192	Peak
*10420	53.95	39.54	14.41	68.2	-14.25	112	154	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5136.2	42.48	34.23	8.25	54	-11.52	263	249	Average
5136.2	54.07	45.82	8.25	74	-19.93	263	249	Peak
5290	82.79	74.26	8.53			263	249	Average
5290	89.44	80.91	8.53			263	249	Peak
5352.42	44.73	36.1	8.63	54	-9.27	263	249	Average
5352.42	56.16	47.53	8.63	74	-17.84	263	249	Peak
*10580	55.03	40.38	14.65	68.2	-13.17	129	67	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5141.15	42.83	34.57	8.26	54	-11.17	232	322	Average
5141.15	53.16	44.9	8.26	74	-20.84	232	322	Peak
5290	90	81.47	8.53			232	322	Average
5290	97.24	88.71	8.53			232	322	Peak
5351.32	52.86	44.23	8.63	54	-1.14	232	322	Average
5351.32	65.94	57.31	8.63	74	-8.06	232	322	Peak
*10580	55.33	40.68	14.65	68.2	-12.87	165	207	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.96	45.58	36.76	8.82	54	-8.42	102	94	Average
5454.96	55.24	46.42	8.82	74	-18.76	102	94	Peak
*5469.52	55.75	46.92	8.83	68.2	-12.45	102	94	Peak
5530	82.53	73.6	8.93			102	94	Average
5530	89.37	80.44	8.93	74	15.37	102	94	Peak
*5725.24	53.27	44.11	9.16	68.2	-14.93	102	94	Peak
11060	47.22	32.14	15.08	54	-6.78	185	187	Average
11060	54.57	39.49	15.08	74	-19.43	185	187	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.16	52.43	43.61	8.82	54	-1.57	100	222	Average
5458.16	63.19	54.37	8.82	74	-10.81	100	222	Peak
*5470	63.54	54.71	8.83	68.2	-4.66	100	222	Peak
5530	91.58	82.65	8.93			100	222	Average
5530	98.53	89.6	8.93			100	222	Peak
*5725.24	52.77	43.61	9.16	68.2	-15.43	100	222	Peak
11060	47.34	32.26	15.08	54	-6.66	131	144	Average
11060	55.13	40.05	15.08	74	-18.87	131	144	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5452.4	45.23	36.41	8.82	54	-8.77	102	94	Average
5452.4	54.31	45.49	8.82	74	-19.69	102	94	Peak
*5469.52	53.66	44.83	8.83	68.2	-14.54	102	94	Peak
5610	87.16	78.13	9.03			102	94	Average
5610	94.96	85.93	9.03			102	94	Peak
*5725.48	56.25	47.09	9.16	68.2	-11.95	102	94	Peak
11220	47.07	31.98	15.09	54	-6.93	178	49	Average
11220	56.07	40.98	15.09	74	-17.93	178	49	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	51.17	42.35	8.82	54	-2.83	100	222	Average
5460	62.05	53.23	8.82	74	-11.95	100	222	Peak
*5469.04	61.78	52.95	8.83	68.2	-6.42	100	222	Peak
5610	96.71	87.68	9.03			100	222	Average
5610	103.4	94.37	9.03			100	222	Peak
*5725.56	66.95	57.79	9.16	68.2	-1.25	100	222	Peak
11220	47.21	32.12	15.09	54	-6.79	141	304	Average
11220	56.12	41.03	15.09	74	-17.88	141	304	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	88.57	79.34	9.23			100	85	Average
5775	95.46	86.23	9.23			100	85	Peak
11550	47.38	32.11	15.27	54	-6.62	145	155	Average
11550	55.44	40.17	15.27	74	-18.56	145	155	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	99.62	90.39	9.23			138	208	Average
5775	106.37	97.14	9.23			138	208	Peak
11550	47.5	32.23	15.27	54	-6.5	112	124	Average
11550	54.56	39.29	15.27	74	-19.44	112	124	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5599.75	53.39	44.37	9.02	68.2	-14.81	100	85	Peak
5653.3	51.05	41.95	9.1	70.64	-19.59	100	85	Peak
5920.525	57.76	48.38	9.38	71.51	-13.75	100	85	Peak
*5926.3	58.46	49.06	9.4	68.2	-9.74	100	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5648.575	65.04	55.97	9.07	68.2	-3.16	138	208	Peak
5652.25	65.97	56.88	9.09	69.86	-3.89	138	208	Peak
5923.15	68.51	59.11	9.4	69.57	-1.06	138	208	Peak
*5926.3	66.37	56.97	9.4	68.2	-1.83	138	208	Peak

Remarks:

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

9 kHz ~ 30 MHz Data:

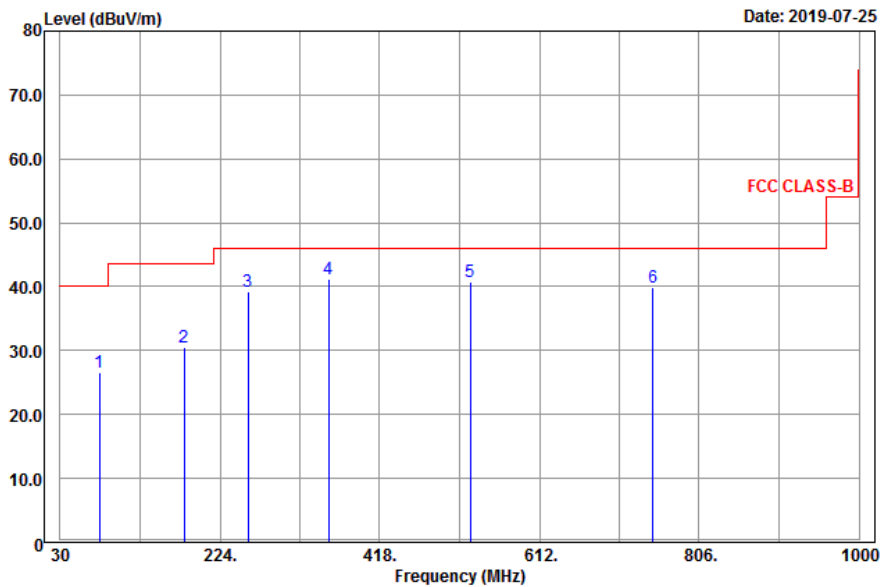
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

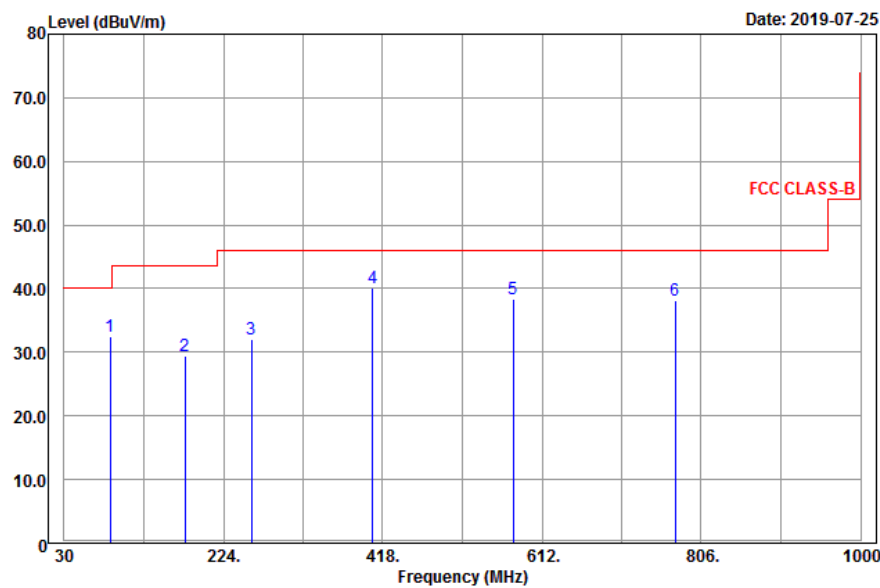
802.11n (HT40)

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

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
78.06	26.68	47.99	-21.31	40	-13.32	166	239	Peak
180.66	30.49	50.13	-19.64	43.5	-13.01	180	158	Peak
258.15	39.32	56.02	-16.7	46	-6.68	164	108	Peak
356	41.19	55.83	-14.64	46	-4.81	162	113	Peak
528.2	40.8	52.7	-11.9	46	-5.2	175	235	Peak
750.1	39.87	48.41	-8.54	46	-6.13	150	343	Peak

Antenna Polarity & Test Distance: Vertical at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
85.89	32.46	52.55	-20.09	40	-7.54	167	138	Peak
176.88	29.35	49.25	-19.9	43.5	-14.15	190	231	Peak
258.15	32.1	48.8	-16.7	46	-13.9	162	223	Peak
405.7	40.03	53.87	-13.84	46	-5.97	125	39	Peak
577.2	38.3	49.3	-11	46	-7.7	189	351	Peak
774.6	38.21	46.4	-8.19	46	-7.79	107	35	Peak

Remarks:

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

Mode B

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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	52.95	42.9	10.05	54	-1.05	100	259	Average
5149.85	69.68	59.63	10.05	74	-4.32	100	259	Peak
5180	100.47	90.35	10.12			100	259	Average
5180	107.98	97.86	10.12			100	259	Peak
*10360	56.94	40.92	16.02	68.2	-11.26	112	63	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	47.57	37.52	10.05	54	-6.43	100	312	Average
5150	63.14	53.09	10.05	74	-10.86	100	312	Peak
5180	95.46	85.34	10.12			100	312	Average
5180	102.66	92.54	10.12			100	312	Peak
*10360	56.61	40.59	16.02	68.2	-11.59	141	181	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.25	49.84	39.79	10.05	54	-4.16	100	259	Average
5149.25	62.49	52.44	10.05	74	-11.51	100	259	Peak
5200	104.46	94.3	10.16			100	259	Average
5200	111.52	101.36	10.16			100	259	Peak
5445.26	42.53	32.05	10.48	54	-11.47	100	259	Average
5445.26	53.29	42.81	10.48	74	-20.71	100	259	Peak
*10400	57.51	41.33	16.18	68.2	-10.69	114	15	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.25	45.64	35.59	10.05	54	-8.36	100	311	Average
5149.25	57.1	47.05	10.05	74	-16.9	100	311	Peak
5200	99.02	88.86	10.16			100	311	Average
5200	106	95.84	10.16			100	311	Peak
5451.75	42.17	31.66	10.51	54	-11.83	100	311	Average
5451.75	52.89	42.38	10.51	74	-21.11	100	311	Peak
*10400	56.09	39.91	16.18	68.2	-12.11	152	199	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	104.14	94	10.14			100	259	Average
5240	111.58	101.44	10.14			100	259	Peak
5450.98	42.66	32.15	10.51	54	-11.34	100	259	Average
5450.98	53	42.49	10.51	74	-21	100	259	Peak
*10480	56.86	40.96	15.9	68.2	-11.34	156	324	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	99.52	57.65	10.14			100	311	Average
5240	106.18	64.31	10.14			100	311	Peak
5446.69	42.39	31.9	10.49	54	-11.61	100	311	Average
5446.69	52.91	42.42	10.49	74	-21.09	100	311	Peak
*10480	55.7	39.8	15.9	68.2	-12.5	119	286	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.05	42.91	32.86	10.05	54	-11.09	100	89	Average
5148.05	53.27	43.22	10.05	74	-20.73	100	89	Peak
5260	104.73	94.61	10.12			100	89	Average
5260	111.27	101.15	10.12			100	89	Peak
*10520	56.32	40.44	15.88	68.2	-11.88	179	200	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.5	42.25	32.24	10.01	54	-11.75	100	29	Average
5139.5	52.55	42.54	10.01	74	-21.45	100	29	Peak
5260	96.59	86.47	10.12			100	29	Average
5260	103.28	93.16	10.12			100	29	Peak
*10520	56.88	41	15.88	68.2	-11.32	124	213	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.25	43.06	33.01	10.05	54	-10.94	100	89	Average
5146.25	53.36	43.31	10.05	74	-20.64	100	89	Peak
5300	104.29	94.23	10.06			100	89	Average
5300	111.33	101.27	10.06			100	89	Peak
5350.44	46.24	36.01	10.23	54	-7.76	100	89	Average
5350.44	60.62	50.39	10.23	74	-13.38	100	89	Peak
10600	47.04	31.28	15.76	54	-6.96	119	57	Average
10600	57.63	41.87	15.76	74	-16.37	119	57	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5115.95	42.43	32.47	9.96	54	-11.57	100	29	Average
5115.95	52.76	42.8	9.96	74	-21.24	100	29	Peak
5300	96.36	86.3	10.06			100	29	Average
5300	103.77	93.71	10.06			100	29	Peak
5350.11	42.7	32.47	10.23	54	-11.3	100	29	Average
5350.11	53.46	43.23	10.23	74	-20.54	100	29	Peak
10600	46.82	31.06	15.76	54	-7.18	119	283	Average
10600	57	41.24	15.76	74	-17	119	283	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	100.47	90.38	10.09			100	89	Average
5320	107.35	97.26	10.09			100	89	Peak
5350.11	52.61	42.38	10.23	54	-1.39	100	89	Average
5350.11	64.43	54.2	10.23	74	-9.57	100	89	Peak
10640	47.1	31.11	15.99	54	-6.9	134	205	Average
10640	58.04	42.05	15.99	74	-15.96	134	205	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.8	82.71	10.09			100	29	Average
5320	99.93	89.84	10.09			100	29	Peak
5350	44.93	34.7	10.23	54	-9.07	100	29	Average
5350	55.7	45.47	10.23	74	-18.3	100	29	Peak
10640	47.21	31.22	15.99	54	-6.79	134	310	Average
10640	57.44	41.45	15.99	74	-16.56	134	310	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	47.17	36.66	10.51	54	-6.83	100	98	Average
5459.92	60.76	50.25	10.51	74	-13.24	100	98	Peak
*5469.04	66.87	56.34	10.53	68.2	-1.33	100	98	Peak
5500	101.48	90.88	10.6			100	98	Average
5500	109.02	98.42	10.6			100	98	Peak
11000	47.64	31.51	16.13	54	-6.36	152	134	Average
11000	57.44	41.31	16.13	74	-16.56	152	134	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	42.98	32.47	10.51	54	-11.02	100	298	Average
5459.76	53.27	42.76	10.51	74	-20.73	100	298	Peak
*5469.36	59.94	49.41	10.53	68.2	-8.26	100	298	Peak
5500	94.77	84.17	10.6			100	298	Average
5500	101.81	91.21	10.6			100	298	Peak
11000	47.37	31.24	16.13	54	-6.63	159	248	Average
11000	57.05	40.92	16.13	74	-16.95	159	248	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	42.59	32.08	10.51	54	-11.41	100	98	Average
5460	53.42	42.91	10.51	74	-20.58	100	98	Peak
*5469.84	51.77	41.24	10.53	68.2	-16.43	100	98	Peak
5580	103.99	93.28	10.71			100	98	Average
5580	111.47	100.76	10.71			100	98	Peak
*5725.88	52.91	41.99	10.92	68.2	-15.29	100	98	Peak
11160	48.52	32.16	16.36	54	-5.48	195	272	Average
11160	58.38	42.02	16.36	74	-15.62	195	272	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5457.52	41.79	31.28	10.51	54	-12.21	100	298	Average
5457.52	52.71	42.2	10.51	74	-21.29	100	298	Peak
*5469.04	51.88	41.35	10.53	68.2	-16.32	100	298	Peak
5580	98.78	88.07	10.71			100	298	Average
5580	105.73	95.02	10.71			100	298	Peak
*5725.4	52.11	41.19	10.92	68.2	-16.09	100	298	Peak
11160	47.58	31.22	16.36	54	-6.42	180	126	Average
11160	57.61	41.25	16.36	74	-16.39	180	126	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	100.02	89.07	10.95			123	90	Average
5700	107.9	96.95	10.95			123	90	Peak
*5725.4	66.46	55.54	10.92	68.2	-1.74	123	90	Peak
11400	47.21	31.02	16.19	54	-6.79	108	87	Average
11400	56.73	40.54	16.19	74	-17.27	108	87	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	93.88	82.93	10.95			100	127	Average
5700	101.11	90.16	10.95			100	127	Peak
*5724.92	60.77	49.85	10.92	68.2	-7.43	100	127	Peak
11400	47.45	31.26	16.19	54	-6.55	131	56	Average
11400	57.03	40.84	16.19	74	-16.97	131	56	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	103.01	92.13	10.88			106	94	Average
5745	110.47	99.59	10.88			106	94	Peak
11490	47.81	31.34	16.47	54	-6.19	132	265	Average
11490	57.69	41.22	16.47	74	-16.31	132	265	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	97.91	87.03	10.88			106	120	Average
5745	105.85	94.97	10.88			106	120	Peak
11490	47.54	31.07	16.47	54	-6.46	163	245	Average
11490	57.19	40.72	16.47	74	-16.81	163	245	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5587.15	53.45	42.72	10.73	68.2	-14.75	106	94	Peak
5656.975	53.75	42.88	10.87	73.36	-19.61	106	94	Peak
5921.05	51.88	40.79	11.09	71.12	-19.24	106	94	Peak
*5937.85	53.38	42.22	11.16	68.2	-14.82	106	94	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5590.825	53.01	42.28	10.73	68.2	-15.19	106	120	Peak
5654.875	51.88	41.01	10.87	71.81	-19.93	106	120	Peak
5917.375	52.82	41.73	11.09	73.84	-21.02	106	120	Peak
*5944.675	53.89	42.71	11.18	68.2	-14.31	106	120	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	103.35	92.54	10.81			106	94	Average
5785	110.61	99.8	10.81			106	94	Peak
11570	48.32	31.83	16.49	54	-5.68	164	218	Average
11570	57.99	41.5	16.49	74	-16.01	164	218	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	98.03	87.22	10.81			106	120	Average
5785	105.6	94.79	10.81			106	120	Peak
11570	47.95	31.46	16.49	54	-6.05	120	304	Average
11570	57.55	41.06	16.49	74	-16.45	120	304	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5633.35	53.42	42.59	10.83	68.2	-14.78	106	94	Peak
5651.2	51.41	40.54	10.87	69.09	-17.68	106	94	Peak
5922.625	51.23	40.12	11.11	69.96	-18.73	106	94	Peak
*5943.625	53.1	41.92	11.18	68.2	-15.1	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5575.6	52.95	42.22	10.73	68.2	-15.25	106	120	Peak
5653.3	52.59	41.72	10.87	70.64	-18.05	106	120	Peak
5920	51.79	40.7	11.09	71.9	-20.11	106	120	Peak
*5972.5	53.02	41.77	11.25	68.2	-15.18	106	120	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	103.5	92.62	10.88			106	94	Average
5825	110.42	99.54	10.88			106	94	Peak
11650	47.92	31.14	16.78	54	-6.08	138	61	Average
11650	57.76	40.98	16.78	74	-16.24	138	61	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	98.08	87.2	10.88			106	120	Average
5825	104.92	94.04	10.88			106	120	Peak
11650	47.21	30.43	16.78	54	-6.79	134	180	Average
11650	56.89	40.11	16.78	74	-17.11	134	180	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5575.6	54.51	43.78	10.73	68.2	-13.69	106	94	Peak
5654.35	51.59	40.72	10.87	71.42	-19.83	106	94	Peak
5923.675	52.95	41.84	11.11	69.18	-16.23	106	94	Peak
*5954.65	53.49	42.3	11.19	68.2	-14.71	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5601.325	53.02	42.26	10.76	68.2	-15.18	106	120	Peak
5652.25	51.68	40.81	10.87	69.86	-18.18	106	120	Peak
5921.575	50.69	39.58	11.11	70.73	-20.04	106	120	Peak
*5949.4	53.8	42.62	11.18	68.2	-14.4	106	120	Peak

Remarks:

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

802.11n (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)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	52.76	42.71	10.05	54	-1.24	100	259	Average
5150	63.69	53.64	10.05	74	-10.31	100	259	Peak
5180	100.79	90.67	10.12			100	259	Average
5180	107.6	97.48	10.12			100	259	Peak
*10360	56.78	40.76	16.02	68.2	-11.42	112	175	Peak

Antenna Polarity & Test Distance: Vertical at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.55	46.75	36.7	10.05	54	-7.25	100	311	Average
5149.55	59.39	49.34	10.05	74	-14.61	100	311	Peak
5180	95.29	85.17	10.12			100	311	Average
5180	102.51	92.39	10.12			100	311	Peak
*10360	56.54	40.52	16.02	68.2	-11.66	119	153	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.55	50.78	40.73	10.05	54	-3.22	100	259	Average
5149.55	64.45	54.4	10.05	74	-9.55	100	259	Peak
5200	104.47	94.31	10.16			100	259	Average
5200	111.06	100.9	10.16			100	259	Peak
5420.07	42.38	31.96	10.42	54	-11.62	100	259	Average
5420.07	52.6	42.18	10.42	74	-21.4	100	259	Peak
*10400	57.63	41.45	16.18	68.2	-10.57	153	96	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	45.81	35.76	10.05	54	-8.19	100	311	Average
5149.4	57.3	47.25	10.05	74	-16.7	100	311	Peak
5200	99.35	89.19	10.16			100	311	Average
5200	106.08	95.92	10.16			100	311	Peak
5440.2	42.32	31.84	10.48	54	-11.68	100	311	Average
5440.2	53.36	42.88	10.48	74	-20.64	100	311	Peak
*10400	55.83	39.65	16.18	68.2	-12.37	174	118	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	104.62	94.48	10.14			100	259	Average
5240	111.87	101.73	10.14			100	259	Peak
5441.85	42.39	31.91	10.48	54	-11.61	100	259	Average
5441.85	52.9	42.42	10.48	74	-21.1	100	259	Peak
*10480	56.74	40.84	15.9	68.2	-11.46	119	289	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	99.85	89.71	10.14			100	311	Average
5240	106.88	96.74	10.14			100	311	Peak
5413.14	42.38	31.96	10.42	54	-11.62	100	311	Average
5413.14	52.81	42.39	10.42	74	-21.19	100	311	Peak
*10480	55.33	39.43	15.9	68.2	-12.87	119	268	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.3	42.78	32.73	10.05	54	-11.22	100	89	Average
5147.3	53.68	43.63	10.05	74	-20.32	100	89	Peak
5260	103.19	93.07	10.12			100	89	Average
5260	110.71	100.59	10.12			100	89	Peak
*10520	56.38	40.5	15.88	68.2	-11.82	149	186	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5128.85	42.3	32.3	10	54	-11.7	100	29	Average
5128.85	52.57	42.57	10	74	-21.43	100	29	Peak
5260	95.26	85.14	10.12			100	29	Average
5260	102.59	92.47	10.12			100	29	Peak
*10520	57	41.12	15.88	68.2	-11.2	119	108	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5144.6	43.04	32.99	10.05	54	-10.96	100	89	Average
5144.6	54.04	43.99	10.05	74	-19.96	100	89	Peak
5300	103.37	93.31	10.06			100	89	Average
5300	110.54	100.48	10.06			100	89	Peak
5350.55	47.37	37.14	10.23	54	-6.63	100	89	Average
5350.55	61.18	50.95	10.23	74	-12.82	100	89	Peak
10600	46.86	31.1	15.76	54	-7.14	185	199	Average
10600	57.53	41.77	15.76	74	-16.47	185	199	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5127.5	42.43	32.43	10	54	-11.57	100	29	Average
5127.5	53.7	43.7	10	74	-20.3	100	29	Peak
5300	95.72	85.66	10.06			100	29	Average
5300	102.97	92.91	10.06			100	29	Peak
5350	42.72	32.49	10.23	54	-11.28	100	29	Average
5350	53.47	43.24	10.23	74	-20.53	100	29	Peak
10600	46.84	31.08	15.76	54	-7.16	117	85	Average
10600	56.92	41.16	15.76	74	-17.08	117	85	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.9	89.81	10.09			100	89	Average
5320	106.68	96.59	10.09			100	89	Peak
5350	52.24	42.01	10.23	54	-1.76	100	89	Average
5350	65.68	55.45	10.23	74	-8.32	100	89	Peak
10640	47.22	31.23	15.99	54	-6.78	159	36	Average
10640	58.21	42.22	15.99	74	-15.79	159	36	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	91.73	81.64	10.09			100	29	Average
5320	98.42	88.33	10.09			100	29	Peak
5350	44.66	34.43	10.23	54	-9.34	100	29	Average
5350	56.08	45.85	10.23	74	-17.92	100	29	Peak
10640	47.04	31.05	15.99	54	-6.96	141	177	Average
10640	57.47	41.48	15.99	74	-16.53	141	177	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	46.66	36.15	10.51	54	-7.34	100	98	Average
5459.6	65.33	54.82	10.51	74	-8.67	100	98	Peak
*5470	67.13	56.6	10.53	68.2	-1.07	100	98	Peak
5500	101.64	91.04	10.6			100	98	Average
5500	108.91	98.31	10.6			100	98	Peak
11000	46.27	30.14	16.13	54	-7.73	196	131	Average
11000	56.07	39.94	16.13	74	-17.93	196	131	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	42.69	32.18	10.51	54	-11.31	100	298	Average
5459.6	52.7	42.19	10.51	74	-21.3	100	298	Peak
*5469.68	59.27	48.74	10.53	68.2	-8.93	100	298	Peak
5500	93.78	83.18	10.6			100	298	Average
5500	101.13	90.53	10.6			100	298	Peak
11000	46.34	30.21	16.13	54	-7.66	138	164	Average
11000	56.06	39.93	16.13	74	-17.94	138	164	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450	42.47	31.96	10.51	54	-11.53	100	98	Average
5450	53.08	42.57	10.51	74	-20.92	100	98	Peak
*5470	51.94	41.41	10.53	68.2	-16.26	100	98	Peak
5580	103.53	92.82	10.71			100	98	Average
5580	111.14	100.43	10.71			100	98	Peak
*5725.32	52.76	41.84	10.92	68.2	-15.44	100	98	Peak
11160	47.36	31	16.36	54	-6.64	194	207	Average
11160	57.03	40.67	16.36	74	-16.97	194	207	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.96	41.82	31.31	10.51	54	-12.18	100	298	Average
5458.96	52.34	41.83	10.51	74	-21.66	100	298	Peak
*5470	52.72	42.19	10.53	68.2	-15.48	100	298	Peak
5580	98.04	87.33	10.71			100	298	Average
5580	105.18	94.47	10.71			100	298	Peak
*5726.04	51.84	40.92	10.92	68.2	-16.36	100	298	Peak
11160	47.86	31.5	16.36	54	-6.14	184	106	Average
11160	57.45	41.09	16.36	74	-16.55	184	106	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	99.55	88.6	10.95			123	90	Average
5700	106.25	95.3	10.95			123	90	Peak
*5725.64	67.15	56.23	10.92	68.2	-1.05	123	90	Peak
11400	46.75	30.56	16.19	54	-7.25	126	38	Average
11400	56.52	40.33	16.19	74	-17.48	126	38	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	92.74	81.79	10.95			100	127	Average
5700	100.05	89.1	10.95			100	127	Peak
*5725.48	55.12	44.2	10.92	68.2	-13.08	100	127	Peak
11400	47.11	30.92	16.19	54	-6.89	187	121	Average
11400	56.79	40.6	16.19	74	-17.21	187	121	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	102.78	91.9	10.88			106	94	Average
5745	110.23	99.35	10.88			106	94	Peak
11490	47.12	30.65	16.47	54	-6.88	160	315	Average
11490	56.59	40.12	16.47	74	-17.41	160	315	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	97.76	86.88	10.88			106	120	Average
5745	105.01	94.13	10.88			106	120	Peak
11490	47.33	30.86	16.47	54	-6.67	187	205	Average
11490	56.67	40.2	16.47	74	-17.33	187	205	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5639.125	53.34	42.51	10.83	68.2	-14.86	106	94	Peak
5658.025	53.21	42.34	10.87	74.14	-20.93	106	94	Peak
5910.025	50.77	39.7	11.07	79.28	-28.51	106	94	Peak
*5928.4	52.98	41.87	11.11	68.2	-15.22	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5627.05	52.66	41.87	10.79	68.2	-15.54	106	120	Peak
5652.25	50.9	40.03	10.87	69.86	-18.96	106	120	Peak
5919.475	50.99	39.9	11.09	72.29	-21.3	106	120	Peak
*5974.6	53.6	42.34	11.26	68.2	-14.6	106	120	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	102.16	91.35	10.81			106	94	Average
5785	110.21	99.4	10.81			106	94	Peak
11570	47.13	30.64	16.49	54	-6.87	198	231	Average
11570	56.72	40.23	16.49	74	-17.28	198	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	98.03	87.22	10.81			106	120	Average
5785	105.63	94.82	10.81			106	120	Peak
11570	47.53	31.04	16.49	54	-6.47	184	131	Average
11570	57.01	40.52	16.49	74	-16.99	184	131	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5509.975	53.75	43.15	10.6	68.2	-14.45	106	94	Peak
5656.975	53.5	42.63	10.87	73.36	-19.86	106	94	Peak
5922.1	51.36	40.25	11.11	70.35	-18.99	106	94	Peak
*5980.9	52.88	41.62	11.26	68.2	-15.32	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5586.625	53.05	42.32	10.73	68.2	-15.15	106	120	Peak
5652.775	50.53	39.66	10.87	70.25	-19.72	106	120	Peak
5922.1	52.6	41.49	11.11	70.35	-17.75	106	120	Peak
*6016.6	53.57	42.22	11.35	68.2	-14.63	106	120	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	103.27	92.39	10.88			106	94	Average
5825	110.32	99.44	10.88			106	94	Peak
11650	46.84	30.06	16.78	54	-7.16	125	74	Average
11650	56.56	39.78	16.78	74	-17.44	125	74	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	97.59	86.71	10.88			106	120	Average
5825	104.85	93.97	10.88			106	120	Peak
11650	47.17	30.39	16.78	54	-6.83	190	336	Average
11650	56.65	39.87	16.78	74	-17.35	190	336	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5583.475	53.5	42.77	10.73	68.2	-14.7	106	94	Peak
5653.3	51.31	40.44	10.87	70.64	-19.33	106	94	Peak
5922.1	51.45	40.34	11.11	70.35	-18.9	106	94	Peak
*5964.1	52.92	41.69	11.23	68.2	-15.28	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5603.425	53.42	42.67	10.75	68.2	-14.78	106	120	Peak
5652.775	50.46	39.59	10.87	70.25	-19.79	106	120	Peak
5921.575	52.55	41.44	11.11	70.73	-18.18	106	120	Peak
*5980.375	52.93	41.67	11.26	68.2	-15.27	106	120	Peak

Remarks:

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

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.25	52.83	42.78	10.05	54	-1.17	100	259	Average
5149.25	65.27	55.22	10.05	74	-8.73	100	259	Peak
5190	94.36	84.24	10.12			100	259	Average
5190	101.29	91.17	10.12			100	259	Peak
5444.16	42.8	32.32	10.48	54	-11.2	100	259	Average
5444.16	53.01	42.53	10.48	74	-20.99	100	259	Peak
*10380	56.59	40.49	16.1	68.2	-11.61	140	355	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	46.86	36.81	10.05	54	-7.14	100	311	Average
5149.85	58.21	48.16	10.05	74	-15.79	100	311	Peak
5190	88.59	78.47	10.12			100	311	Average
5190	95.31	85.19	10.12			100	311	Peak
5449.99	42.67	32.16	10.51	54	-11.33	100	311	Average
5449.99	52.53	42.02	10.51	74	-21.47	100	311	Peak
*10380	56.32	40.22	16.1	68.2	-11.88	195	315	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.65	52.87	42.82	10.05	54	-1.13	100	259	Average
5148.65	64.05	54	10.05	74	-9.95	100	259	Peak
5230	100.78	90.64	10.14			100	259	Average
5230	107.76	97.62	10.14			100	259	Peak
5351.43	43.4	33.17	10.23	54	-10.6	100	259	Average
5351.43	53.58	43.35	10.23	74	-20.42	100	259	Peak
*10460	55.83	39.83	16	68.2	-12.37	144	187	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.2	47.81	37.76	10.05	54	-6.19	100	311	Average
5148.2	60.14	50.09	10.05	74	-13.86	100	311	Peak
5230	95.36	85.22	10.14			100	311	Average
5230	102.39	92.25	10.14			100	311	Peak
5394.66	42.89	32.52	10.37	54	-11.11	100	311	Average
5394.66	53.44	43.07	10.37	74	-20.56	100	311	Peak
*10460	55.48	39.48	16	68.2	-12.72	118	326	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.95	45.18	35.13	10.05	54	-8.82	100	89	Average
5148.95	55.45	45.4	10.05	74	-18.55	100	89	Peak
5270	100.76	90.64	10.12			100	89	Average
5270	107.12	97	10.12			100	89	Peak
5350	52.78	42.55	10.23	54	-1.22	100	89	Average
5350	63.32	53.09	10.23	74	-10.68	100	89	Peak
*10540	57.46	41.63	15.83	68.2	-10.74	146	35	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.5	43.08	33.07	10.01	54	-10.92	100	29	Average
5139.5	52.88	42.87	10.01	74	-21.12	100	29	Peak
5270	92.57	82.45	10.12			100	29	Average
5270	99.87	89.75	10.12			100	29	Peak
5351.1	45.12	34.89	10.23	54	-8.88	100	29	Average
5351.1	56.07	45.84	10.23	74	-17.93	100	29	Peak
*10540	56.75	40.92	15.83	68.2	-11.45	128	227	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.6	43.08	33.03	10.05	54	-10.92	100	89	Average
5147.6	53.56	43.51	10.05	74	-20.44	100	89	Peak
5310	94.47	84.38	10.09			100	89	Average
5310	101.29	91.2	10.09			100	89	Peak
5350.22	52.99	42.76	10.23	54	-1.01	100	89	Average
5350.22	63.99	53.76	10.23	74	-10.01	100	89	Peak
10620	47.28	31.4	15.88	54	-6.72	140	174	Average
10620	56.49	40.61	15.88	74	-17.51	140	174	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5080.1	42.76	32.85	9.91	54	-11.24	100	29	Average
5080.1	52.77	42.86	9.91	74	-21.23	100	29	Peak
5310	86.73	76.64	10.09			100	29	Average
5310	93.34	83.25	10.09			100	29	Peak
5350.11	44.77	34.54	10.23	54	-9.23	100	29	Average
5350.11	56.08	45.85	10.23	74	-17.92	100	29	Peak
10620	47.14	31.26	15.88	54	-6.86	137	119	Average
10620	58.35	42.47	15.88	74	-15.65	137	119	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	45.85	35.34	10.51	54	-8.15	100	98	Average
5459.92	57.05	46.54	10.51	74	-16.95	100	98	Peak
*5469.84	66.54	56.01	10.53	68.2	-1.66	100	98	Peak
5510	95.72	85.12	10.6			100	98	Average
5510	102.86	92.26	10.6			100	98	Peak
*5725.24	52.45	41.53	10.92	68.2	-15.75	100	98	Peak
11020	47.36	31.2	16.16	54	-6.64	190	62	Average
11020	57.06	40.9	16.16	74	-16.94	190	62	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	42.88	32.37	10.51	54	-11.12	100	298	Average
5459.76	53.19	42.68	10.51	74	-20.81	100	298	Peak
*5469.84	61.26	50.73	10.53	68.2	-6.94	100	298	Peak
5510	87.75	77.15	10.6			100	298	Average
5510	95.2	84.6	10.6			100	298	Peak
*5725.8	51.45	40.53	10.92	68.2	-16.75	100	298	Peak
11020	45.68	29.52	16.16	54	-8.32	146	215	Average
11020	55.54	39.38	16.16	74	-18.46	146	215	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	48.37	37.86	10.51	54	-5.63	100	98	Average
5459.76	60.5	49.99	10.51	74	-13.5	100	98	Peak
*5469.84	60.48	49.95	10.53	68.2	-7.72	100	98	Peak
5550	101.17	90.49	10.68			100	98	Average
5550	108.63	97.95	10.68			100	98	Peak
*5726.04	51.86	40.94	10.92	68.2	-16.34	100	98	Peak
11100	46.26	29.99	16.27	54	-7.74	160	249	Average
11100	56	39.73	16.27	74	-18	160	249	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	44.42	33.91	10.51	54	-9.58	100	298	Average
5459.76	54.18	43.67	10.51	74	-19.82	100	298	Peak
*5470	56.62	46.09	10.53	68.2	-11.58	100	298	Peak
5550	95.19	84.51	10.68			100	298	Average
5550	102.26	91.58	10.68			100	298	Peak
*5725.72	50.92	40	10.92	68.2	-17.28	100	298	Peak
11100	46.78	30.51	16.27	54	-7.22	168	304	Average
11100	56.44	40.17	16.27	74	-17.56	168	304	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.84	42.51	32	10.51	54	-11.49	110	91	Average
5453.84	52.81	42.3	10.51	74	-21.19	110	91	Peak
*5469.04	50.87	40.34	10.53	68.2	-17.33	110	91	Peak
5670	98.02	87.12	10.9			110	91	Average
5670	105.69	94.79	10.9			110	91	Peak
*5725.24	66.34	55.42	10.92	68.2	-1.86	110	91	Peak
11340	47.65	31.23	16.42	54	-6.35	160	181	Average
11340	57.82	41.4	16.42	74	-16.18	160	181	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.8	42.58	32.07	10.51	54	-11.42	100	127	Average
5450.8	52.88	42.37	10.51	74	-21.12	100	127	Peak
*5469.68	50.81	40.28	10.53	68.2	-17.39	100	127	Peak
5670	91.46	80.56	10.9			100	127	Average
5670	98.98	88.08	10.9			100	127	Peak
*5725	57.85	46.93	10.92	68.2	-10.35	100	127	Peak
11340	47.43	31.01	16.42	54	-6.57	154	326	Average
11340	58	41.58	16.42	74	-16	154	326	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	99.91	89.01	10.9			106	94	Average
5755	107.06	96.16	10.9			106	94	Peak
11510	47.59	31.08	16.51	54	-6.41	127	305	Average
11510	57.47	40.96	16.51	74	-16.53	127	305	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	95.35	84.45	10.9			106	120	Average
5755	102.31	91.41	10.9			106	120	Peak
11510	46.87	30.36	16.51	54	-7.13	160	249	Average
11510	56.49	39.98	16.51	74	-17.51	160	249	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5644.9	55.83	45	10.83	68.2	-12.37	106	94	Peak
5663.275	61.13	50.26	10.87	78.02	-16.89	106	94	Peak
5920.525	51.8	40.71	11.09	71.51	-19.71	106	94	Peak
*5943.625	53.41	42.23	11.18	68.2	-14.79	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5580.85	53.28	42.57	10.71	68.2	-14.92	106	120	Peak
5655.4	52.18	41.31	10.87	72.2	-20.02	106	120	Peak
5920	51.89	40.8	11.09	71.9	-20.01	106	120	Peak
*5982.475	53.47	42.21	11.26	68.2	-14.73	106	120	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	99.46	88.64	10.82			106	94	Average
5795	107.45	96.63	10.82			106	94	Peak
11590	47.23	30.72	16.51	54	-6.77	185	207	Average
11590	56.83	40.32	16.51	74	-17.17	185	207	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	95.53	84.71	10.82			106	120	Average
5795	102.31	91.49	10.82			106	120	Peak
11590	47.27	30.76	16.51	54	-6.73	132	115	Average
11590	56.65	40.14	16.51	74	-17.35	132	115	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5633.875	53.6	42.77	10.83	68.2	-14.6	106	94	Peak
5661.175	54.37	43.5	10.87	76.47	-22.1	106	94	Peak
5915.8	53.05	41.96	11.09	75.01	-21.96	106	94	Peak
*5997.7	53.77	42.44	11.33	68.2	-14.43	106	94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5647.525	54.7	43.85	10.85	68.2	-13.5	106	120	Peak
5653.3	53.1	42.23	10.87	70.64	-17.54	106	120	Peak
5921.575	52.18	41.07	11.11	70.73	-18.55	106	120	Peak
*5952.55	52.92	41.73	11.19	68.2	-15.28	106	120	Peak

Remarks:

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

802.11ac (VHT80)

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.65	52.94	42.89	10.05	54	-1.06	100	259	Average
5148.65	66.09	56.04	10.05	74	-7.91	100	259	Peak
5210	92.54	82.37	10.17			100	259	Average
5210	99.32	89.15	10.17			100	259	Peak
5443.28	43.27	32.79	10.48	54	-10.73	100	259	Average
5443.28	53.58	43.1	10.48	74	-20.42	100	259	Peak
*10420	55.88	39.72	16.16	68.2	-12.32	185	199	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.55	46.75	36.7	10.05	54	-7.25	100	311	Average
5146.55	59.39	49.34	10.05	74	-14.61	100	311	Peak
5210	86.47	76.3	10.17			100	311	Average
5210	93.29	83.12	10.17			100	311	Peak
5444.82	42.95	32.47	10.48	54	-11.05	100	311	Average
5444.82	52.97	42.49	10.48	74	-21.03	100	311	Peak
*10420	55.59	39.43	16.16	68.2	-12.61	155	246	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5142.05	43.35	33.34	10.01	54	-10.65	100	89	Average
5142.05	54.35	44.34	10.01	74	-19.65	100	89	Peak
5290	91.43	81.33	10.1			100	89	Average
5290	98.3	88.2	10.1			100	89	Peak
5354.07	52.01	41.78	10.23	54	-1.99	100	89	Average
5354.07	64.01	53.78	10.23	74	-9.99	100	89	Peak
*10580	56.92	41.21	15.71	68.2	-11.28	175	289	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5113.7	43.05	33.09	9.96	54	-10.95	100	29	Average
5113.7	53.24	43.28	9.96	74	-20.76	100	29	Peak
5290	83.44	73.34	10.1			100	29	Average
5290	90.74	80.64	10.1			100	29	Peak
5353.85	44.84	34.61	10.23	54	-9.16	100	29	Average
5353.85	56.68	46.45	10.23	74	-17.32	100	29	Peak
*10580	56.45	40.74	15.71	68.2	-11.75	144	144	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	65.31	54.8	10.51	74	-8.69	100	98	Peak
5460	52.75	42.24	10.51	74	-21.25	100	98	Peak
*5470	65.52	54.99	10.53	68.2	-2.68	100	98	Peak
5530	94.11	83.48	10.63			100	98	Average
5530	101.23	90.6	10.63			100	98	Peak
*5725.32	50.97	40.05	10.92	68.2	-17.23	100	98	Peak
11060	45.78	29.55	16.23	54	-8.22	196	236	Average
11060	55.41	39.18	16.23	74	-18.59	196	236	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	46.17	35.66	10.51	54	-7.83	100	298	Average
5459.92	57.59	47.08	10.51	74	-16.41	100	298	Peak
*5470	58.91	48.38	10.53	68.2	-9.29	100	298	Peak
5530	86.65	76.02	10.63			100	298	Average
5530	93.69	83.06	10.63			100	298	Peak
*5725.48	51.42	40.5	10.92	68.2	-16.78	100	298	Peak
11060	46.56	30.33	16.23	54	-7.44	164	37	Average
11060	56.33	40.1	16.23	74	-17.67	164	37	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.16	52.37	41.86	10.51	54	-1.63	114	98	Average
5458.16	66.37	55.86	10.51	74	-7.63	114	98	Peak
*5469.36	63.06	52.53	10.53	68.2	-5.14	114	98	Peak
5610	98.58	87.81	10.77			114	98	Average
5610	105.47	94.7	10.77			114	98	Peak
*5725.96	67.03	56.11	10.92	68.2	-1.17	114	98	Peak
11220	47.13	30.71	16.42	54	-6.87	145	112	Average
11220	56.64	40.22	16.42	74	-17.36	145	112	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.64	47.33	36.82	10.51	54	-6.67	100	298	Average
5458.64	57.86	47.35	10.51	74	-16.14	100	298	Peak
*5469.2	58.76	48.23	10.53	68.2	-9.44	100	298	Peak
5610	93.65	82.88	10.77			100	298	Average
5610	100.84	90.07	10.77			100	298	Peak
*5725	57.59	46.67	10.92	68.2	-10.61	100	298	Peak
11220	46.89	30.47	16.42	54	-7.11	149	7	Average
11220	56.33	39.91	16.42	74	-17.67	149	7	Peak

Remarks:

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

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	97.8	86.93	10.87			106	94	Average
5775	105.34	94.47	10.87			106	94	Peak
11550	46.74	30.24	16.5	54	-7.26	160	219	Average
11550	56.4	39.9	16.5	74	-17.6	160	219	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	93.13	82.26	10.87			106	120	Average
5775	100.18	89.31	10.87			106	120	Peak
11550	47.27	30.77	16.5	54	-6.73	185	131	Average
11550	56.97	40.47	16.5	74	-17.03	185	131	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5639.125	65.41	54.58	10.83	68.2	-2.79	106	94	Peak
5655.4	67.56	56.69	10.87	72.2	-4.64	106	94	Peak
5923.675	62.8	51.69	11.11	69.18	-6.38	106	94	Peak
*5932.075	64.51	53.4	11.11	68.2	-3.69	106	94	Peak

Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5639.125	60.12	49.29	10.83	68.2	-8.08	106	120	Peak
5652.775	59.52	48.65	10.87	70.25	-10.73	106	120	Peak
5920.525	57.68	46.59	11.09	71.51	-13.83	106	120	Peak
*5926.3	58.09	46.98	11.11	68.2	-10.11	106	120	Peak

Remarks:

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

9 kHz ~ 30 MHz Data:

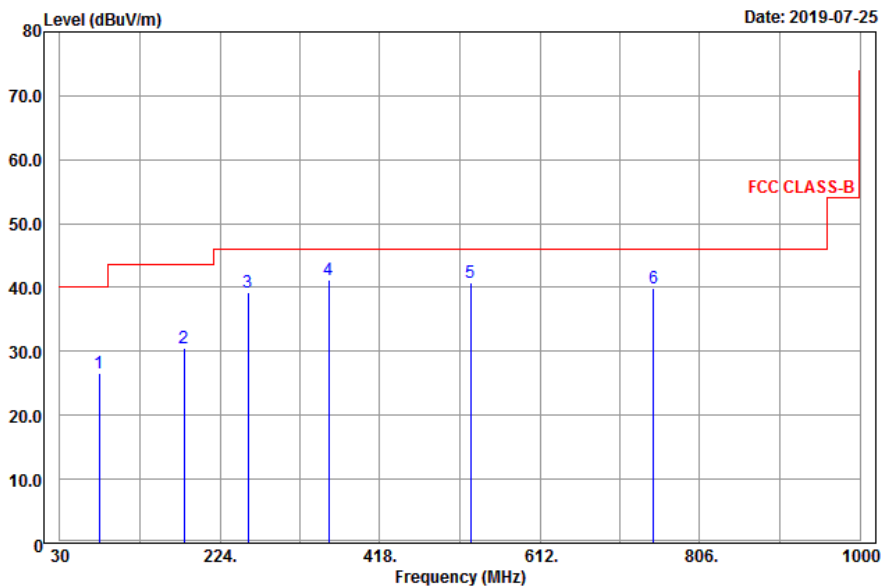
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

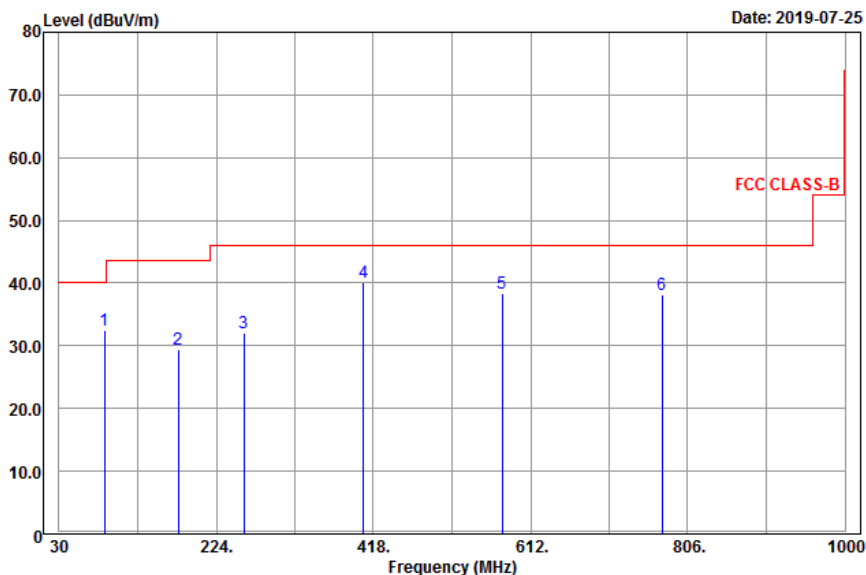
802.11n (HT40)

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

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
78.06	26.68	47.99	-21.31	40	-13.32	166	239	Peak
180.66	30.49	50.13	-19.64	43.5	-13.01	180	158	Peak
258.15	39.32	56.02	-16.7	46	-6.68	164	108	Peak
356	41.19	55.83	-14.64	46	-4.81	162	113	Peak
528.2	40.8	52.7	-11.9	46	-5.2	175	235	Peak
750.1	39.87	48.41	-8.54	46	-6.13	150	343	Peak

Antenna Polarity & Test Distance: Vertical at 3 m

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
85.89	32.46	52.55	-20.09	40	-7.54	167	138	Peak
176.88	29.35	49.25	-19.9	43.5	-14.15	190	231	Peak
258.15	32.1	48.8	-16.7	46	-13.9	162	223	Peak
405.7	40.03	53.87	-13.84	46	-5.97	125	39	Peak
577.2	38.3	49.3	-11	46	-7.7	189	351	Peak
774.6	38.21	46.4	-8.19	46	-7.79	107	35	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

- Note: 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 22, 2019	Aug. 21, 2020
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

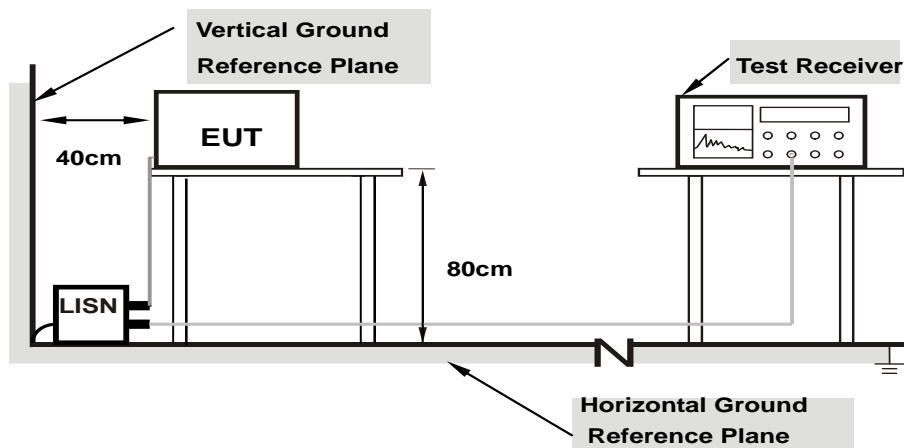
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

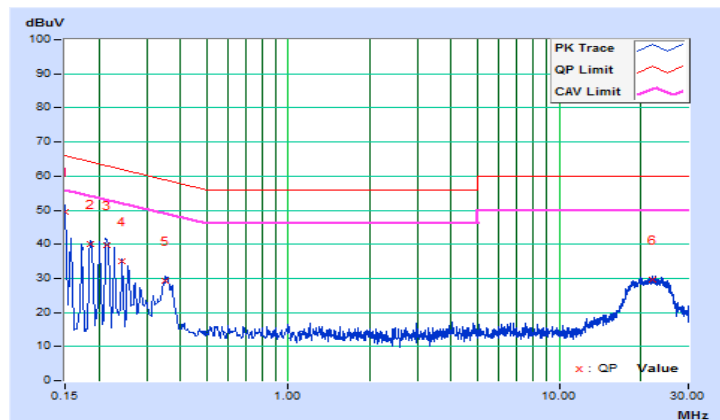
Mode A

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	Thomas Wei	Test Date	2019/10/3

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	0.15000	9.67	39.95	29.23	49.62	38.90	66.00	56.00	-16.38	-17.10
2	0.18557	9.66	30.24	16.97	39.90	26.63	64.23	54.23	-24.33	-27.60
3	0.21282	9.66	30.23	15.62	39.89	25.28	63.09	53.09	-23.20	-27.81
4	0.24384	9.67	25.27	14.83	34.94	24.50	61.96	51.96	-27.02	-27.46
5	0.35332	9.68	19.57	10.58	29.25	20.26	58.88	48.88	-29.63	-28.62
6	22.17503	9.99	19.50	11.90	29.49	21.89	60.00	50.00	-30.51	-28.11

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

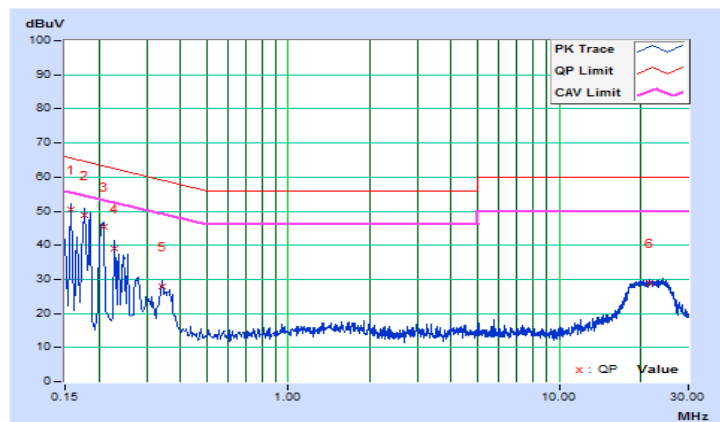


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Thomas Wei	Test Date	2019/10/3

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	0.15782	9.64	41.01	32.14	50.65	41.78	65.58	55.58	-14.93	-13.80
2	0.17737	9.64	39.09	30.26	48.73	39.90	64.61	54.61	-15.88	-14.71
3	0.20838	9.64	35.65	24.87	45.29	34.51	63.27	53.27	-17.98	-18.76
4	0.22820	9.64	29.42	20.46	39.06	30.10	62.51	52.51	-23.45	-22.41
5	0.34159	9.65	18.41	10.39	28.06	20.04	59.16	49.16	-31.10	-29.12
6	21.44777	10.06	18.94	10.59	29.00	20.65	60.00	50.00	-31.00	-29.35

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



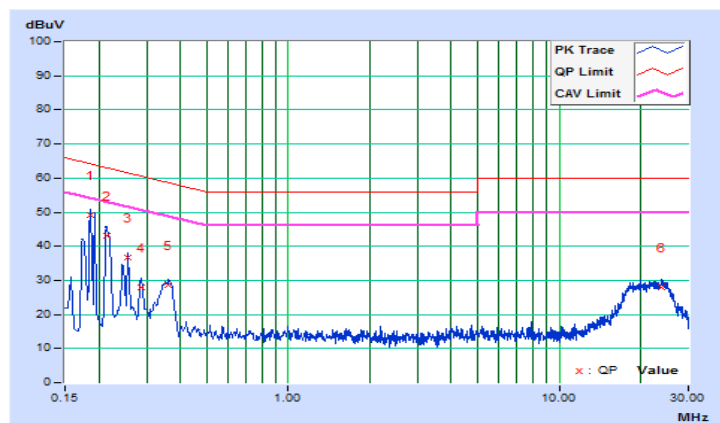
Mode B

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	Thomas Wei	Test Date	2019/10/3

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	0.18519	9.66	39.48	28.67	49.14	38.33	64.25	54.25	-15.11	-15.92
2	0.21282	9.66	33.56	23.06	43.22	32.72	63.09	53.09	-19.87	-20.37
3	0.25557	9.67	26.87	19.33	36.54	29.00	61.57	51.57	-25.03	-22.57
4	0.28588	9.67	18.29	8.91	27.96	18.58	60.64	50.64	-32.68	-32.06
5	0.36143	9.68	19.00	9.23	28.68	18.91	58.70	48.70	-30.02	-29.79
6	23.85633	10.00	18.05	7.38	28.05	17.38	60.00	50.00	-31.95	-32.62

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

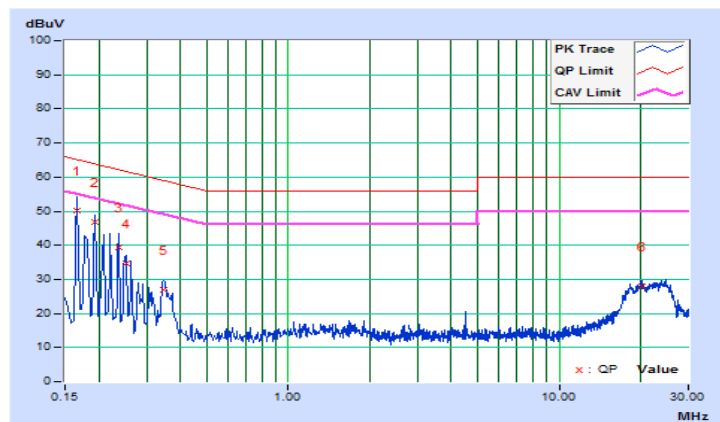


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Thomas Wei	Test Date	2019/10/3

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	0.16564	9.64	40.44	31.04	50.08	40.68	65.18	55.18	-15.10	-14.50
2	0.19301	9.64	37.21	27.26	46.85	36.90	63.91	53.91	-17.06	-17.01
3	0.23602	9.64	29.89	16.53	39.53	26.17	62.24	52.24	-22.71	-26.07
4	0.25166	9.65	25.07	17.16	34.72	26.81	61.70	51.70	-26.98	-24.89
5	0.34560	9.65	17.22	6.79	26.87	16.44	59.07	49.07	-32.20	-32.63
6	20.35688	10.05	18.00	6.64	28.05	16.69	60.00	50.00	-31.95	-33.31

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 $N_{ANT} \leq 4$;

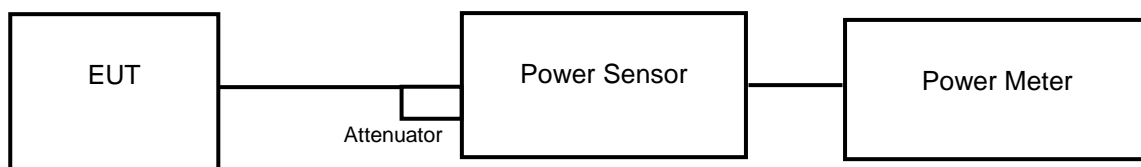
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

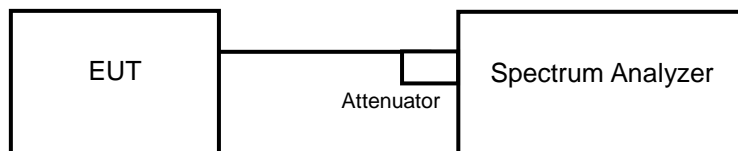
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

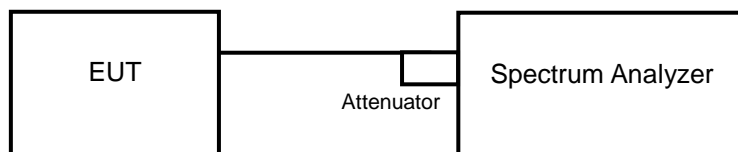
<Power Output Measurement>



or



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

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

<802.11ac (VHT80)>

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99 % occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz.
- d. Set VBW \geq 3 MHz
- e. Number of points in sweep \geq 2 Span / RBW.
- f. Sweep time \leq (number of points in sweep) * T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS.
- i. Trace mode = max hold.
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

26 dB Bandwidth

- a. Set RBW = approximately 1 % of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Results

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	76.736	18.85	24	Pass
40	5200	139.959	21.46	24	Pass
48	5240	141.579	21.51	24	Pass
52	5260	140.929	21.49	24	Pass
60	5300	134.896	21.30	24	Pass
64	5320	93.111	19.69	24	Pass
100	5500	79.983	19.03	24	Pass
116	5580	137.088	21.37	24	Pass
140	5700	63.096	18.00	24	Pass
149	5745	131.522	21.19	30	Pass
157	5785	124.738	20.96	30	Pass
165	5825	119.95	20.79	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (44.72) = 27.51 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (45.79) = 27.61 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.49) = 27.18 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (40.09) = 27.03 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (43.85) = 27.42 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (33.20) = 26.21 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	78.343	18.94	24	Pass
40	5200	147.911	21.70	24	Pass
48	5240	150.314	21.77	24	Pass
52	5260	150.661	21.78	24	Pass
60	5300	148.252	21.71	24	Pass
64	5320	92.47	19.66	24	Pass
100	5500	80.168	19.04	24	Pass
116	5580	139.959	21.46	24	Pass
140	5700	63.826	18.05	24	Pass
149	5745	131.22	21.18	30	Pass
157	5785	124.451	20.95	30	Pass
165	5825	119.399	20.77	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (47.51) = 27.77 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (48.13) = 27.82 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (41.85) = 27.22 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (38.66) = 26.87 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (45.96) = 27.62 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (39.87) = 27.01 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	38.994	15.91	24	Pass
46	5230	157.761	21.98	24	Pass
54	5270	157.398	21.97	24	Pass
62	5310	43.551	16.39	24	Pass
102	5510	54.2	17.34	24	Pass
110	5550	145.211	21.62	24	Pass
134	5670	83.753	19.23	24	Pass
151	5755	132.434	21.22	30	Pass
159	5795	126.183	21.01	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (94.80) = 30.77 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (43.13) = 27.35 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (66.63) = 29.24 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (94.27) = 30.74 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (79.19) = 29.99 \text{ dBm} > 24 \text{ dBm}$.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	40.458	16.07	24	Pass
58	5290	32.285	15.09	24	Pass
106	5530	33.189	15.21	24	Pass
122	5610	95.719	19.81	24	Pass
155	5775	102.329	20.10	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (83.65) = 30.22 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (88.24) = 30.46 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (176.69) = 33.47 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	40.09
40	5200	44.59
48	5240	44.84
52	5260	44.72
60	5300	45.79
64	5320	41.49
100	5500	40.09
116	5580	43.85
140	5700	33.20

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	39.10
40	5200	47.35
48	5240	46.56
52	5260	47.51
60	5300	48.13
64	5320	41.85
100	5500	38.66
116	5580	45.96
140	5700	39.87

802.11n (HT40)

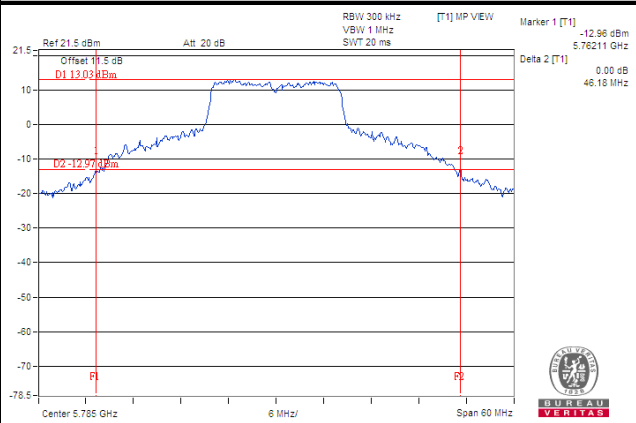
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	51.26
46	5230	96.21
54	5270	94.80
62	5310	43.13
102	5510	66.63
110	5550	94.27
134	5670	79.19

802.11ac (VHT80)

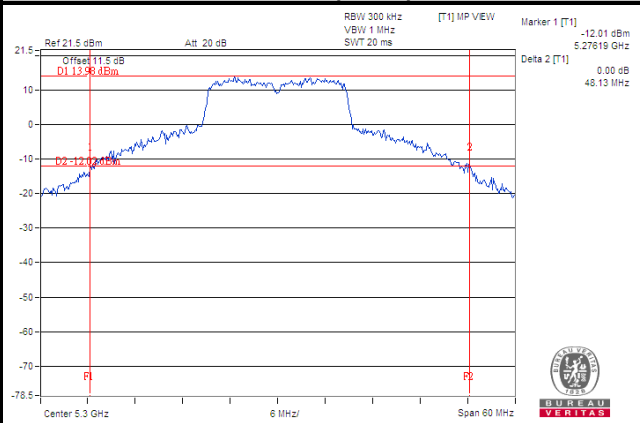
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
42	5210	124.48
58	5290	83.65
106	5530	88.24
122	5610	176.69

Spectrum Plot of Worst Value

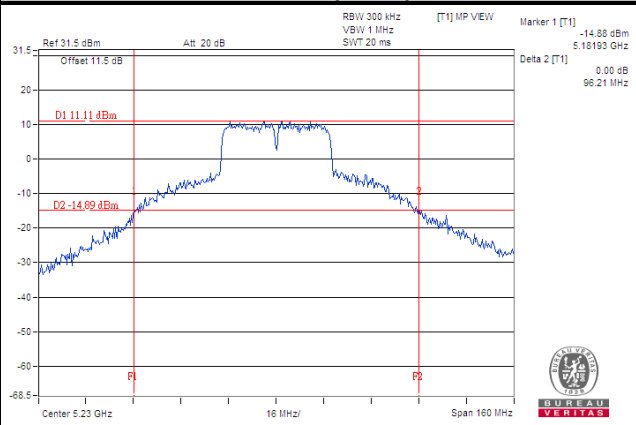
802.11a



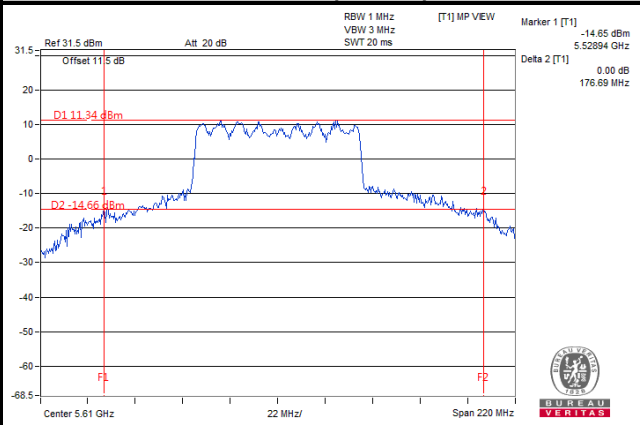
802.11n (HT20)



802.11n (HT40)

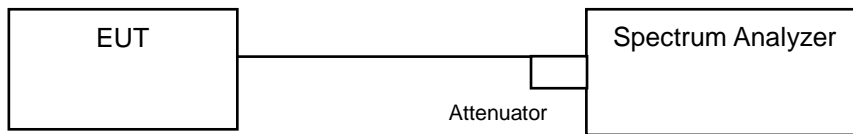


802.11ac (VHT80)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	20.88
40	5200	28.20
48	5240	16.92
52	5260	29.88
60	5300	29.04
64	5320	21.24
100	5500	22.08
116	5580	28.20
140	5700	17.28
149	5745	30.77
157	5785	29.71
165	5825	27.40

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.72
40	5200	29.88
48	5240	18.00
52	5260	31.32
60	5300	30.72
64	5320	20.52
100	5500	18.60
116	5580	29.28
140	5700	18.12
149	5745	30.20
157	5785	30.96
165	5825	29.52

802.11n (HT40)

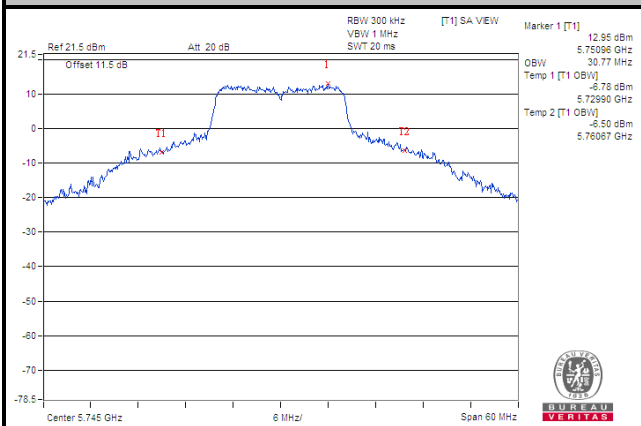
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.84
46	5230	36.96
54	5270	45.48
62	5310	36.60
102	5510	36.84
110	5550	44.04
134	5670	37.32
151	5755	44.28
159	5795	43.92

802.11ac (VHT80)

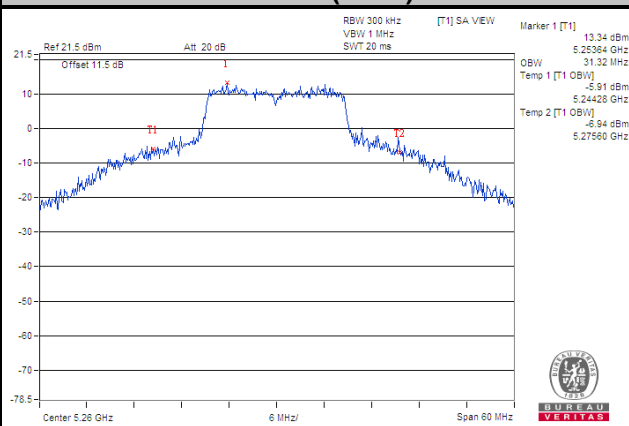
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.60
58	5290	75.84
106	5530	76.08
122	5610	77.04
155	5775	78.84

Spectrum Plot of Worst Value

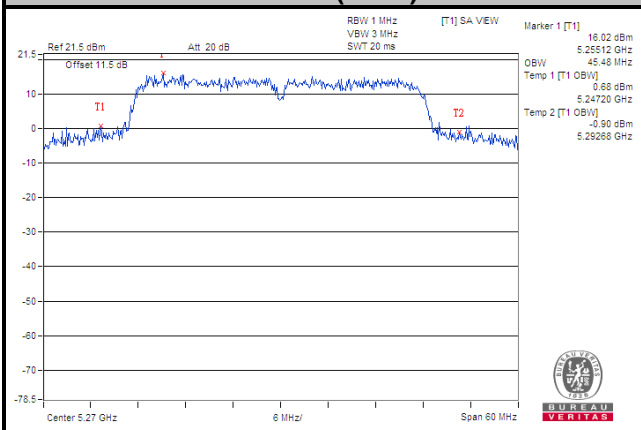
802.11a



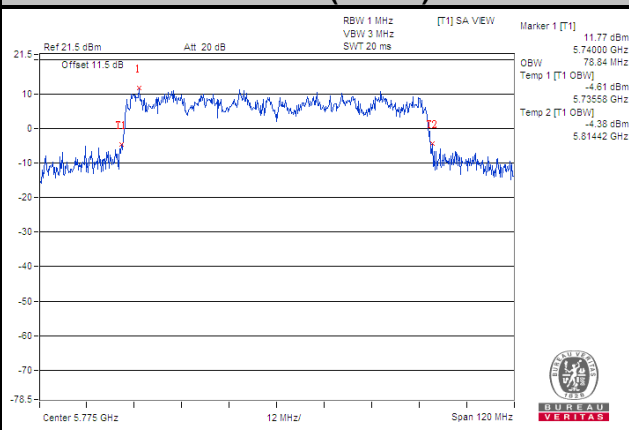
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

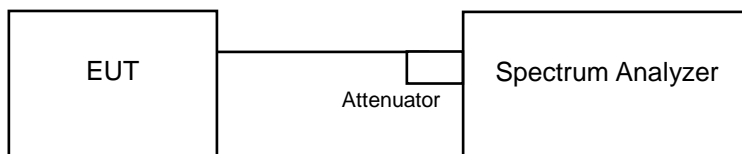


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2 Duty cycle <98%

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

※ For U-NII-3: with duty cycle & Duty cycle <98 %

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	7.12	0.25	7.37	11	Pass
40	5200	8.65	0.25	8.90	11	Pass
48	5240	8.45	0.25	8.70	11	Pass
52	5260	8.49	0.25	8.74	11	Pass
60	5300	8.09	0.25	8.34	11	Pass
64	5320	6.72	0.25	6.97	11	Pass
100	5500	6.51	0.25	6.76	11	Pass
116	5580	8.01	0.25	8.26	11	Pass
140	5700	5.16	0.25	5.41	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	7.14	0.39	7.53	11	Pass
40	5200	8.34	0.39	8.73	11	Pass
48	5240	8.28	0.39	8.67	11	Pass
52	5260	8.10	0.39	8.49	11	Pass
60	5300	8.02	0.39	8.41	11	Pass
64	5320	6.00	0.39	6.39	11	Pass
100	5500	6.40	0.39	6.79	11	Pass
116	5580	7.75	0.39	8.14	11	Pass
140	5700	3.75	0.39	4.14	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-0.32	0.84	0.52	11	Pass
46	5230	4.80	0.84	5.64	11	Pass
54	5270	4.38	0.84	5.22	11	Pass
62	5310	-0.88	0.84	-0.04	11	Pass
102	5510	0.74	0.84	1.58	11	Pass
110	5550	4.10	0.84	4.94	11	Pass
134	5670	2.24	0.84	3.08	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

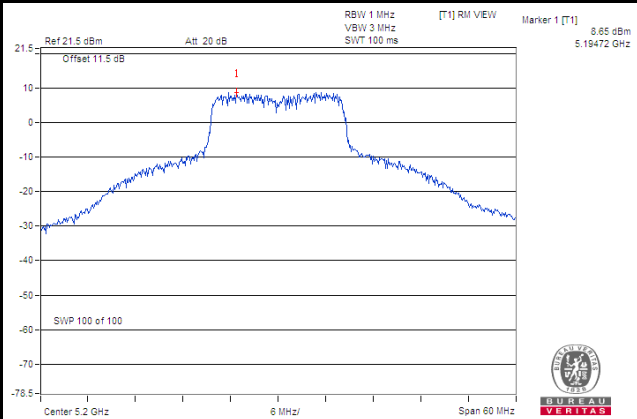
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
42	5210	-3.83	0.99	-2.84	11	Pass
58	5290	-5.74	0.99	-4.75	11	Pass
106	5530	-5.05	0.99	-4.06	11	Pass
122	5610	0.75	0.99	1.74	11	Pass

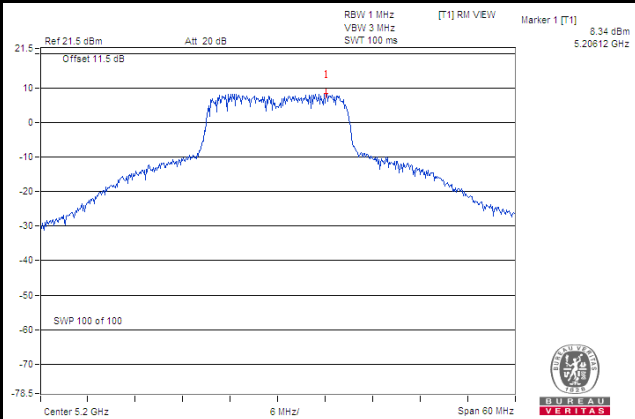
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

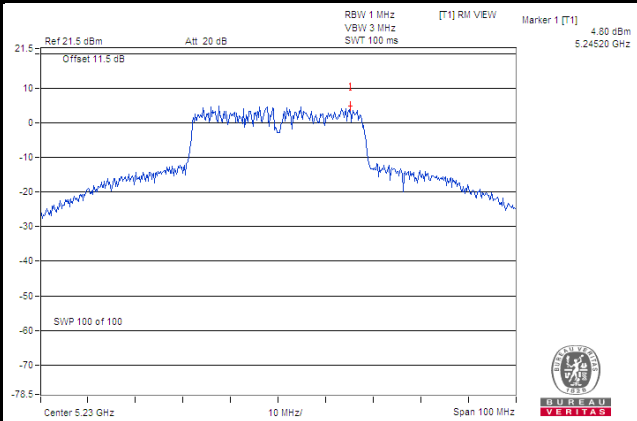
802.11a



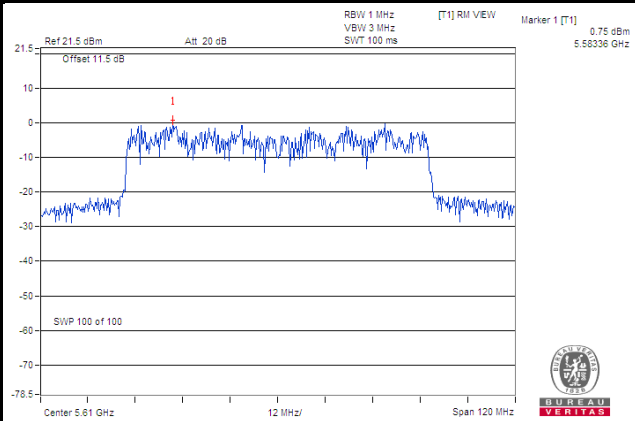
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
149	5745	-1.12	1.10	0.25	1.35	30	Pass
157	5785	-0.94	1.28	0.25	1.53	30	Pass
165	5825	-1.81	0.41	0.25	0.66	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
149	5745	-0.95	1.27	0.39	1.66	30	Pass
157	5785	-1.68	0.54	0.39	0.93	30	Pass
165	5825	-1.80	0.42	0.39	0.81	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
151	5755	-5.26	-3.04	0.84	-2.20	30	Pass
159	5795	-5.43	-3.21	0.84	-2.37	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

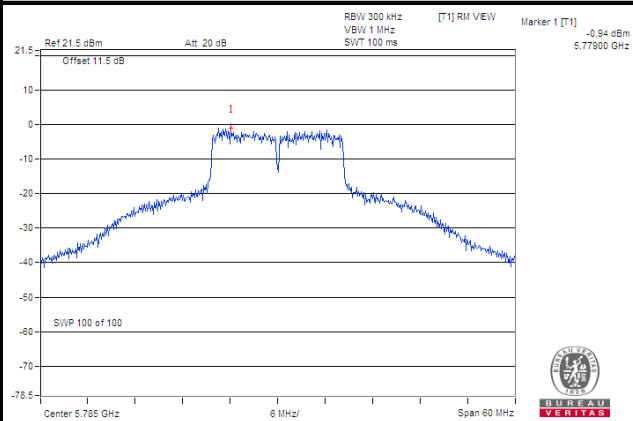
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
155	5775	-8.13	-5.91	0.99	-4.92	30	Pass

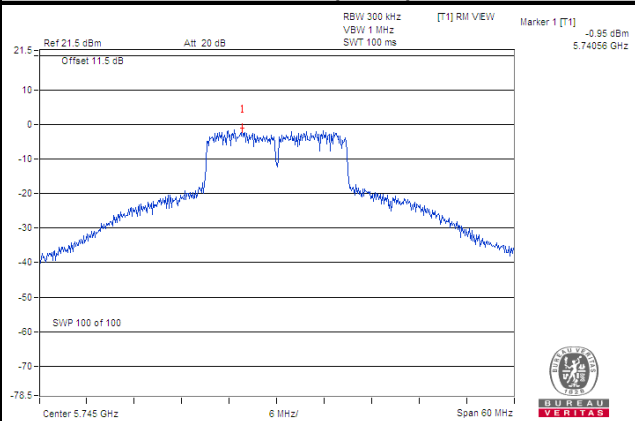
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

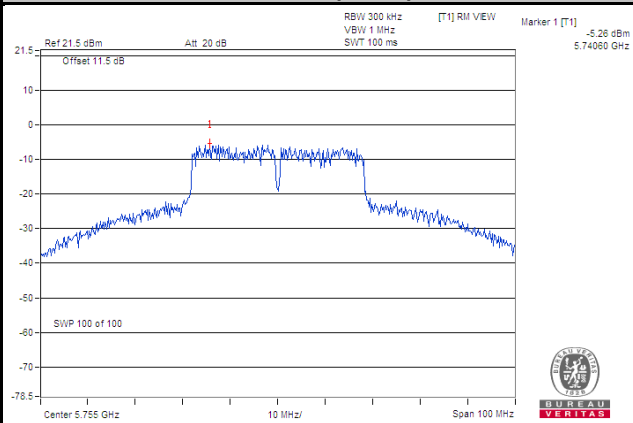
802.11a



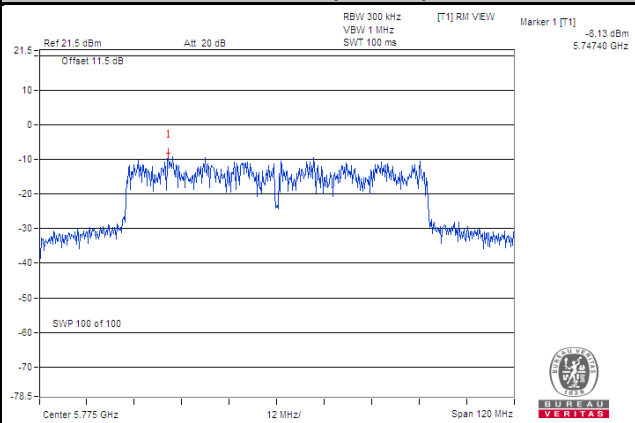
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

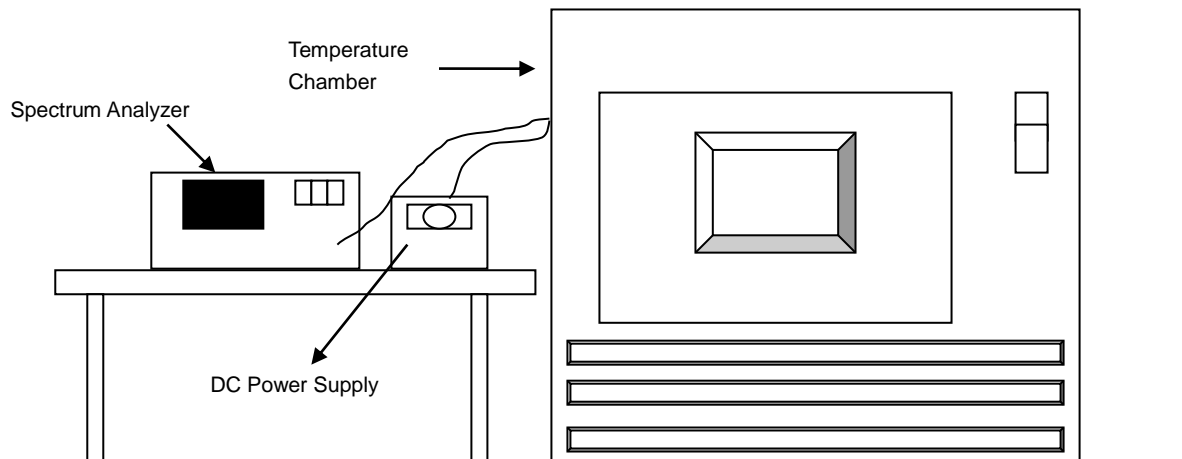


4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step c and d with every 10 degrees reduction until the lowest temperature achieved.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
65	3.3	5179.9963	PASS	5179.9943	PASS	5179.9939	PASS	5179.9976	PASS
60	3.3	5179.9736	PASS	5179.9752	PASS	5179.9739	PASS	5179.9724	PASS
50	3.3	5179.9937	PASS	5179.9889	PASS	5179.9938	PASS	5179.9935	PASS
40	3.3	5179.9868	PASS	5179.9866	PASS	5179.9864	PASS	5179.9868	PASS
30	3.3	5180.0155	PASS	5180.0144	PASS	5180.0139	PASS	5180.0146	PASS
20	3.3	5179.9964	PASS	5179.9936	PASS	5179.992	PASS	5179.9953	PASS
10	3.3	5180.0092	PASS	5180.0099	PASS	5180.0107	PASS	5180.0108	PASS
0	3.3	5179.9871	PASS	5179.9885	PASS	5179.9868	PASS	5179.9866	PASS

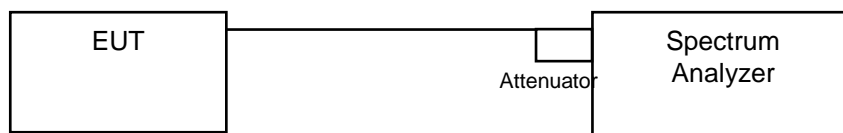
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.795	5179.9958	PASS	5179.9936	PASS	5179.9921	PASS	5179.9963	PASS
	3.3	5179.9964	PASS	5179.9936	PASS	5179.992	PASS	5179.9953	PASS
	2.805	5179.9972	PASS	5179.9945	PASS	5179.9927	PASS	5179.9944	PASS

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.33	0.5	Pass
157	5785	16.34	0.5	Pass
165	5825	16.35	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.59	0.5	Pass
157	5785	16.93	0.5	Pass
165	5825	17.36	0.5	Pass

802.11n (HT40)

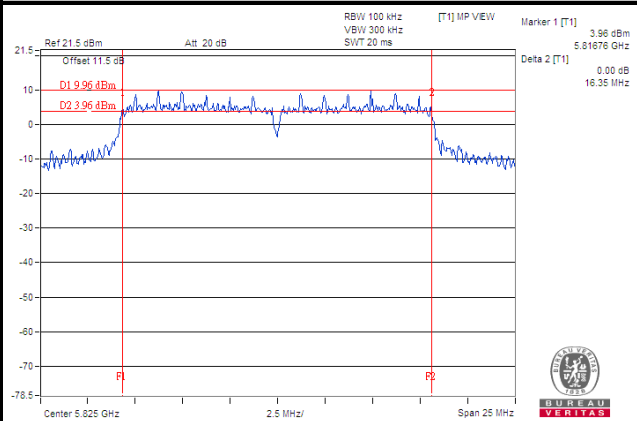
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.99	0.5	Pass
159	5795	35.80	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.43	0.5	Pass

Spectrum Plot of Worst Value

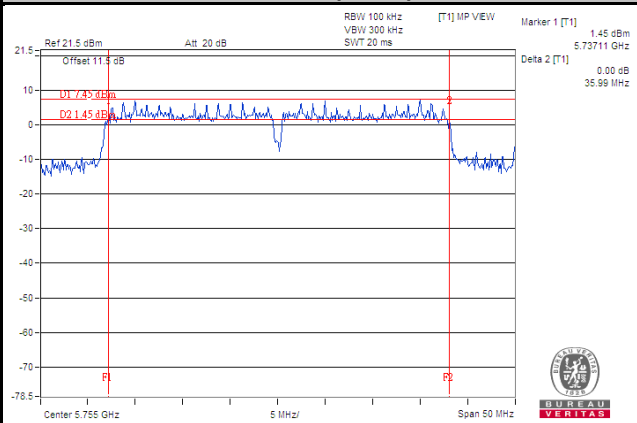
802.11a



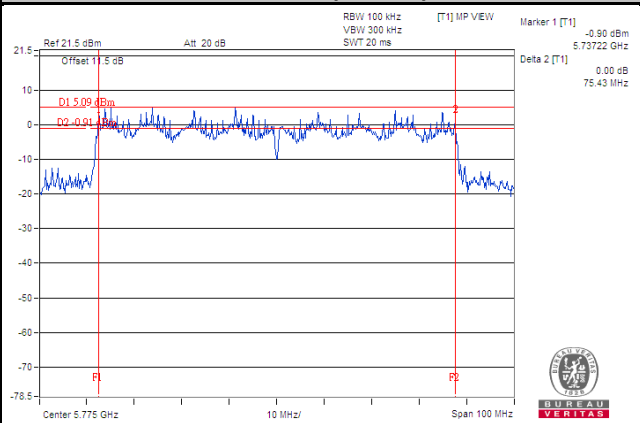
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

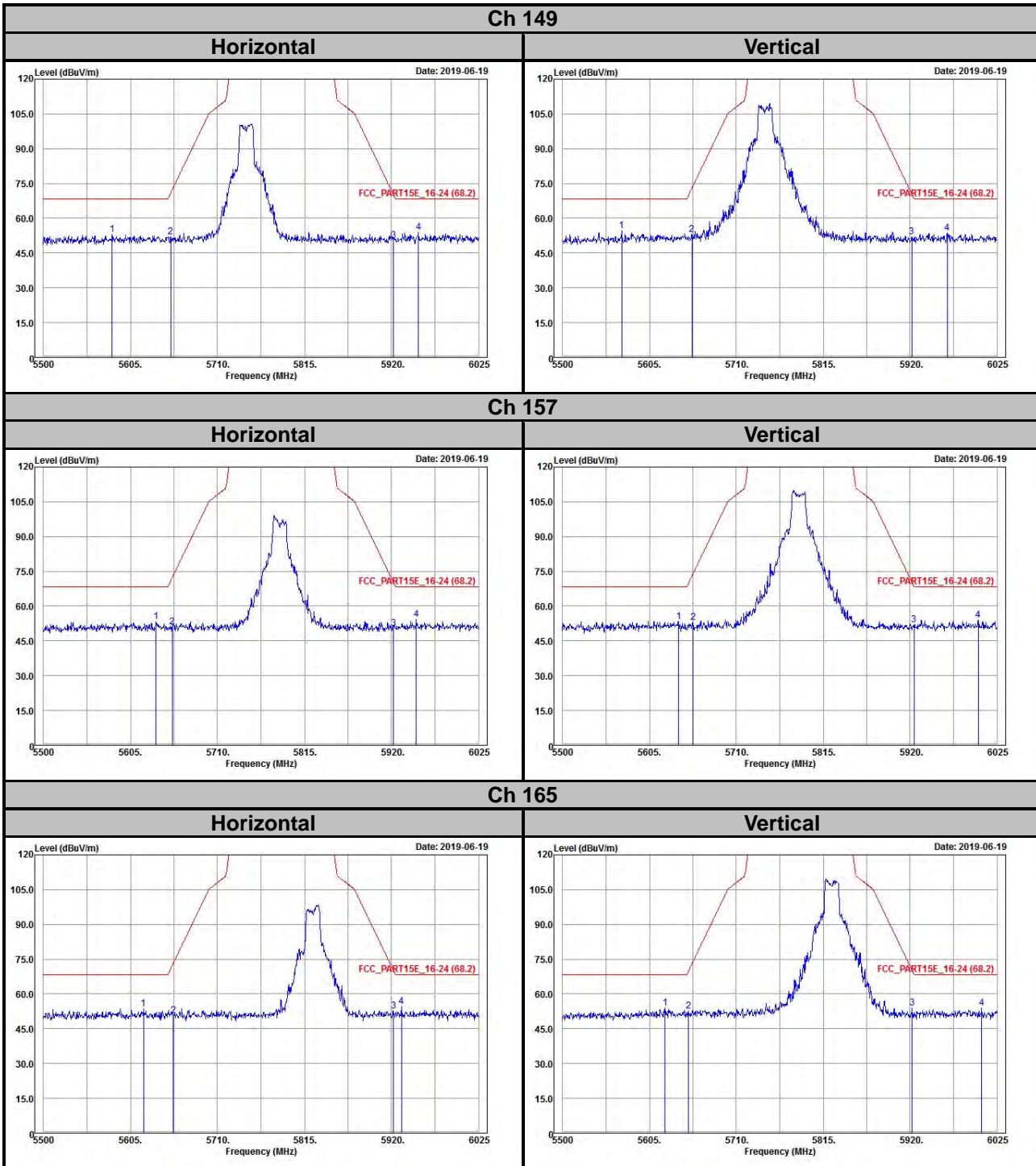


5 Pictures of Test Arrangements

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

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

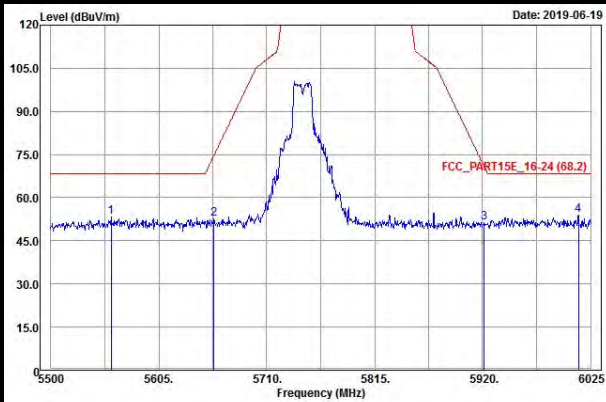
Mode A
802.11a



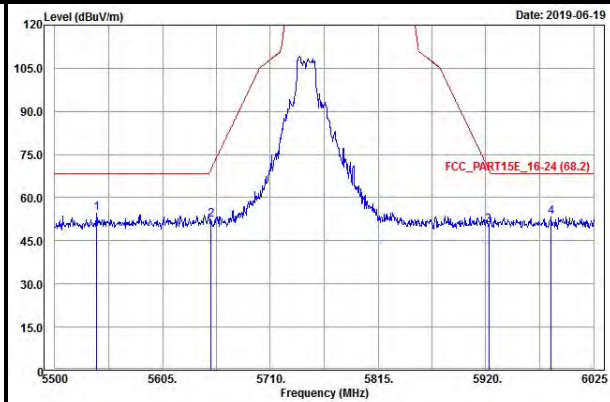
802.11n (HT20)

Ch 149

Horizontal

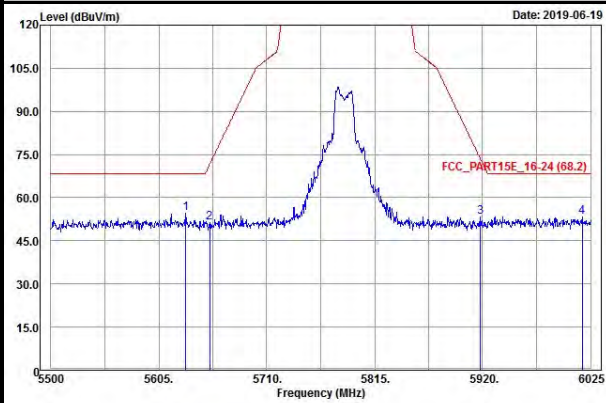


Vertical

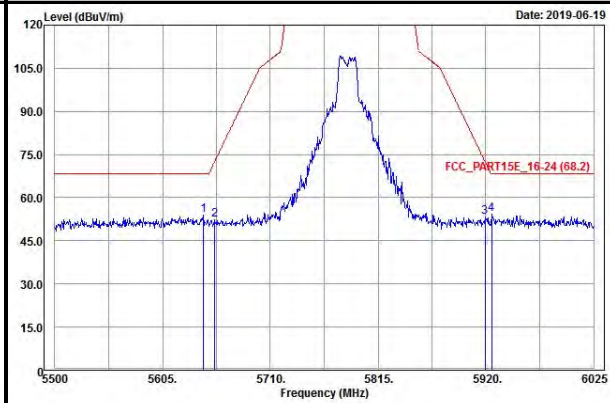


Ch 157

Horizontal

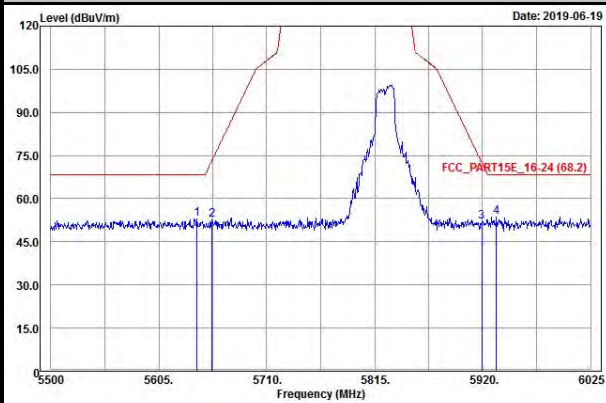


Vertical

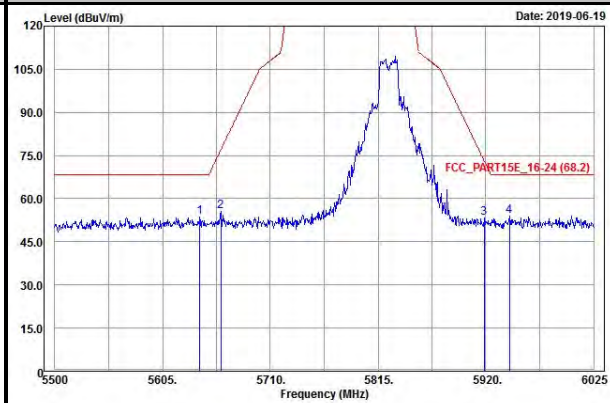


Ch 165

Horizontal



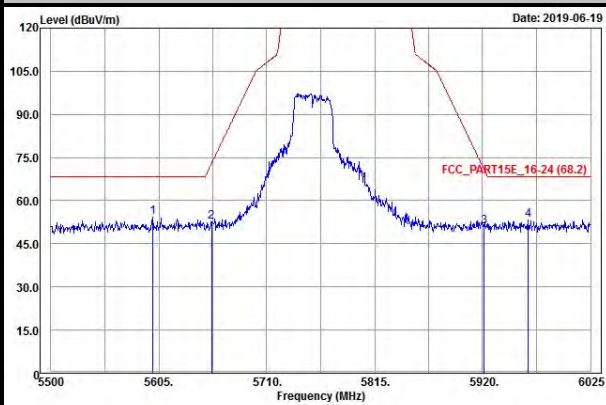
Vertical



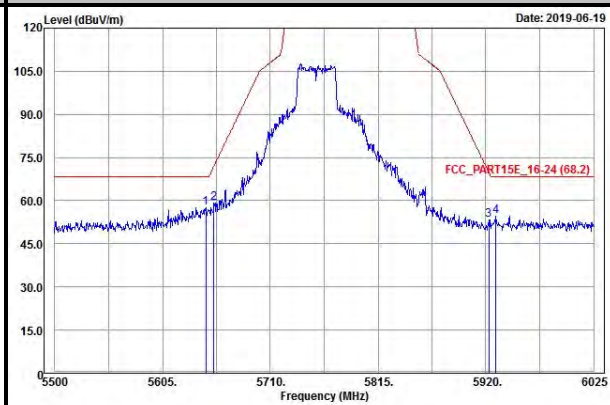
802.11n (HT40)

Ch 151

Horizontal

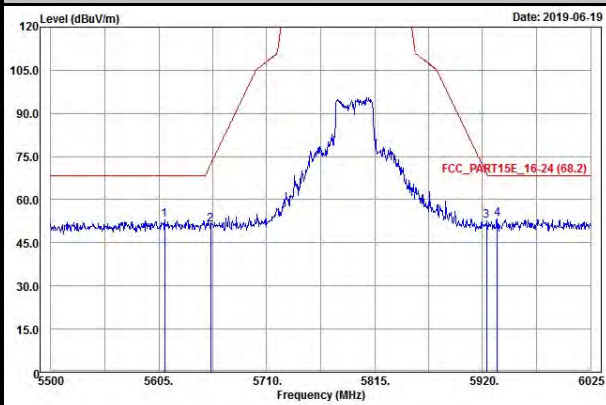


Vertical

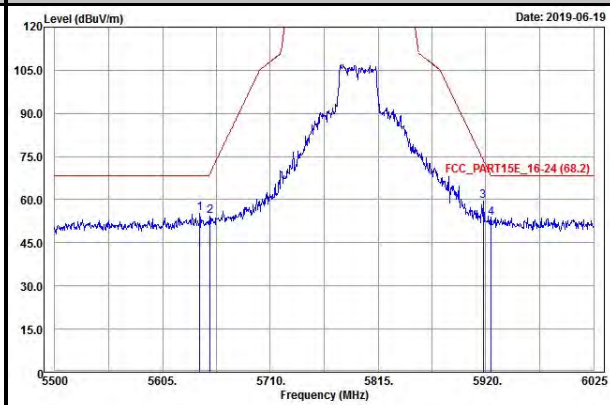


Ch 159

Horizontal



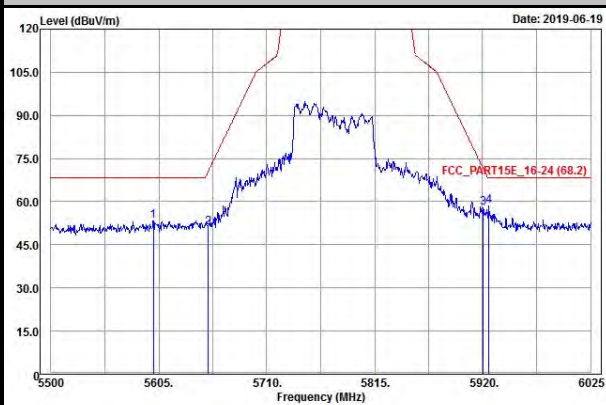
Vertical



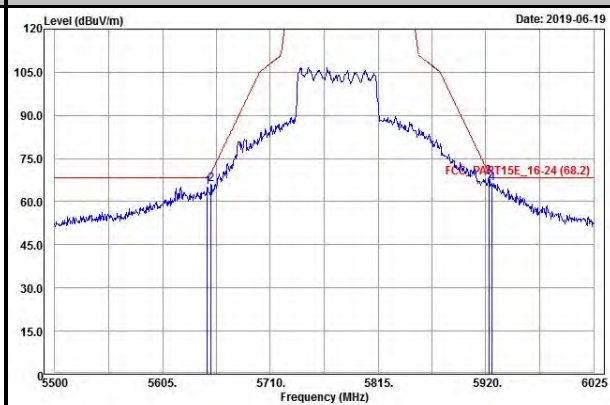
802.11ac (VHT80)

Ch 155

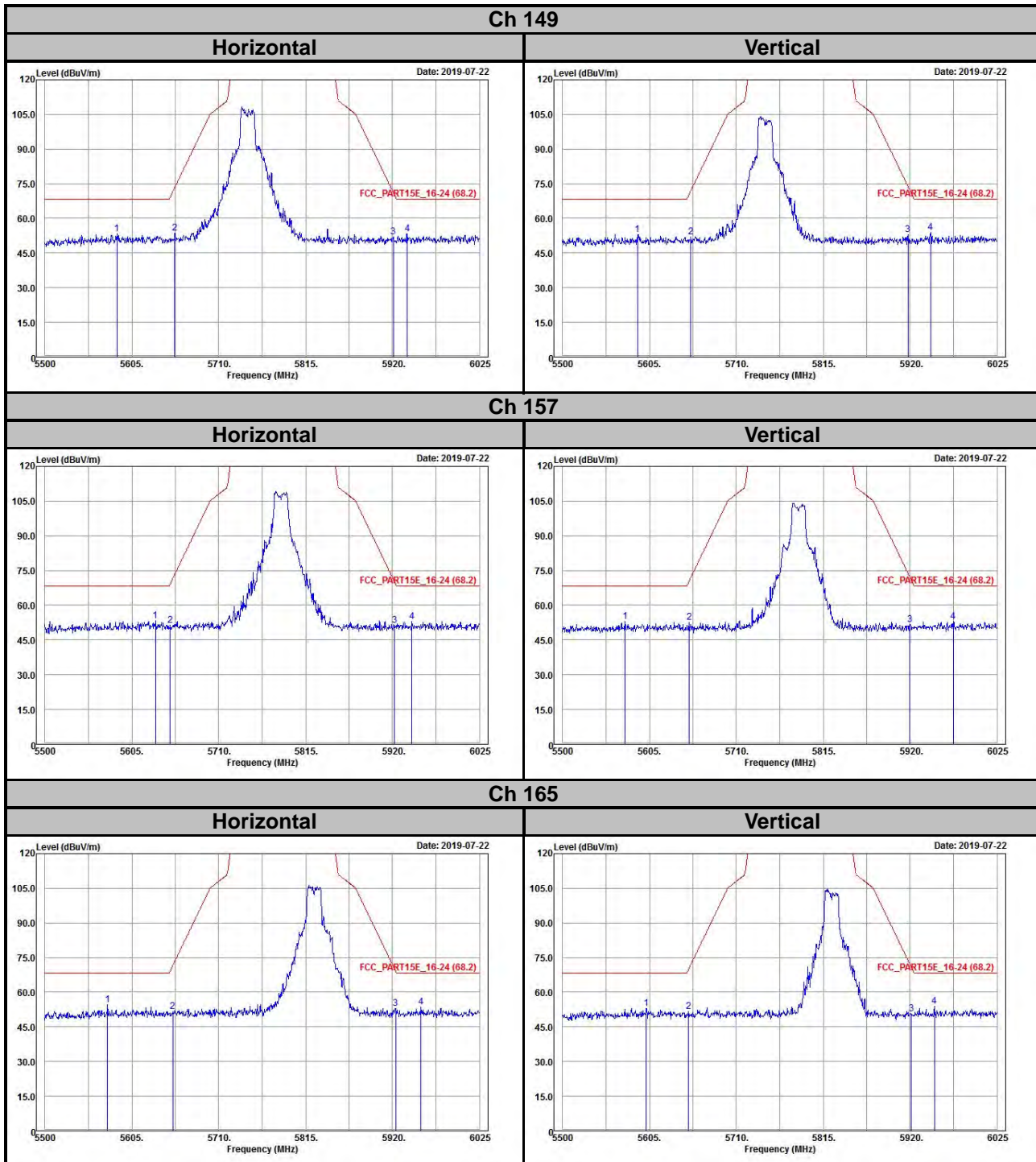
Horizontal



Vertical



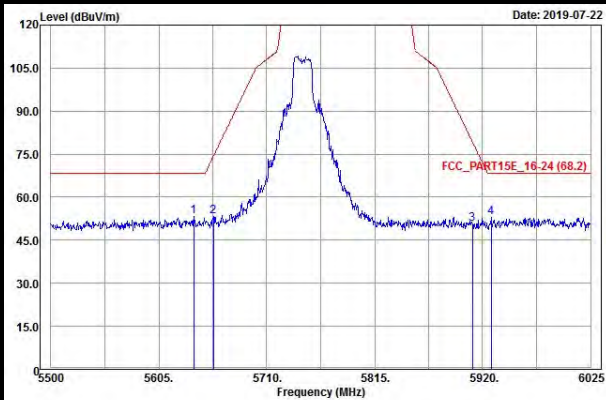
Mode B
802.11a



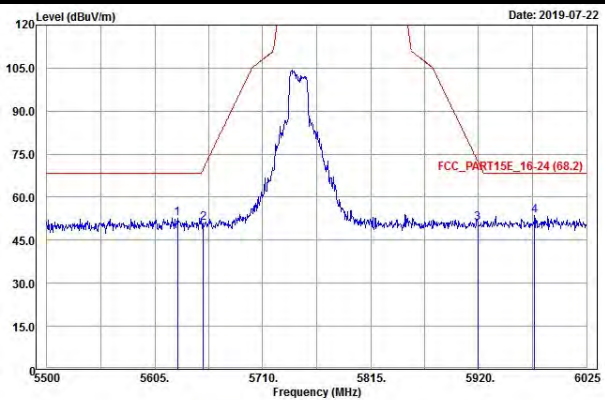
802.11n (HT20)

Ch 149

Horizontal

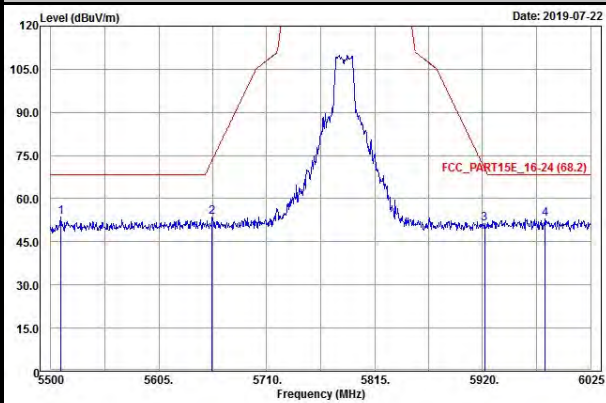


Vertical

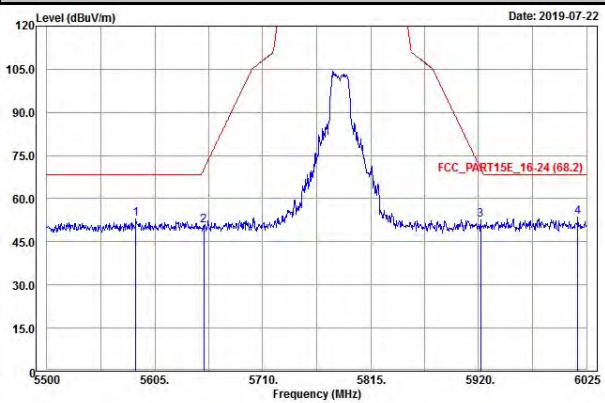


Ch 157

Horizontal

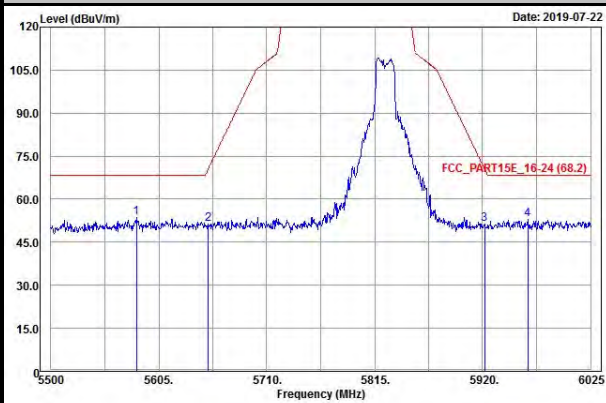


Vertical

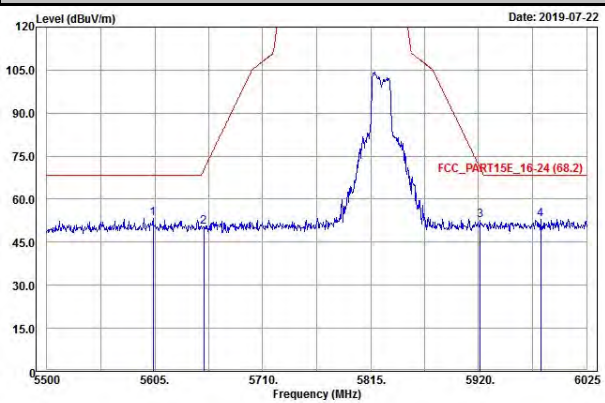


Ch 165

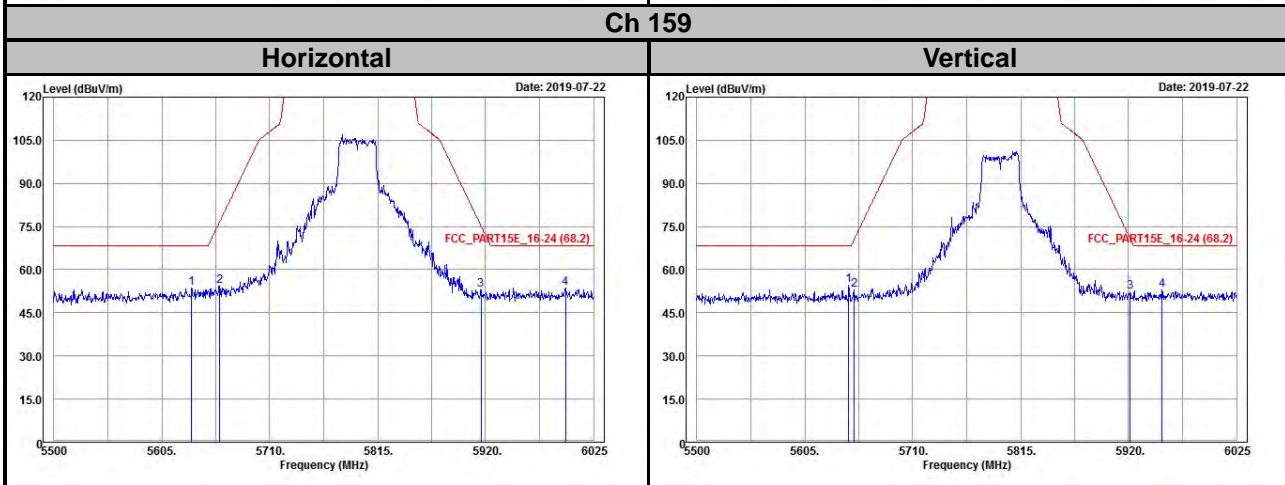
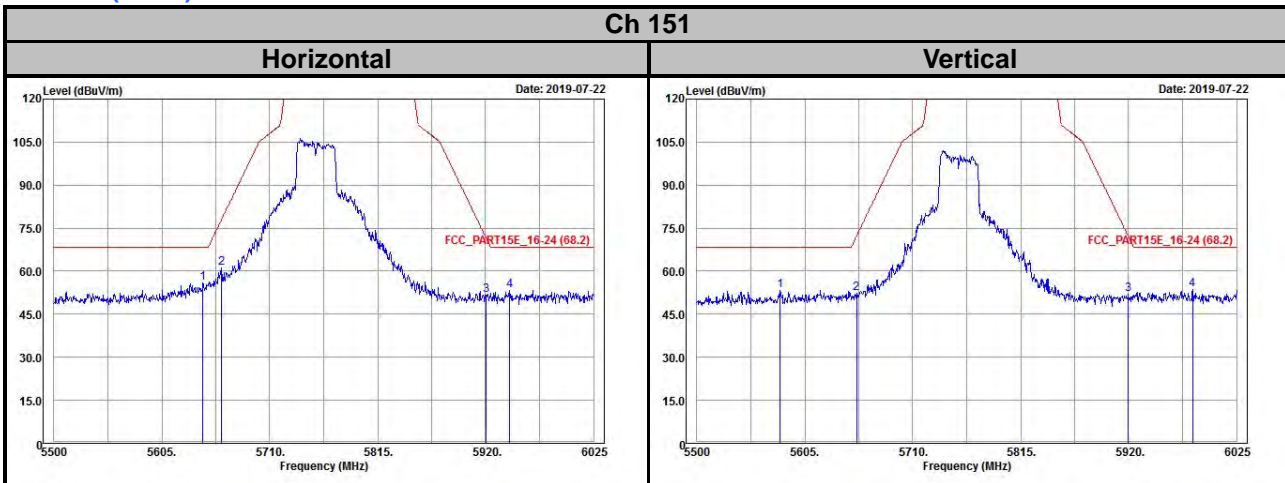
Horizontal



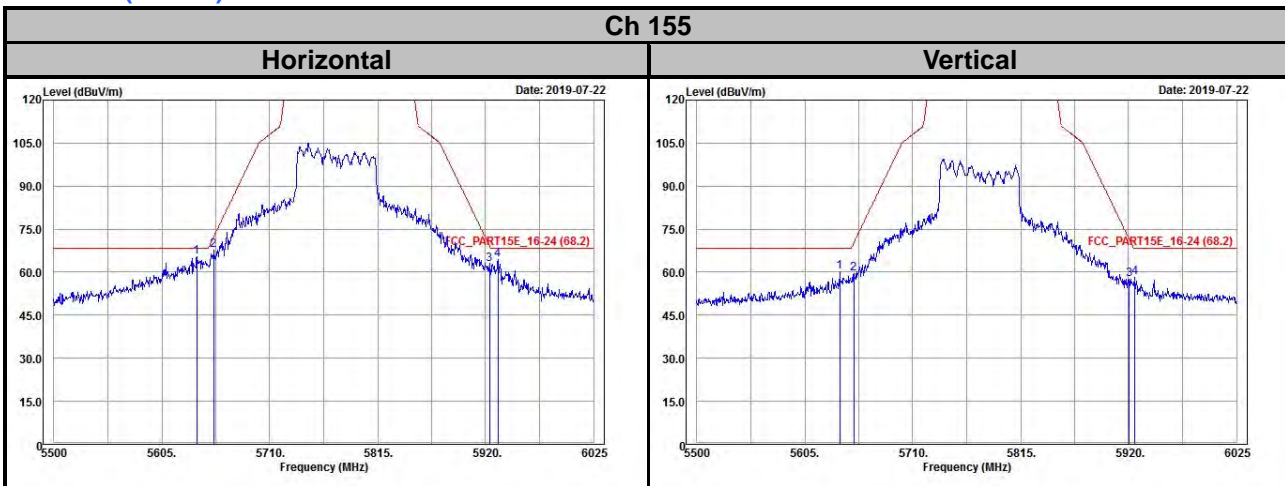
Vertical



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of the Testing Laboratories

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

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Web Site: www.bureauveritas-adt.com

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

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