

FCC Test Report

Report No.: RF181127C08-3

FCC ID: W23-WMU62XX

Test Model: WMU6202, WMU6206

Series Model: WMU6203, WMU6204, WMU6205, WMU6207

Received Date: Nov. 27, 2018

Test Date: Dec. 15, 2018 ~ Jan. 18, 2019

Issued Date: Jan. 28, 2019

Applicant: jjPlus Corporation

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



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Release Control Record

Issue No.	Description	Date Issued
RF181127C08-3	Original Release	Jan. 28, 2019

1 Certificate of Conformity

Product: 11ac 2T2R WIFI & BT Module

Brand: jjPlus

Test Model: WMU6202, WMU6206

Series Model: WMU6203, WMU6204, WMU6205, WMU6207

Sample Status: wifi module

Applicant: jjPlus Corporation

Test Date: Dec. 15, 2018 ~ Jan. 18, 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 : Gina Liu, **Date:** Jan. 28, 2019
Gina Liu / Specialist

Approved by : Dylan Chiou, **Date:** Jan. 28, 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 -12.59 dB at 0.17025 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 -2.14 dB at 5350.33 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. (for WMU6206) Antenna connector is U.FLx2 not a standard connector.(for WMU6202)

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	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	11ac 2T2R WIFI & BT Module
Brand	jjPlus
Test Model	WMU6202, WMU6206
Series Model	WMU6203, WMU6204, WMU6205, WMU6207
Status of EUT	wifi module
Power Supply Rating	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 300.0 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Output Power	42.809 mW for 5180 ~ 5240 MHz 42.662 mW for 5260 ~ 5320 MHz 42.957 mW for 5500 ~ 5700 MHz 42.663 mW for 5745 ~ 5825 MHz
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

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

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

* 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. All models and antennas are listed as below.

Test Mode	Model	RF Chip	RF Design	Interface	Antenna type	Antenna connector
v	WMU6202	RTL8822BU	The Same	mPCIe	Dipole	U.FLx2
	WMU6203			M.2		MHF4
	WMU6204			USB Type-A		U.FLx2
	WMU6205			4Pin Wafer		U.FLx2
v	WMU6206			USB Type-A	PCB Antenna	none (like solder)
	WMU6207			4Pin Wafer	x2	none (like solder)

*The difference Models are pre-tested, because the connector and interface are difference with difference Model, and selected the worst Model for testing.

*Model WMU6202, WMU6203, WMU6204 and WMU6205 the difference doesn't affect the test result, only WMU6202 was chosen for the final test.

*Model WMU6206 and WMU6207 the difference doesn't affect the test result, only WMU6206 was chosen for the final test.

3. The antennas information is listed as below.

Antenna Type	Brand	Model	Antenna Gain (dBi)		
			BT	2.4G	5G
Dipole	LYNwave	AOA160-221020-000000	3.0	3.0	2.0
	LYNwave	AOA160-221034-000000	3.0	3.0	3.0
	LYNwave	AOA160-221050-000000	5.0	5.0	5.0
PCB	N/A	N/A	3.6	3.6	5.3
	N/A	N/A	3.6	3.6	4.7

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	WMU6202
B	√	√	√	-	WMU6206

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for Mode A and **X-plane** for Mode B.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, 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	5180-5240	802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5
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	5180-5240	802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5
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)
A	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 $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee, Charles Hsiao, Harry Hsueh
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
APCM	25 deg. C, 65 % RH	3.3 Vdc	Gavin Wu

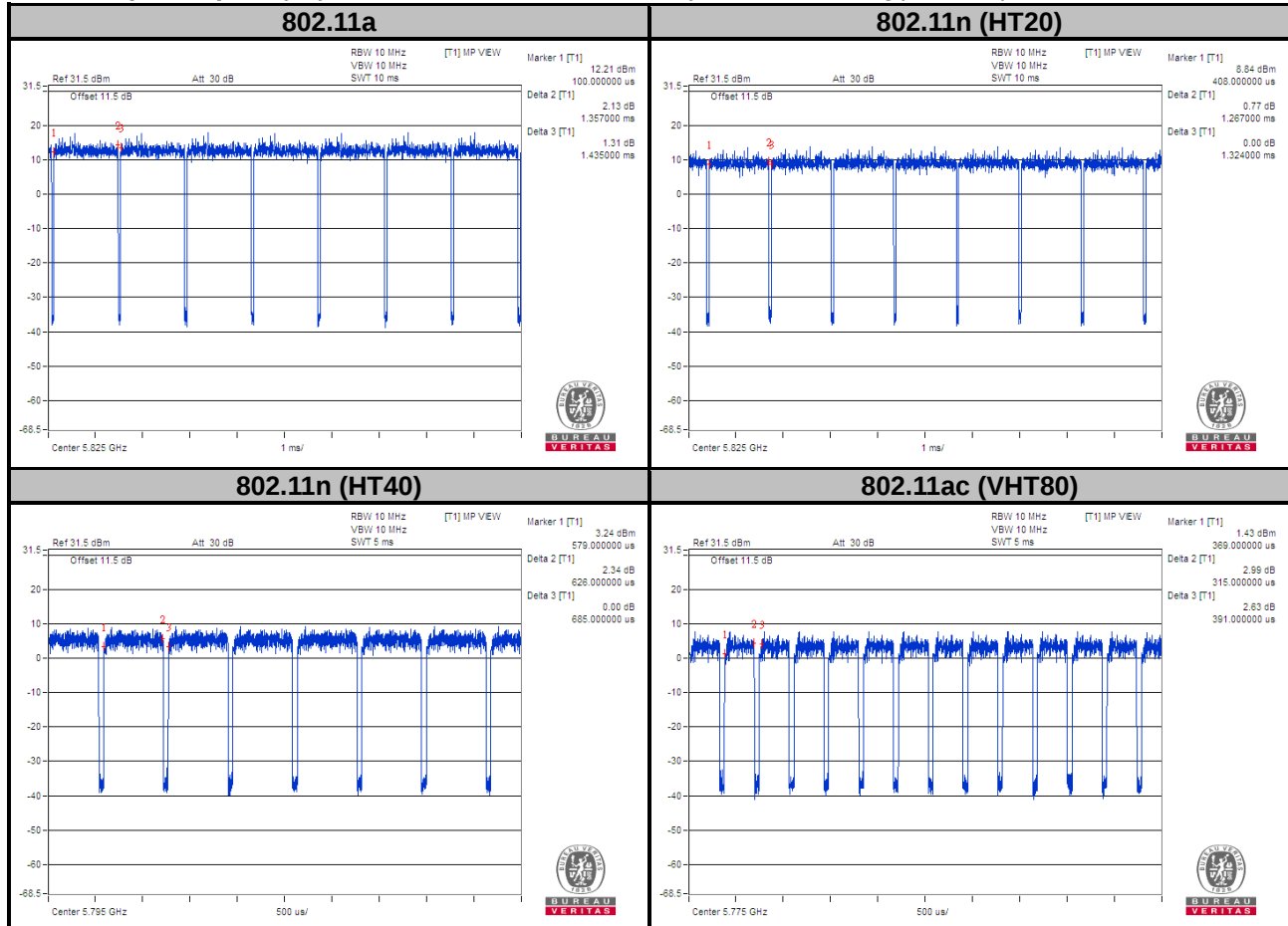
3.3 Duty Cycle of Test Signal

802.11a: Duty cycle = $1.357/1.435 = 0.946$, Duty factor = $10 * \log(1/0.946) = 0.24$

802.11n (HT20): Duty cycle = $1.267/1.324 = 0.957$, Duty factor = $10 * \log(1/0.957) = 0.19$

802.11n (HT40): Duty cycle = $0.626/0.685 = 0.914$, Duty factor = $10 * \log(1/0.914) = 0.39$

802.11ac (VHT80): Duty cycle = $0.315/0.391 = 0.806$, Duty factor = $10 * \log(1/0.806) = 0.94$



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	E6420	D3T96R1	N/A

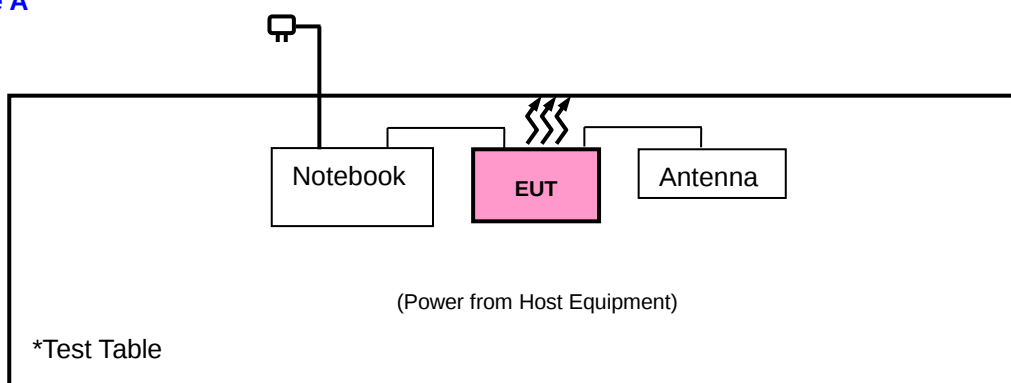
No.	Signal Cable Description of The Above Support Units
1.	N/A

Note:

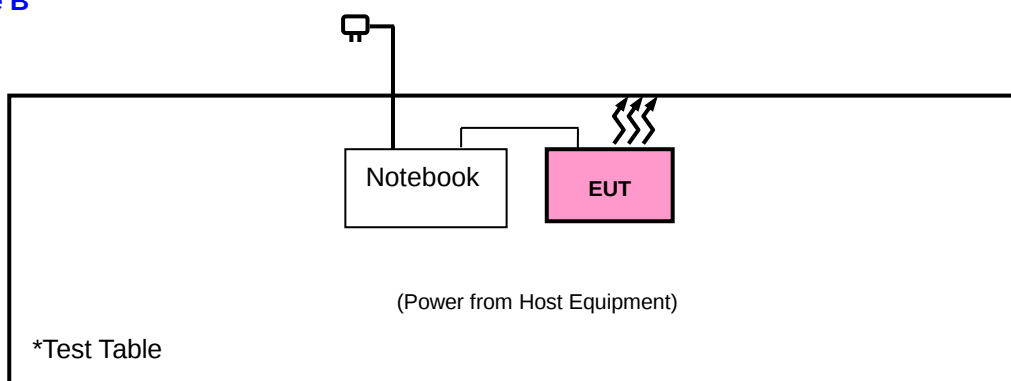
1. All power cords of the above support units are non-shielded (1.8m).

3.4.1 Configuration of System under Test

Mode A



Mode B



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

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 20, 2018	Aug. 19, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100980	Apr. 17, 2018	Apr. 16, 2019
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 25, 2018	Nov. 24, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 27, 2018	Nov. 26, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2018	Nov. 24, 2019
Fixed Attenuator Woken	00801A1GGAM02Y	NA	May 17, 2018	May 16, 2019
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent	310N	187226	Jun. 19, 2018	Jun. 18, 2019
Preamplifier Agilent	83017A	MY39501357	Jun. 19, 2018	Jun. 18, 2019
Preamplifier EMCI	EMC 184045	980116	Oct. 12, 2018	Oct. 11, 2019
Power Meter Anritsu	ML2495A	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-120+RFC-SMS-100-SMS-400)	Jun. 19, 2018	Jun. 18, 2019
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 19, 2018	Jun. 18, 2019
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- 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.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is IC7450I-1.

4.1.4 Test Procedures

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:

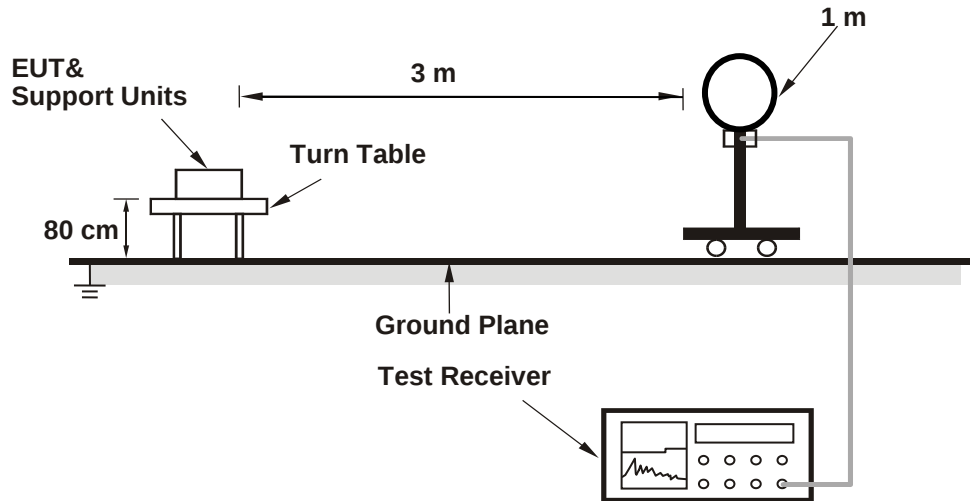
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) 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 = 3 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 10 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

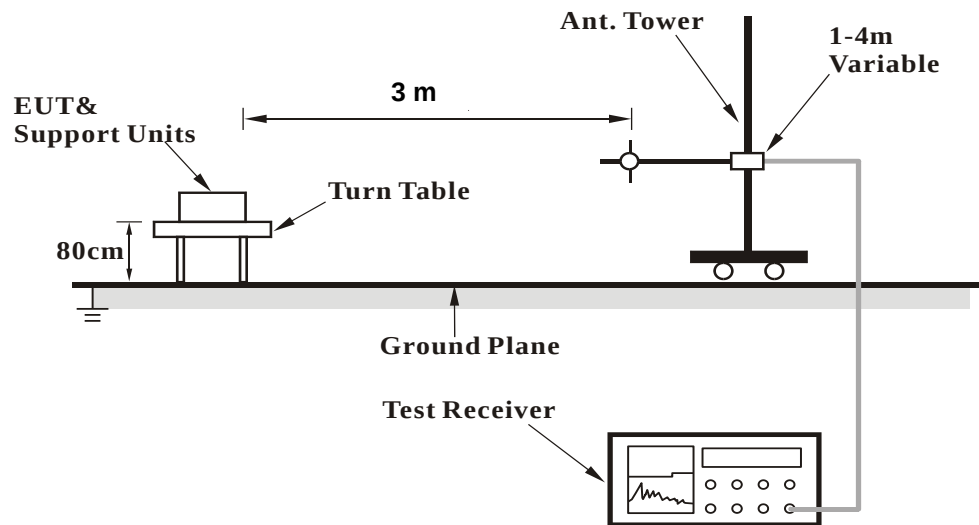
No deviation.

4.1.6 Test Setup

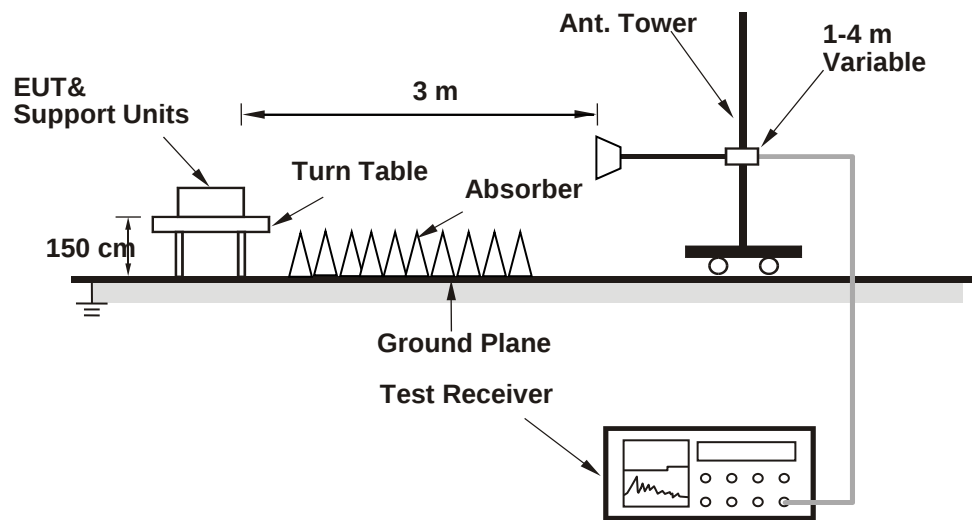
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data :

Mode A

802.11a

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.3	42.49	29.99	54	-11.51	34.11	8.1	29.71	218	307	Average
5129.3	53.57	41.07	74	-20.43	34.11	8.1	29.71	218	307	Peak
5180	88.06	75.47			34.15	8.16	29.72	218	307	Average
5180	95.11	82.52			34.15	8.16	29.72	218	307	Peak
*10360	56.01	38.74	68.2	-12.19	37.12	12.3	32.15	125	300	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	43.15	30.61	54	-10.85	34.12	8.13	29.71	189	67	Average
5149.7	54.14	41.6	74	-19.86	34.12	8.13	29.71	189	67	Peak
5180	97.1	84.51			34.15	8.16	29.72	189	67	Average
5180	104.72	92.13			34.15	8.16	29.72	189	67	Peak
*10360	56.98	39.71	68.2	-11.22	37.12	12.3	32.15	124	112	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.1	42.38	29.84	54	-11.62	34.12	8.13	29.71	218	307	Average
5146.1	53.7	41.16	74	-20.3	34.12	8.13	29.71	218	307	Peak
5200	88.51	75.88			34.16	8.19	29.72	218	307	Average
5200	95.78	83.15			34.16	8.19	29.72	218	307	Peak
5437.89	42.45	29.37	54	-11.55	34.35	8.48	29.75	218	307	Average
5437.89	53.18	40.1	74	-20.82	34.35	8.48	29.75	218	307	Peak
*10400	58.12	40.81	68.2	-10.08	37.14	12.36	32.19	105	114	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5142.65	42.93	30.39	54	-11.07	34.12	8.13	29.71	189	67	Average
5142.65	53.3	40.76	74	-20.7	34.12	8.13	29.71	189	67	Peak
5200	97.15	84.52			34.16	8.19	29.72	189	67	Average
5200	104.72	92.09			34.16	8.19	29.72	189	67	Peak
5368.59	42.57	29.61	54	-11.43	34.29	8.41	29.74	189	67	Average
5368.59	53.23	40.27	74	-20.77	34.29	8.41	29.74	189	67	Peak
*10400	56.61	39.3	68.2	-11.59	37.14	12.36	32.19	110	4	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	85.12	72.39			34.19	8.26	29.72	218	307	Average
5240	92.99	80.26			34.19	8.26	29.72	218	307	Peak
5434.81	42.35	29.27	54	-11.65	34.35	8.48	29.75	218	307	Average
5434.81	53.36	40.28	74	-20.64	34.35	8.48	29.75	218	307	Peak
*10480	56.16	38.69	68.2	-12.04	37.19	12.53	32.25	116	264	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	96.63	83.9			34.19	8.26	29.72	189	67	Average
5240	104.14	91.41			34.19	8.26	29.72	189	67	Peak
5439.65	42.52	29.44	54	-11.48	34.35	8.48	29.75	189	67	Average
5439.65	53.97	40.89	74	-20.03	34.35	8.48	29.75	189	67	Peak
*10480	56.12	38.65	68.2	-12.08	37.19	12.53	32.25	115	319	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.6	42.27	29.73	54	-11.73	34.12	8.13	29.71	203	307	Average
5147.6	53.34	40.8	74	-20.66	34.12	8.13	29.71	203	307	Peak
5260	87.45	74.71			34.21	8.26	29.73	203	307	Average
5260	95.01	82.27			34.21	8.26	29.73	203	307	Peak
*10520	56.81	39.26	68.2	-11.39	37.21	12.61	32.27	181	326	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5141.6	42.54	30	54	-11.46	34.12	8.13	29.71	200	245	Average
5141.6	53.4	40.86	74	-20.6	34.12	8.13	29.71	200	245	Peak
5260	96.17	83.43			34.21	8.26	29.73	200	245	Average
5260	104.23	91.49			34.21	8.26	29.73	200	245	Peak
*10520	57.01	39.46	68.2	-11.19	37.21	12.61	32.27	124	260	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5108.6	42.3	29.81	54	-11.7	34.09	8.1	29.7	203	307	Average
5108.6	53.18	40.69	74	-20.82	34.09	8.1	29.7	203	307	Peak
5300	87.54	74.71			34.24	8.32	29.73	203	307	Average
5300	94.8	81.97			34.24	8.32	29.73	203	307	Peak
5430.63	42.44	29.36	54	-11.56	34.35	8.48	29.75	203	307	Average
5430.63	52.88	39.8	74	-21.12	34.35	8.48	29.75	203	307	Peak
10600	45.94	28.25	54	-8.06	37.28	12.67	32.26	124	221	Average
10600	56.67	38.98	74	-17.33	37.28	12.67	32.26	124	221	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5137.55	42.52	29.99	54	-11.48	34.11	8.13	29.71	200	245	Average
5137.55	52.77	40.24	74	-21.23	34.11	8.13	29.71	200	245	Peak
5300	96.72	83.89			34.24	8.32	29.73	200	245	Average
5300	104.46	91.63			34.24	8.32	29.73	200	245	Peak
5373.1	42.75	29.79	54	-11.25	34.29	8.41	29.74	200	245	Average
5373.1	53.74	40.78	74	-20.26	34.29	8.41	29.74	200	245	Peak
10600	46.05	28.36	54	-7.95	37.28	12.67	32.26	124	195	Average
10600	56.68	38.99	74	-17.32	37.28	12.67	32.26	124	195	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	88.87	76			34.25	8.35	29.73	203	307	Average
5320	95.72	82.85			34.25	8.35	29.73	203	307	Peak
5444.49	42.51	29.43	54	-11.49	34.35	8.48	29.75	203	307	Average
5444.49	53.14	40.06	74	-20.86	34.35	8.48	29.75	203	307	Peak
10640	46.33	28.57	54	-7.67	37.31	12.71	32.26	124	15	Average
10640	57.57	39.81	74	-16.43	37.31	12.71	32.26	124	15	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	97.51	84.64			34.25	8.35	29.73	200	245	Average
5320	104.61	91.74			34.25	8.35	29.73	200	245	Peak
5350.11	43.34	30.42	54	-10.66	34.28	8.38	29.74	200	245	Average
5350.11	53.62	40.7	74	-20.38	34.28	8.38	29.74	200	245	Peak
10640	46.29	28.53	54	-7.71	37.31	12.71	32.26	175	310	Average
10640	56.67	38.91	74	-17.33	37.31	12.71	32.26	175	310	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.64	42.48	29.37	54	-11.52	34.36	8.51	29.76	218	346	Average
5454.64	53.29	40.18	74	-20.71	34.36	8.51	29.76	218	346	Peak
*5469.84	52.16	39.04	68.2	-16.04	34.37	8.51	29.76	218	346	Peak
5500	86.94	73.73			34.4	8.57	29.76	218	346	Average
5500	93.97	80.76			34.4	8.57	29.76	218	346	Peak
11000	46.88	28.55	54	-7.12	37.6	12.96	32.23	124	240	Average
11000	58.34	40.01	74	-15.66	37.6	12.96	32.23	124	240	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.48	43.11	30	54	-10.89	34.36	8.51	29.76	194	199	Average
5458.48	53.57	40.46	74	-20.43	34.36	8.51	29.76	194	199	Peak
*5468.4	52.33	39.21	68.2	-15.87	34.37	8.51	29.76	194	199	Peak
5500	96.68	83.47			34.4	8.57	29.76	194	199	Average
5500	103.18	89.97			34.4	8.57	29.76	194	199	Peak
11000	46.9	28.57	54	-7.1	37.6	12.96	32.23	125	226	Average
11000	57.67	39.34	74	-16.33	37.6	12.96	32.23	125	226	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.36	42.46	29.35	54	-11.54	34.36	8.51	29.76	218	346	Average
5453.36	52.76	39.65	74	-21.24	34.36	8.51	29.76	218	346	Peak
5468.88	51.79	38.67	74	-22.21	34.37	8.51	29.76	218	346	Peak
5580	86.43	73.17			34.47	8.6	29.81	218	346	Average
5580	94.21	80.95			34.47	8.6	29.81	218	346	Peak
*5725.56	52.13	38.72	68.2	-16.07	34.62	8.65	29.86	218	346	Peak
11160	46.94	28.59	54	-7.06	37.7	12.83	32.18	127	179	Average
11160	57.72	39.37	74	-16.28	37.7	12.83	32.18	127	179	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.64	42.73	29.62	54	-11.27	34.36	8.51	29.76	194	199	Average
5458.64	53.76	40.65	74	-20.24	34.36	8.51	29.76	194	199	Peak
5470.64	51.7	38.58	74	-22.3	34.37	8.51	29.76	194	199	Peak
5580	96.7	83.44			34.47	8.6	29.81	194	199	Average
5580	103.63	90.37			34.47	8.6	29.81	194	199	Peak
*5724.84	52.99	39.58	68.2	-15.21	34.62	8.65	29.86	194	199	Peak
11160	47.1	28.75	54	-6.9	37.7	12.83	32.18	124	113	Average
11160	57.8	39.45	74	-16.2	37.7	12.83	32.18	124	113	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	86.06	72.68			34.59	8.64	29.85	218	346	Average
5700	93.84	80.46			34.59	8.64	29.85	218	346	Peak
*5724.2	52.37	38.96	68.2	-15.83	34.62	8.65	29.86	218	346	Peak
11400	47.3	28.88	54	-6.7	37.84	12.67	32.09	135	266	Average
11400	58.59	40.17	74	-15.41	37.84	12.67	32.09	135	266	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	96.37	82.99			34.59	8.64	29.85	194	199	Average
5700	103.36	89.98			34.59	8.64	29.85	194	199	Peak
*5723.96	54.16	40.75	68.2	-14.04	34.62	8.65	29.86	194	199	Peak
11400	47.01	28.59	54	-6.99	37.84	12.67	32.09	184	288	Average
11400	57.83	39.41	74	-16.17	37.84	12.67	32.09	184	288	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	86.6	73.18			34.64	8.66	29.88	218	346	Average
5745	94.51	81.09			34.64	8.66	29.88	218	346	Peak
11490	47.09	28.65	54	-6.91	37.89	12.62	32.07	119	32	Average
11490	57.93	39.49	74	-16.07	37.89	12.62	32.07	119	32	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	96.51	83.09			34.64	8.66	29.88	194	199	Average
5745	103.89	90.47			34.64	8.66	29.88	194	199	Peak
11490	47.03	28.59	54	-6.97	37.89	12.62	32.07	136	55	Average
11490	58.4	39.96	74	-15.6	37.89	12.62	32.07	136	55	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5600.8	53.62	40.32	68.2	-14.58	34.5	8.61	29.81	218	346	Peak
5652.25	50.95	37.6	69.86	-18.91	34.56	8.62	29.83	218	346	Peak
5922.1	50.69	37.09	70.35	-19.66	34.83	8.73	29.96	218	346	Peak
*5993.5	53.17	39.5	68.2	-15.03	34.9	8.76	29.99	218	346	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5585.05	54.4	41.12	68.2	-13.8	34.49	8.6	29.81	194	199	Peak
5651.725	51.14	37.79	69.48	-18.34	34.56	8.62	29.83	194	199	Peak
5923.15	52.95	39.35	69.57	-16.62	34.83	8.73	29.96	194	199	Peak
*5995.6	53.45	39.78	68.2	-14.75	34.9	8.76	29.99	194	199	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	86.91	73.45			34.68	8.68	29.9	218	346	Average
5785	94.59	81.13			34.68	8.68	29.9	218	346	Peak
11570	47.2	28.57	54	-6.8	38	12.68	32.05	124	200	Average
11570	58.83	40.2	74	-15.17	38	12.68	32.05	124	200	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	96.68	83.22			34.68	8.68	29.9	194	199	Average
5785	104.12	90.66			34.68	8.68	29.9	194	199	Peak
11570	47.52	28.89	54	-6.48	38	12.68	32.05	124	305	Average
11570	58.3	39.67	74	-15.7	38	12.68	32.05	124	305	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5620.225	54.03	40.72	68.2	-14.17	34.52	8.61	29.82	218	346	Peak
5654.35	51.46	38.11	71.42	-19.96	34.56	8.63	29.84	218	346	Peak
5923.675	51.77	38.17	69.18	-17.41	34.83	8.73	29.96	218	346	Peak
*5926.825	53.51	39.91	68.2	-14.69	34.83	8.73	29.96	218	346	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5650.15	53.95	40.6	68.31	-14.36	34.56	8.62	29.83	194	199	Peak
5652.25	50.83	37.48	69.86	-19.03	34.56	8.62	29.83	194	199	Peak
5923.675	51.84	38.24	69.18	-17.34	34.83	8.73	29.96	194	199	Peak
*6005.575	53.48	39.81	68.2	-14.72	34.9	8.76	29.99	194	199	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	87.24	73.73			34.73	8.69	29.91	218	346	Average
5825	93.99	80.48			34.73	8.69	29.91	218	346	Peak
11650	47.36	28.5	54	-6.64	38.09	12.8	32.03	185	29	Average
11650	58.19	39.33	74	-15.81	38.09	12.8	32.03	185	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	96.52	83.01			34.73	8.69	29.91	194	199	Average
5825	104.47	90.96			34.73	8.69	29.91	194	199	Peak
11650	47.3	28.44	54	-6.7	38.09	12.8	32.03	134	322	Average
11650	58.81	39.95	74	-15.19	38.09	12.8	32.03	134	322	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5530.975	53.51	40.28	68.2	-14.69	34.43	8.58	29.78	218	346	Peak
5651.725	51.05	37.7	69.48	-18.43	34.56	8.62	29.83	218	346	Peak
5922.625	50.05	36.45	69.96	-19.91	34.83	8.73	29.96	218	346	Peak
*5957.275	53.47	39.83	68.2	-14.73	34.87	8.74	29.97	218	346	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5580.325	53.42	40.16	68.2	-14.78	34.47	8.6	29.81	194	199	Peak
5653.825	51.27	37.92	71.03	-19.76	34.56	8.63	29.84	194	199	Peak
5922.625	51.46	37.86	69.96	-18.5	34.83	8.73	29.96	194	199	Peak
*5984.05	52.91	39.26	68.2	-15.29	34.88	8.75	29.98	194	199	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5113.85	42.54	30.05	54	-11.46	34.09	8.1	29.7	219	48	Average
5113.85	53	40.51	74	-21	34.09	8.1	29.7	219	48	Peak
5180	86.54	73.95			34.15	8.16	29.72	219	48	Average
5180	93.76	81.17			34.15	8.16	29.72	219	48	Peak
*10360	56.8	39.53	68.2	-11.4	37.12	12.3	32.15	185	222	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.55	43.33	30.79	54	-10.67	34.12	8.13	29.71	213	304	Average
5149.55	53.5	40.96	74	-20.5	34.12	8.13	29.71	213	304	Peak
5180	99.65	87.06			34.15	8.16	29.72	213	304	Average
5180	106.15	93.56			34.15	8.16	29.72	213	304	Peak
*10360	56.03	38.76	68.2	-12.17	37.12	12.3	32.15	112	300	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.75	42.45	29.95	54	-11.55	34.11	8.1	29.71	219	48	Average
5129.75	53.2	40.7	74	-20.8	34.11	8.1	29.71	219	48	Peak
5200	86.53	73.9			34.16	8.19	29.72	219	48	Average
5200	93.67	81.04			34.16	8.19	29.72	219	48	Peak
5441.08	42.59	29.51	54	-11.41	34.35	8.48	29.75	219	48	Average
5441.08	53.8	40.72	74	-20.2	34.35	8.48	29.75	219	48	Peak
*10400	57.18	39.87	68.2	-11.02	37.14	12.36	32.19	182	155	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	42.9	30.36	54	-11.1	34.12	8.13	29.71	213	304	Average
5150	53.63	41.09	74	-20.37	34.12	8.13	29.71	213	304	Peak
5200	99.76	87.13			34.16	8.19	29.72	213	304	Average
5200	106.58	93.95			34.16	8.19	29.72	213	304	Peak
5455.93	42.66	29.55	54	-11.34	34.36	8.51	29.76	213	304	Average
5455.93	54.56	41.45	74	-19.44	34.36	8.51	29.76	213	304	Peak
*10400	57.33	40.02	68.2	-10.87	37.14	12.36	32.19	114	246	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	86.41	73.68			34.19	8.26	29.72	219	48	Average
5240	93.42	80.69			34.19	8.26	29.72	219	48	Peak
5444.71	42.63	29.55	54	-11.37	34.35	8.48	29.75	219	48	Average
5444.71	53.28	40.2	74	-20.72	34.35	8.48	29.75	219	48	Peak
*10480	56.61	39.14	68.2	-11.59	37.19	12.53	32.25	114	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	99.62	86.89			34.19	8.26	29.72	213	270	Average
5240	106.06	93.33			34.19	8.26	29.72	213	270	Peak
5451.31	42.75	29.64	54	-11.25	34.36	8.51	29.76	213	270	Average
5451.31	53.24	40.13	74	-20.76	34.36	8.51	29.76	213	270	Peak
*10480	58.18	40.71	68.2	-10.02	37.19	12.53	32.25	119	326	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5127.35	42.63	30.13	54	-11.37	34.11	8.1	29.71	200	46	Average
5127.35	53.24	40.74	74	-20.76	34.11	8.1	29.71	200	46	Peak
5260	85.49	72.75			34.21	8.26	29.73	200	46	Average
5260	92.32	79.58			34.21	8.26	29.73	200	46	Peak
*10520	57.83	40.28	68.2	-10.37	37.21	12.61	32.27	116	340	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.3	42.83	30.29	54	-11.17	34.12	8.13	29.71	200	264	Average
5147.3	53.31	40.77	74	-20.69	34.12	8.13	29.71	200	264	Peak
5260	99.57	86.83			34.21	8.26	29.73	200	264	Average
5260	106.08	93.34			34.21	8.26	29.73	200	264	Peak
*10520	57.1	39.55	68.2	-11.1	37.21	12.61	32.27	124	213	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5132	42.62	30.12	54	-11.38	34.11	8.1	29.71	200	46	Average
5132	53.21	40.71	74	-20.79	34.11	8.1	29.71	200	46	Peak
5300	85.49	72.66			34.24	8.32	29.73	200	46	Average
5300	92.82	79.99			34.24	8.32	29.73	200	46	Peak
5420.73	42.66	29.6	54	-11.34	34.33	8.48	29.75	200	46	Average
5420.73	52.97	39.91	74	-21.03	34.33	8.48	29.75	200	46	Peak
10600	46.14	28.45	54	-7.86	37.28	12.67	32.26	125	55	Average
10600	57.47	39.78	74	-16.53	37.28	12.67	32.26	125	55	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.7	42.64	30.11	54	-11.36	34.11	8.13	29.71	200	264	Average
5134.7	53.81	41.28	74	-20.19	34.11	8.13	29.71	200	264	Peak
5300	99.57	86.74			34.24	8.32	29.73	200	264	Average
5300	106.41	93.58			34.24	8.32	29.73	200	264	Peak
5383.44	42.89	29.92	54	-11.11	34.31	8.41	29.75	200	264	Average
5383.44	53.35	40.38	74	-20.65	34.31	8.41	29.75	200	264	Peak
10600	46.34	28.65	54	-7.66	37.28	12.67	32.26	199	9	Average
10600	57.13	39.44	74	-16.87	37.28	12.67	32.26	199	9	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	85.46	72.59			34.25	8.35	29.73	200	46	Average
5320	92.59	79.72			34.25	8.35	29.73	200	46	Peak
5424.47	42.73	29.67	54	-11.27	34.33	8.48	29.75	200	46	Average
5424.47	53.45	40.39	74	-20.55	34.33	8.48	29.75	200	46	Peak
10640	46.2	28.44	54	-7.8	37.31	12.71	32.26	125	285	Average
10640	57.98	40.22	74	-16.02	37.31	12.71	32.26	125	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.47	86.6			34.25	8.35	29.73	200	264	Average
5320	106.08	93.21			34.25	8.35	29.73	200	264	Peak
5350.33	43.33	30.41	54	-10.67	34.28	8.38	29.74	200	264	Average
5350.33	53.69	40.77	74	-20.31	34.28	8.38	29.74	200	264	Peak
10640	46.19	28.43	54	-7.81	37.31	12.71	32.26	135	222	Average
10640	57.7	39.94	74	-16.3	37.31	12.71	32.26	135	222	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5430.64	42.65	29.57	54	-11.35	34.35	8.48	29.75	198	297	Average
5430.64	53.47	40.39	74	-20.53	34.35	8.48	29.75	198	297	Peak
*5470.48	52.63	39.51	68.2	-15.57	34.37	8.51	29.76	198	297	Peak
5500	89.55	76.34			34.4	8.57	29.76	198	297	Average
5500	97.4	84.19			34.4	8.57	29.76	198	297	Peak
11000	46.76	28.43	54	-7.24	37.6	12.96	32.23	104	245	Average
11000	57.77	39.44	74	-16.23	37.6	12.96	32.23	104	245	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5405.68	43.11	30.1	54	-10.89	34.32	8.44	29.75	201	48	Average
5405.68	53.4	40.39	74	-20.6	34.32	8.44	29.75	201	48	Peak
*5468.4	53.17	40.05	68.2	-15.03	34.37	8.51	29.76	201	48	Peak
5500	99.83	86.62	54			8.57	29.76	201	48	Average
5500	106.57	93.36	74			8.57	29.76	201	48	Peak
11000	46.89	28.56	54	-7.11	37.6	12.96	32.23	157	258	Average
11000	57.95	39.62	74	-16.05	37.6	12.96	32.23	157	258	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5379.28	42.57	29.6	54	-11.43	34.31	8.41	29.75	198	297	Average
5379.28	53.21	40.24	74	-20.79	34.31	8.41	29.75	198	297	Peak
*5470.64	52.33	39.21	68.2	-15.87	34.37	8.51	29.76	198	297	Peak
5580	90.93	77.67			34.47	8.6	29.81	198	297	Average
5580	98.51	85.25			34.47	8.6	29.81	198	297	Peak
*5725.08	52.24	38.83	68.2	-15.96	34.62	8.65	29.86	198	297	Peak
11160	46.72	28.37	54	-7.28	37.7	12.83	32.18	181	222	Average
11160	58.94	40.59	74	-15.06	37.7	12.83	32.18	181	222	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5374.8	42.82	29.87	54	-11.18	34.29	8.41	29.75	200	14	Average
5374.8	53.27	40.32	74	-20.73	34.29	8.41	29.75	200	14	Peak
*5470.32	52.47	39.35	68.2	-15.73	34.37	8.51	29.76	200	14	Peak
5580	97.65	84.39			34.47	8.6	29.81	200	14	Average
5580	105.9	92.64			34.47	8.6	29.81	200	14	Peak
*5725.16	52.26	38.85	68.2	-15.94	34.62	8.65	29.86	200	14	Peak
11160	46.6	28.25	54	-7.4	37.7	12.83	32.18	175	155	Average
11160	58.56	40.21	74	-15.44	37.7	12.83	32.18	175	155	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	90.81	77.43			34.59	8.64	29.85	198	297	Average
5700	98.12	84.74			34.59	8.64	29.85	198	297	Peak
*5725.64	52.62	39.21	68.2	-15.58	34.62	8.65	29.86	198	297	Peak
11400	46.59	28.17	54	-7.41	37.84	12.67	32.09	184	17	Average
11400	59.09	40.67	74	-14.91	37.84	12.67	32.09	184	17	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	98.09	84.71			34.59	8.64	29.85	196	50	Average
5700	105.54	92.16			34.59	8.64	29.85	196	50	Peak
*5724.2	53.11	39.7	68.2	-15.09	34.62	8.65	29.86	196	50	Peak
11400	47.07	28.65	54	-6.93	37.84	12.67	32.09	138	95	Average
11400	58.65	40.23	74	-15.35	37.84	12.67	32.09	138	95	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	91.3	77.88			34.64	8.66	29.88	262	295	Average
5745	98.57	85.15			34.64	8.66	29.88	262	295	Peak
11490	46.87	28.43	54	-7.13	37.89	12.62	32.07	118	1	Average
11490	58.71	40.27	74	-15.29	37.89	12.62	32.07	118	1	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	97.48	84.06			34.64	8.66	29.88	112	76	Average
5745	104.95	91.53			34.64	8.66	29.88	112	76	Peak
11490	46.98	28.54	54	-7.02	37.89	12.62	32.07	124	185	Average
11490	57.71	39.27	74	-16.29	37.89	12.62	32.07	124	185	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5647	53.55	40.22	68.2	-14.65	34.54	8.62	29.83	262	295	Peak
5653.3	51	37.64	70.64	-19.64	34.56	8.63	29.83	262	295	Peak
5923.675	50.96	37.36	69.18	-18.22	34.83	8.73	29.96	262	295	Peak
*6009.25	54.71	41.02	68.2	-13.49	34.92	8.76	29.99	262	295	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5608.675	53.65	40.36	68.2	-14.55	34.5	8.61	29.82	112	76	Peak
5651.725	51.82	38.47	69.48	-17.66	34.56	8.62	29.83	112	76	Peak
5921.575	53.07	39.47	70.73	-17.66	34.83	8.73	29.96	112	76	Peak
*6016.075	53.47	39.8	68.2	-14.73	34.92	8.76	30.01	112	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	90.16	76.7			34.68	8.68	29.9	262	295	Average
5785	98.32	84.86			34.68	8.68	29.9	262	295	Peak
11570	46.99	28.36	54	-7.01	38	12.68	32.05	147	196	Average
11570	58.47	39.84	74	-15.53	38	12.68	32.05	147	196	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	96.95	83.49			34.68	8.68	29.9	112	76	Average
5785	104.18	90.72			34.68	8.68	29.9	112	76	Peak
11570	47.17	28.54	54	-6.83	38	12.68	32.05	125	285	Average
11570	58.56	39.93	74	-15.44	38	12.68	32.05	125	285	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5609.2	53.75	40.46	68.2	-14.45	34.5	8.61	29.82	262	295	Peak
5654.35	52.63	39.28	71.42	-18.79	34.56	8.63	29.84	262	295	Peak
5923.675	52.11	38.51	69.18	-17.07	34.83	8.73	29.96	262	295	Peak
*5996.65	54.61	40.94	68.2	-13.59	34.9	8.76	29.99	262	295	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5570.875	53.22	39.95	68.2	-14.98	34.47	8.59	29.79	112	76	Peak
5655.4	52.1	38.75	72.2	-20.1	34.56	8.63	29.84	112	76	Peak
5923.675	51.04	37.44	69.18	-18.14	34.83	8.73	29.96	112	76	Peak
*5934.175	53.38	39.78	68.2	-14.82	34.83	8.73	29.96	112	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	90.42	47			34.73	8.69	0	257	299	Average
5825	98.58	55.16			34.73	8.69	0	257	299	Peak
11650	47.2	28.34	54	-6.8	38.09	12.8	32.03	135	2	Average
11650	58.67	39.81	74	-15.33	38.09	12.8	32.03	135	2	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	96.86	83.35			34.73	8.69	29.91	112	76	Average
5825	104.39	90.88			34.73	8.69	29.91	112	76	Peak
11650	47.11	28.25	54	-6.89	38.09	12.8	32.03	134	55	Average
11650	58.4	39.54	74	-15.6	38.09	12.8	32.03	134	55	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5597.65	52.78	39.5	68.2	-15.42	34.49	8.6	29.81	257	299	Peak
5652.775	52.03	38.67	70.25	-18.22	34.56	8.63	29.83	257	299	Peak
5923.675	50.94	37.34	69.18	-18.24	34.83	8.73	29.96	257	299	Peak
*6019.75	53.5	39.82	68.2	-14.7	34.92	8.77	30.01	257	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5586.625	54.33	41.05	68.2	-13.87	34.49	8.6	29.81	112	76	Peak
5656.45	52.79	39.44	72.97	-20.18	34.56	8.63	29.84	112	76	Peak
5921.05	51.94	38.36	71.12	-19.18	34.81	8.73	29.96	112	76	Peak
*6011.35	53.14	39.47	68.2	-15.06	34.92	8.76	30.01	112	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5130.35	43	30.5	54	-11	34.11	8.1	29.71	219	48	Average
5130.35	53.03	40.53	74	-20.97	34.11	8.1	29.71	219	48	Peak
5190	83.22	70.6			34.15	8.19	29.72	219	48	Average
5190	90.16	77.54			34.15	8.19	29.72	219	48	Peak
5432.72	43.15	30.07	54	-10.85	34.35	8.48	29.75	219	48	Average
5432.72	54.39	41.31	74	-19.61	34.35	8.48	29.75	219	48	Peak
*10380	56.98	39.66	68.2	-11.22	37.13	12.36	32.17	185	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	49.83	37.29	54	-4.17	34.12	8.13	29.71	214	303	Average
5149.7	59.28	46.74	74	-14.72	34.12	8.13	29.71	214	303	Peak
5190	96.74	84.12			34.15	8.19	29.72	213	304	Average
5190	103.56	90.94			34.15	8.19	29.72	213	304	Peak
5448.01	43.26	30.14	54	-10.74	34.36	8.51	29.75	213	304	Average
5448.01	54.14	41.02	74	-19.86	34.36	8.51	29.75	213	304	Peak
*10380	57.39	40.07	68.2	-10.81	37.13	12.36	32.17	114	258	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5128.55	42.62	30.12	54	-11.38	34.11	8.1	29.71	219	48	Average
5128.55	53	40.5	74	-21	34.11	8.1	29.71	219	48	Peak
5230	83.24	70.55			34.19	8.22	29.72	219	48	Average
5230	90.86	78.17			34.19	8.22	29.72	219	48	Peak
5360.89	42.55	29.62	54	-11.45	34.29	8.38	29.74	219	48	Average
5360.89	53.14	40.21	74	-20.86	34.29	8.38	29.74	219	48	Peak
*10460	57.82	40.35	68.2	-10.38	37.17	12.53	32.23	105	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5133.5	42.81	30.28	54	-11.19	34.11	8.13	29.71	213	270	Average
5133.5	53.54	41.01	74	-20.46	34.11	8.13	29.71	213	270	Peak
5230	96.52	83.83			34.19	8.22	29.72	213	270	Average
5230	103.59	90.9			34.19	8.22	29.72	213	270	Peak
5436.9	42.69	29.61	54	-11.31	34.35	8.48	29.75	213	270	Average
5436.9	55.06	41.98	74	-18.94	34.35	8.48	29.75	213	270	Peak
*10460	56.71	39.24	68.2	-11.49	37.17	12.53	32.23	118	346	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5100.95	42.98	30.53	54	-11.02	34.08	8.07	29.7	200	46	Average
5100.95	53.02	40.57	74	-20.98	34.08	8.07	29.7	200	46	Peak
5270	83.49	70.72			34.21	8.29	29.73	200	46	Average
5270	90.11	77.34			34.21	8.29	29.73	200	46	Peak
5452.74	43.05	29.94	54	-10.95	34.36	8.51	29.76	200	46	Average
5452.74	53.34	40.23	74	-20.66	34.36	8.51	29.76	200	46	Peak
*10540	57.58	39.99	68.2	-10.62	37.23	12.63	32.27	135	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5101.7	43.36	30.91	54	-10.64	34.08	8.07	29.7	200	264	Average
5101.7	53.72	41.27	74	-20.28	34.08	8.07	29.7	200	264	Peak
5270	97.58	84.81			34.21	8.29	29.73	200	264	Average
5270	104.3	91.53			34.21	8.29	29.73	200	264	Peak
5381.35	43.28	30.31	54	-10.72	34.31	8.41	29.75	200	264	Average
5381.35	53.22	40.25	74	-20.78	34.31	8.41	29.75	200	264	Peak
*10540	56.96	39.37	68.2	-11.24	37.23	12.63	32.27	154	196	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5102.3	42.85	30.4	54	-11.15	34.08	8.07	29.7	200	46	Average
5102.3	53.42	40.97	74	-20.58	34.08	8.07	29.7	200	46	Peak
5310	83.35	70.51			34.25	8.32	29.73	200	46	Average
5310	90.24	77.4			34.25	8.32	29.73	200	46	Peak
5350.22	43.39	30.47	54	-10.61	34.28	8.38	29.74	200	46	Average
5350.22	54.35	41.43	74	-19.65	34.28	8.38	29.74	200	46	Peak
10620	46.08	28.35	54	-7.92	37.3	12.69	32.26	175	188	Average
10620	58.31	40.58	74	-15.69	37.3	12.69	32.26	175	188	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5142.35	42.72	30.18	54	-11.28	34.12	8.13	29.71	200	264	Average
5142.35	53.65	41.11	74	-20.35	34.12	8.13	29.71	200	264	Peak
5310	97.54	84.7			34.25	8.32	29.73	200	264	Average
5310	104.75	91.91			34.25	8.32	29.73	200	264	Peak
5350.44	49.78	36.86	54	-4.22	34.28	8.38	29.74	200	234	Average
5350.44	60.08	47.16	74	-13.92	34.28	8.38	29.74	200	234	Peak
10620	46.26	28.53	54	-7.74	37.3	12.69	32.26	158	222	Average
10620	57.3	39.57	74	-16.7	37.3	12.69	32.26	158	222	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5455.6	43.49	30.38	54	-10.51	34.36	8.51	29.76	200	297	Average
5455.6	53.08	39.97	74	-20.92	34.36	8.51	29.76	200	297	Peak
*5468.56	52.83	39.71	68.2	-15.37	34.37	8.51	29.76	200	297	Peak
5510	90.5	77.3			34.4	8.57	29.77	200	297	Average
5510	98.58	85.38			34.4	8.57	29.77	200	297	Peak
*5724.28	52.42	39.01	68.2	-15.78	34.62	8.65	29.86	200	297	Peak
11020	46.92	28.59	54	-7.08	37.61	12.94	32.22	104	285	Average
11020	58.04	39.71	74	-15.96	37.61	12.94	32.22	104	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.6	43.45	30.34	54	-10.55	34.36	8.51	29.76	200	14	Average
5459.6	53.78	40.67	74	-20.22	34.36	8.51	29.76	200	14	Peak
*5470.48	54.91	41.79	68.2	-13.29	34.37	8.51	29.76	200	14	Peak
5510	94.5	81.3			34.4	8.57	29.77	200	14	Average
5510	102.64	89.44			34.4	8.57	29.77	200	14	Peak
*5723.96	52.34	38.93	68.2	-15.86	34.62	8.65	29.86	200	14	Peak
11020	46.91	28.58	54	-7.09	37.61	12.94	32.22	161	326	Average
11020	58.17	39.84	74	-15.83	37.61	12.94	32.22	161	326	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5449.04	42.69	33.86	54	-11.31	34.36	8.51	34.04	257	300	Average
5449.04	53.09	44.26	74	-20.91	34.36	8.51	34.04	257	300	Peak
*5469.2	51.9	43.07	68.2	-16.3	34.37	8.51	34.05	257	300	Peak
5550	91.99	78.73			34.45	8.59	29.78	257	300	Average
5550	99.73	86.47			34.45	8.59	29.78	257	300	Peak
*5723.96	52.52	43.36	68.2	-15.68	34.62	8.65	34.11	257	300	Peak
11100	46.77	28.42	54	-7.23	37.66	12.89	32.2	126	326	Average
11100	58.27	39.92	74	-15.73	37.66	12.89	32.2	126	326	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458	42.8	33.98	54	-11.2	34.36	8.51	34.05	123	78	Average
5458	53.97	45.15	74	-20.03	34.36	8.51	34.05	123	78	Peak
*5469.84	52.22	43.39	68.2	-15.98	34.37	8.51	34.05	123	78	Peak
5550	97.03	83.77			34.45	8.59	29.78	123	78	Average
5550	104.87	91.61			34.45	8.59	29.78	123	78	Peak
*5724.12	53.24	44.08	68.2	-14.96	34.62	8.65	34.11	123	78	Peak
11100	46.76	28.41	54	-7.24	37.66	12.89	32.2	185	23	Average
11100	58.14	39.79	74	-15.86	37.66	12.89	32.2	185	23	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5455.92	42.56	33.74	54	-11.44	34.36	8.51	34.05	201	174	Average
5455.92	54.82	46	74	-19.18	34.36	8.51	34.05	201	174	Peak
*5470	51.38	42.55	68.2	-16.82	34.37	8.51	34.05	201	174	Peak
5670	92.51	79.15			34.57	8.63	29.84	201	174	Average
5670	99.78	86.42			34.57	8.63	29.84	201	174	Peak
*5724.12	52.44	43.28	68.2	-15.76	34.62	8.65	34.11	201	174	Peak
11340	47.24	28.85	54	-6.76	37.8	12.71	32.12	124	119	Average
11340	58.27	39.88	74	-15.73	37.8	12.71	32.12	124	119	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5443.6	42.76	33.97	54	-11.24	34.35	8.48	34.04	123	78	Average
5443.6	53.54	44.75	74	-20.46	34.35	8.48	34.04	123	78	Peak
*5470.48	52.53	43.7	68.2	-15.67	34.37	8.51	34.05	123	78	Peak
5670	96.4	83.04			34.57	8.63	29.84	123	78	Average
5670	104.3	90.94			34.57	8.63	29.84	123	78	Peak
*5725.48	52.59	43.43	68.2	-15.61	34.62	8.65	34.11	123	78	Peak
11340	47.34	28.95	54	-6.66	37.8	12.71	32.12	185	245	Average
11340	58.86	40.47	74	-15.14	37.8	12.71	32.12	185	245	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	87.22	73.78			34.66	8.66	29.88	257	299	Average
5755	95.38	81.94			34.66	8.66	29.88	257	299	Peak
11510	47	28.56	54	-7	37.9	12.6	32.06	124	78	Average
11510	58.38	39.94	74	-15.62	37.9	12.6	32.06	124	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	93.59	80.15			34.66	8.66	29.88	112	76	Average
5755	101.47	88.03			34.66	8.66	29.88	112	76	Peak
11510	47.3	28.86	54	-6.7	37.9	12.6	32.06	138	225	Average
11510	58.2	39.76	74	-15.8	37.9	12.6	32.06	138	225	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5629.15	52.79	39.48	68.2	-15.41	34.52	8.62	29.83	257	299	Peak
5656.975	54.13	40.78	73.36	-19.23	34.56	8.63	29.84	257	299	Peak
5920.525	50.88	37.3	71.51	-20.63	34.81	8.73	29.96	257	299	Peak
*5934.175	53.33	39.73	68.2	-14.87	34.83	8.73	29.96	257	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5534.125	52.96	39.73	68.2	-15.24	34.43	8.58	29.78	112	76	Peak
5653.3	51.36	38	70.64	-19.28	34.56	8.63	29.83	112	76	Peak
5922.1	51.57	37.97	70.35	-18.78	34.83	8.73	29.96	112	76	Peak
*5944.675	53.62	40	68.2	-14.58	34.85	8.74	29.97	112	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	87.93	74.46			34.69	8.68	29.9	258	299	Average
5795	95.87	82.4			34.69	8.68	29.9	258	299	Peak
11590	47.68	28.99	54	-6.32	38.02	12.72	32.05	104	4	Average
11590	59.28	40.59	74	-14.72	38.02	12.72	32.05	104	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	93.65	80.18			34.69	8.68	29.9	112	76	Average
5795	101	87.53			34.69	8.68	29.9	112	76	Peak
11590	47.28	28.59	54	-6.72	38.02	12.72	32.05	182	333	Average
11590	57.51	38.82	74	-16.49	38.02	12.72	32.05	182	333	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5594.5	53.37	40.09	68.2	-14.83	34.49	8.6	29.81	258	299	Peak
5652.775	49.77	36.41	70.25	-20.48	34.56	8.63	29.83	258	299	Peak
5922.1	50.88	37.28	70.35	-19.47	34.83	8.73	29.96	258	299	Peak
*5969.35	53.06	39.42	68.2	-15.14	34.87	8.75	29.98	258	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5634.4	53.48	40.15	68.2	-14.72	34.54	8.62	29.83	112	76	Peak
5651.725	53.36	40.01	69.48	-16.12	34.56	8.62	29.83	112	76	Peak
5921.05	51.4	37.82	71.12	-19.72	34.81	8.73	29.96	112	76	Peak
*5994.025	54.06	40.39	68.2	-14.14	34.9	8.76	29.99	112	76	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5123.9	43.61	31.11	54	-10.39	34.11	8.1	29.71	219	48	Average
5123.9	53.68	41.18	74	-20.32	34.11	8.1	29.71	219	48	Peak
5210	78.74	66.1			34.17	8.19	29.72	219	48	Average
5210	85.82	73.18			34.17	8.19	29.72	219	48	Peak
5459.89	43.47	30.36	54	-10.53	34.36	8.51	29.76	219	48	Average
5459.89	53.52	40.41	74	-20.48	34.36	8.51	29.76	219	48	Peak
*10420	56.29	38.91	68.2	-11.91	37.15	12.42	32.19	137	77	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	47.24	34.7	54	-6.76	34.12	8.13	29.71	213	307	Average
5149.4	58.09	45.55	74	-15.91	34.12	8.13	29.71	213	307	Peak
5210	91.57	78.93			34.17	8.19	29.72	213	304	Average
5210	98.24	85.6			34.17	8.19	29.72	213	304	Peak
5450.54	43.38	30.27	54	-10.62	34.36	8.51	29.76	213	304	Average
5450.54	53.93	40.82	74	-20.07	34.36	8.51	29.76	213	304	Peak
*10420	56.69	39.31	68.2	-11.51	37.15	12.42	32.19	115	285	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5210 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5133.95	43.26	30.73	54	-10.74	34.11	8.13	29.71	200	46	Average
5133.95	53.1	40.57	74	-20.9	34.11	8.13	29.71	200	46	Peak
5290	77.49	64.67			34.23	8.32	29.73	200	46	Average
5290	84.74	71.92			34.23	8.32	29.73	200	46	Peak
5458.79	43.34	30.23	54	-10.66	34.36	8.51	29.76	200	46	Average
5458.79	53.55	40.44	74	-20.45	34.36	8.51	29.76	200	46	Peak
*10580	58.26	40.6	68.2	-9.94	37.27	12.65	32.26	134	165	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5127.65	43.25	30.75	54	-10.75	34.11	8.1	29.71	200	264	Average
5127.65	53.34	40.84	74	-20.66	34.11	8.1	29.71	200	264	Peak
5290	91.56	78.74			34.23	8.32	29.73	200	264	Average
5290	98.52	85.7			34.23	8.32	29.73	200	264	Peak
5353.52	47.5	34.58	54	-6.5	34.28	8.38	29.74	200	56	Average
5353.52	56.46	43.54	74	-17.54	34.28	8.38	29.74	200	56	Peak
*10580	57.31	39.65	68.2	-10.89	37.27	12.65	32.26	118	285	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.96	42.71	33.89	54	-11.29	34.36	8.51	34.05	201	174	Average
5450.96	53.98	45.16	74	-20.02	34.36	8.51	34.05	201	174	Peak
*5470.64	51.89	43.06	68.2	-16.31	34.37	8.51	34.05	201	174	Peak
5530	89.78	76.56			34.42	8.58	29.78	201	174	Average
5530	96.63	83.41			34.42	8.58	29.78	201	174	Peak
*5724.2	53.3	44.14	68.2	-14.9	34.62	8.65	34.11	201	174	Peak
11060	47.75	29.4	54	-6.25	37.64	12.91	32.2	164	288	Average
11060	59.36	41.01	74	-14.64	37.64	12.91	32.2	164	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460.08	44.8	35.98	54	-9.2	34.36	8.51	34.05	123	78	Average
5460.08	56.94	48.12	74	-17.06	34.36	8.51	34.05	123	78	Peak
*5470	55.15	46.32	68.2	-13.05	34.37	8.51	34.05	123	78	Peak
5530	92.9	79.68			34.42	8.58	29.78	123	78	Average
5530	100.23	87.01			34.42	8.58	29.78	123	78	Peak
*5724.28	52.5	43.34	68.2	-15.7	34.62	8.65	34.11	123	78	Peak
11060	47.39	29.04	54	-6.61	37.64	12.91	32.2	135	296	Average
11060	57.82	39.47	74	-16.18	37.64	12.91	32.2	135	296	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446.16	43.27	30.15	54	-10.73	34.36	8.51	29.75	257	299	Average
5446.16	53.16	40.04	74	-20.84	34.36	8.51	29.75	257	299	Peak
*5469.04	51.45	38.33	68.2	-16.75	34.37	8.51	29.76	257	299	Peak
5610	89.03	75.74			34.5	8.61	29.82	257	299	Average
5610	96.97	83.68			34.5	8.61	29.82	257	299	Peak
*5725.88	51.76	38.35	68.2	-16.44	34.62	8.65	29.86	257	299	Peak
11220	47.48	29.1	54	-6.52	37.73	12.8	32.15	105	305	Average
11220	59.31	40.93	74	-14.69	37.73	12.8	32.15	105	305	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5422	43.5	30.44	54	-10.5	34.33	8.48	29.75	123	78	Average
5422	53.28	40.22	74	-20.72	34.33	8.48	29.75	123	78	Peak
*5470.16	52.23	39.11	68.2	-15.97	34.37	8.51	29.76	123	78	Peak
5610	93.03	79.74			34.5	8.61	29.82	123	78	Average
5610	101.02	87.73			34.5	8.61	29.82	123	78	Peak
*5725.16	52.74	39.33	68.2	-15.46	34.62	8.65	29.86	123	78	Peak
11220	47.63	29.25	54	-6.37	37.73	12.8	32.15	172	226	Average
11220	58.81	40.43	74	-15.19	37.73	12.8	32.15	172	226	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	84.58	71.12			34.68	8.67	29.89	258	299	Average
5775	92.6	79.14			34.68	8.67	29.89	258	299	Peak
11550	47.84	29.24	54	-6.16	37.97	12.68	32.05	195	6	Average
11550	58.53	39.93	74	-15.47	37.97	12.68	32.05	195	6	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	91.32	77.86			34.68	8.67	29.89	112	76	Average
5775	98.62	85.16			34.68	8.67	29.89	112	76	Peak
11550	47.86	29.26	54	-6.14	37.97	12.68	32.05	135	206	Average
11550	58.02	39.42	74	-15.98	37.97	12.68	32.05	135	206	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5643.325	53.42	40.09	68.2	-14.78	34.54	8.62	29.83	258	299	Peak
5652.775	51.19	37.83	70.25	-19.06	34.56	8.63	29.83	258	299	Peak
5923.15	50.72	37.12	69.57	-18.85	34.83	8.73	29.96	258	299	Peak
*5954.65	53.04	39.42	68.2	-15.16	34.85	8.74	29.97	258	299	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5560.375	53.89	40.64	68.2	-14.31	34.45	8.59	29.79	112	76	Peak
5656.975	53.39	40.04	73.36	-19.97	34.56	8.63	29.84	112	76	Peak
5922.1	51.85	38.25	70.35	-18.5	34.83	8.73	29.96	112	76	Peak
*5968.3	53.92	40.28	68.2	-14.28	34.87	8.75	29.98	112	76	Peak

Remarks:

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

Mode B

802.11a

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	43.63	31.09	54	-10.37	34.12	8.13	29.71	104	126	Average
5149.4	55.67	43.13	74	-18.33	34.12	8.13	29.71	104	126	Peak
5180	96.31	83.72			34.15	8.16	29.72	104	126	Average
5180	103.17	90.58			34.15	8.16	29.72	104	126	Peak
*10360	58.18	40.91	68.2	-10.02	37.12	12.3	32.15	164	181	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.45	42.56	30.02	54	-11.44	34.12	8.13	29.71	100	293	Average
5147.45	53.28	40.74	74	-20.72	34.12	8.13	29.71	100	293	Peak
5180	86.55	73.96			34.15	8.16	29.72	100	293	Average
5180	93.68	81.09			34.15	8.16	29.72	100	293	Peak
*10360	57.12	39.85	68.2	-11.08	37.12	12.3	32.15	155	127	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5142.95	42.9	30.36	54	-11.1	34.12	8.13	29.71	104	126	Average
5142.95	54.03	41.49	74	-19.97	34.12	8.13	29.71	104	126	Peak
5200	97.49	84.86			34.16	8.19	29.72	104	126	Average
5200	104.4	91.77			34.16	8.19	29.72	104	126	Peak
5440.64	42.97	29.89	54	-11.03	34.35	8.48	29.75	104	126	Average
5440.64	53.91	40.83	74	-20.09	34.35	8.48	29.75	104	126	Peak
*10400	56.5	39.19	68.2	-11.7	37.14	12.36	32.19	132	314	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5135.6	42.46	29.93	54	-11.54	34.11	8.13	29.71	100	293	Average
5135.6	53.78	41.25	74	-20.22	34.11	8.13	29.71	100	293	Peak
5200	87.95	75.32			34.16	8.19	29.72	100	293	Average
5200	94.13	81.5			34.16	8.19	29.72	100	293	Peak
5445.37	42.69	29.58	54	-11.31	34.35	8.51	29.75	100	293	Average
5445.37	54.31	41.2	74	-19.69	34.35	8.51	29.75	100	293	Peak
*10400	56.87	39.56	68.2	-11.33	37.14	12.36	32.19	135	162	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	96.58	83.85			34.19	8.26	29.72	104	126	Average
5240	103.25	90.52			34.19	8.26	29.72	104	126	Peak
5355.39	42.93	30.01	54	-11.07	34.28	8.38	29.74	104	126	Average
5355.39	54.33	41.41	74	-19.67	34.28	8.38	29.74	104	126	Peak
*10480	57.45	39.98	68.2	-10.75	37.19	12.53	32.25	161	57	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	86.35	73.62			34.19	8.26	29.72	100	293	Average
5240	93.65	80.92			34.19	8.26	29.72	100	293	Peak
5444.93	42.7	29.59	54	-11.3	34.35	8.51	29.75	100	293	Average
5444.93	53.69	40.58	74	-20.31	34.35	8.51	29.75	100	293	Peak
*10480	56.59	39.12	68.2	-11.61	37.19	12.53	32.25	133	209	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5099.75	42.69	30.24	54	-11.31	34.08	8.07	29.7	104	126	Average
5099.75	54.03	41.58	74	-19.97	34.08	8.07	29.7	104	126	Peak
5260	97.88	85.14			34.21	8.26	29.73	104	126	Average
5260	104.06	91.32			34.21	8.26	29.73	104	126	Peak
*10520	56.72	39.17	68.2	-11.48	37.21	12.61	32.27	156	223	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.35	42.51	29.97	54	-11.49	34.12	8.13	29.71	100	293	Average
5148.35	53.14	40.6	74	-20.86	34.12	8.13	29.71	100	293	Peak
5260	87.44	74.7			34.21	8.26	29.73	100	293	Average
5260	94.44	81.7			34.21	8.26	29.73	100	293	Peak
*10520	57.18	39.63	68.2	-11.02	37.21	12.61	32.27	151	246	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.4	42.75	30.21	54	-11.25	34.12	8.13	29.71	104	126	Average
5140.4	53.22	40.68	74	-20.78	34.12	8.13	29.71	104	126	Peak
5300	97.95	85.12			34.24	8.32	29.73	104	126	Average
5300	104.8	91.97			34.24	8.32	29.73	104	126	Peak
5356.27	43.09	30.17	54	-10.91	34.28	8.38	29.74	104	126	Average
5356.27	53.49	40.57	74	-20.51	34.28	8.38	29.74	104	126	Peak
10600	47.45	29.76	54	-6.55	37.28	12.67	32.26	196	207	Average
10600	57.52	39.83	74	-16.48	37.28	12.67	32.26	196	207	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.3	42.54	30.04	54	-11.46	34.11	8.1	29.71	100	293	Average
5129.3	52.95	40.45	74	-21.05	34.11	8.1	29.71	100	293	Peak
5300	87.88	75.05			34.24	8.32	29.73	100	293	Average
5300	94.69	81.86			34.24	8.32	29.73	100	293	Peak
5428.32	42.63	29.57	54	-11.37	34.33	8.48	29.75	100	293	Average
5428.32	53.48	40.42	74	-20.52	34.33	8.48	29.75	100	293	Peak
10600	47.05	29.36	54	-6.95	37.28	12.67	32.26	132	190	Average
10600	57.13	39.44	74	-16.87	37.28	12.67	32.26	132	190	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	97.65	84.78			34.25	8.35	29.73	104	126	Average
5320	104.73	91.86			34.25	8.35	29.73	104	126	Peak
5350.11	44.32	31.4	54	-9.68	34.28	8.38	29.74	104	126	Average
5350.11	55.71	42.79	74	-18.29	34.28	8.38	29.74	104	126	Peak
10640	47.68	29.92	54	-6.32	37.31	12.71	32.26	106	95	Average
10640	57.87	40.11	74	-16.13	37.31	12.71	32.26	106	95	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	87.45	74.58			34.25	8.35	29.73	100	293	Average
5320	94.66	81.79			34.25	8.35	29.73	100	293	Peak
5446.36	42.76	29.64	54	-11.24	34.36	8.51	29.75	100	293	Average
5446.36	53.57	40.45	74	-20.43	34.36	8.51	29.75	100	293	Peak
10640	46.85	29.09	54	-7.15	37.31	12.71	32.26	134	54	Average
10640	56.93	39.17	74	-17.07	37.31	12.71	32.26	134	54	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5456.08	43.23	30.12	54	-10.77	34.36	8.51	29.76	104	126	Average
5456.08	54.29	41.18	74	-19.71	34.36	8.51	29.76	104	126	Peak
*5470.8	52.89	39.74	68.2	-15.31	34.37	8.54	29.76	104	126	Peak
5500	96.54	83.33			34.4	8.57	29.76	104	126	Average
5500	104.93	91.72			34.4	8.57	29.76	104	126	Peak
11000	47.63	29.3	54	-6.37	37.6	12.96	32.23	112	149	Average
11000	57.78	39.45	74	-16.22	37.6	12.96	32.23	112	149	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5370	42.69	29.73	54	-11.31	34.29	8.41	29.74	100	293	Average
5370	53.45	40.49	74	-20.55	34.29	8.41	29.74	100	293	Peak
*5468.4	52.63	39.51	68.2	-15.57	34.37	8.51	29.76	100	293	Peak
5500	86.54	73.33			34.4	8.57	29.76	100	293	Average
5500	94.05	80.84			34.4	8.57	29.76	100	293	Peak
11000	47.58	29.25	54	-6.42	37.6	12.96	32.23	198	103	Average
11000	57.86	39.53	74	-16.14	37.6	12.96	32.23	198	103	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5441.84	42.84	29.76	54	-11.16	34.35	8.48	29.75	104	126	Average
5441.84	53.38	40.3	74	-20.62	34.35	8.48	29.75	104	126	Peak
*5470.48	53.02	39.9	68.2	-15.18	34.37	8.51	29.76	104	126	Peak
5580	98.93	85.67			34.47	8.6	29.81	104	126	Average
5580	106.14	92.88			34.47	8.6	29.81	104	126	Peak
*5724.36	53.71	40.3	68.2	-14.49	34.62	8.65	29.86	104	126	Peak
11160	47.98	29.63	54	-6.02	37.7	12.83	32.18	101	342	Average
11160	58.02	39.67	74	-15.98	37.7	12.83	32.18	101	342	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.16	42.51	29.4	54	-11.49	34.36	8.51	29.76	100	293	Average
5450.16	53.82	40.71	74	-20.18	34.36	8.51	29.76	100	293	Peak
*5470.16	52.83	39.71	68.2	-15.37	34.37	8.51	29.76	100	293	Peak
5580	89.93	76.67			34.47	8.6	29.81	100	293	Average
5580	97.62	84.36			34.47	8.6	29.81	100	293	Peak
*5724.68	53.04	39.63	68.2	-15.16	34.62	8.65	29.86	100	293	Peak
11160	49.72	31.37	54	-4.28	37.7	12.83	32.18	104	38	Average
11160	59.68	41.33	74	-14.32	37.7	12.83	32.18	104	38	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	99.13	85.75			34.59	8.64	29.85	104	126	Average
5700	106.59	93.21			34.59	8.64	29.85	104	126	Peak
*5724.52	55.67	42.26	68.2	-12.53	34.62	8.65	29.86	104	126	Peak
11400	47.95	29.53	54	-6.05	37.84	12.67	32.09	123	190	Average
11400	58.17	39.75	74	-15.83	37.84	12.67	32.09	123	190	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	89.79	76.41			34.59	8.64	29.85	100	293	Average
5700	97.85	84.47			34.59	8.64	29.85	100	293	Peak
*5725.88	52.72	39.31	68.2	-15.48	34.62	8.65	29.86	100	293	Peak
11400	47.85	29.43	54	-6.15	37.84	12.67	32.09	182	164	Average
11400	58.14	39.72	74	-15.86	37.84	12.67	32.09	182	164	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.74	85.32			34.64	8.66	29.88	104	126	Average
5745	106.66	93.24			34.64	8.66	29.88	104	126	Peak
11490	48.75	30.31	54	-5.25	37.89	12.62	32.07	196	321	Average
11490	58.95	40.51	74	-15.05	37.89	12.62	32.07	196	321	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	90.91	77.49			34.64	8.66	29.88	100	293	Average
5745	99.16	85.74			34.64	8.66	29.88	100	293	Peak
11490	47.99	29.55	54	-6.01	37.89	12.62	32.07	136	154	Average
11490	58.03	39.59	74	-15.97	37.89	12.62	32.07	136	154	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5591.875	53.51	40.23	68.2	-14.69	34.49	8.6	29.81	104	126	Peak
5652.25	52.68	39.33	69.86	-17.18	34.56	8.62	29.83	104	126	Peak
5920.525	52.38	38.8	71.51	-19.13	34.81	8.73	29.96	104	126	Peak
*5937.85	54.43	40.84	68.2	-13.77	34.83	8.73	29.97	104	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5567.725	53.41	40.14	68.2	-14.79	34.47	8.59	29.79	100	293	Peak
5653.3	52.41	39.05	70.64	-18.23	34.56	8.63	29.83	100	293	Peak
5921.05	52.63	39.05	71.12	-18.49	34.81	8.73	29.96	100	293	Peak
*5994.55	53.88	40.21	68.2	-14.32	34.9	8.76	29.99	100	293	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	99.36	85.9			34.68	8.68	29.9	104	126	Average
5785	106.87	93.41			34.68	8.68	29.9	104	126	Peak
11570	48.07	29.44	54	-5.93	38	12.68	32.05	108	131	Average
11570	58.25	39.62	74	-15.75	38	12.68	32.05	108	131	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	92.44	78.98			34.68	8.68	29.9	100	293	Average
5785	99.92	86.46			34.68	8.68	29.9	100	293	Peak
11570	48.57	29.94	54	-5.43	38	12.68	32.05	162	229	Average
11570	58.67	40.04	74	-15.33	38	12.68	32.05	162	229	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5621.275	53.65	40.34	68.2	-14.55	34.52	8.61	29.82	104	126	Peak
5653.3	52.03	38.67	70.64	-18.61	34.56	8.63	29.83	104	126	Peak
5921.575	51.84	38.24	70.73	-18.89	34.83	8.73	29.96	104	126	Peak
*6006.625	53.83	40.14	68.2	-14.37	34.92	8.76	29.99	104	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5568.25	53.61	40.34	68.2	-14.59	34.47	8.59	29.79	100	293	Peak
5652.775	52.35	38.99	70.25	-17.9	34.56	8.63	29.83	100	293	Peak
5922.625	53.07	39.47	69.96	-16.89	34.83	8.73	29.96	100	293	Peak
*6007.675	53.92	40.23	68.2	-14.28	34.92	8.76	29.99	100	293	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	99.15	85.64			34.73	8.69	29.91	104	126	Average
5825	106.92	93.41			34.73	8.69	29.91	104	126	Peak
11650	49.52	30.66	54	-4.48	38.09	12.8	32.03	134	59	Average
11650	59.71	40.85	74	-14.29	38.09	12.8	32.03	134	59	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	92.25	78.74			34.73	8.69	29.91	100	293	Average
5825	100.09	86.58			34.73	8.69	29.91	100	293	Peak
11650	48.67	29.81	54	-5.33	38.09	12.8	32.03	153	108	Average
11650	58.84	39.98	74	-15.16	38.09	12.8	32.03	153	108	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5633.875	53.43	40.1	68.2	-14.77	34.54	8.62	29.83	104	126	Peak
5652.25	52.25	38.9	69.86	-17.61	34.56	8.62	29.83	104	126	Peak
5920	53.36	39.78	71.9	-18.54	34.81	8.73	29.96	104	126	Peak
*5968.825	53.61	39.97	68.2	-14.59	34.87	8.75	29.98	104	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5629.15	53.02	39.71	68.2	-15.18	34.52	8.62	29.83	100	293	Peak
5652.775	53.1	39.74	70.25	-17.15	34.56	8.63	29.83	100	293	Peak
5920	53.2	39.62	71.9	-18.7	34.81	8.73	29.96	100	293	Peak
*5934.175	53.73	40.13	68.2	-14.47	34.83	8.73	29.96	100	293	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.1	43.15	30.61	54	-10.85	34.12	8.13	29.71	100	109	Average
5146.1	53.38	40.84	74	-20.62	34.12	8.13	29.71	100	109	Peak
5180	98	85.41			34.15	8.16	29.72	100	109	Average
5180	105.67	93.08			34.15	8.16	29.72	100	109	Peak
*10360	57.25	39.98	68.2	-10.95	37.12	12.3	32.15	156	112	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	42.89	30.35	54	-11.11	34.12	8.13	29.71	231	292	Average
5149.7	54.38	41.84	74	-19.62	34.12	8.13	29.71	231	292	Peak
5180	96.43	83.84			34.15	8.16	29.72	231	292	Average
5180	104.64	92.05			34.15	8.16	29.72	231	292	Peak
*10360	57.23	39.96	68.2	-10.97	37.12	12.3	32.15	129	164	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138.9	42.67	30.14	54	-11.33	34.11	8.13	29.71	100	109	Average
5138.9	52.76	40.23	74	-21.24	34.11	8.13	29.71	100	109	Peak
5200	98.46	85.83			34.16	8.19	29.72	100	109	Average
5200	105.26	92.63			34.16	8.19	29.72	100	109	Peak
5439.21	42.79	29.71	54	-11.21	34.35	8.48	29.75	100	109	Average
5439.21	54.18	41.1	74	-19.82	34.35	8.48	29.75	100	109	Peak
*10400	57.19	39.88	68.2	-11.01	37.14	12.36	32.19	126	114	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5076.65	42.71	30.31	54	-11.29	34.07	8.03	29.7	231	292	Average
5076.65	53.71	41.31	74	-20.29	34.07	8.03	29.7	231	292	Peak
5200	96.65	84.02			34.16	8.19	29.72	231	292	Average
5200	104.54	91.91			34.16	8.19	29.72	231	292	Peak
5454.17	42.72	29.61	54	-11.28	34.36	8.51	29.76	231	292	Average
5454.17	54.22	41.11	74	-19.78	34.36	8.51	29.76	231	292	Peak
*10400	57.49	40.18	68.2	-10.71	37.14	12.36	32.19	133	209	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	98.36	85.63			34.19	8.26	29.72	100	109	Average
5240	105.9	93.17			34.19	8.26	29.72	100	109	Peak
5355.5	43.04	30.12	54	-10.96	34.28	8.38	29.74	100	109	Average
5355.5	53.63	40.71	74	-20.37	34.28	8.38	29.74	100	109	Peak
*10480	57.67	40.2	68.2	-10.53	37.19	12.53	32.25	131	75	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5240	96.85	84.12			34.19	8.26	29.72	231	292	Average
5240	104.78	92.05			34.19	8.26	29.72	231	292	Peak
5376.07	42.61	29.66	54	-11.39	34.29	8.41	29.75	231	292	Average
5376.07	53.11	40.16	74	-20.89	34.29	8.41	29.75	231	292	Peak
*10480	57.8	40.33	68.2	-10.4	37.19	12.53	32.25	154	103	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5135.15	42.64	30.11	54	-11.36	34.11	8.13	29.71	100	103	Average
5135.15	53.36	40.83	74	-20.64	34.11	8.13	29.71	100	103	Peak
5260	98.59	85.85			34.21	8.26	29.73	100	103	Average
5260	105.39	92.65			34.21	8.26	29.73	100	103	Peak
*10520	57.01	39.46	68.2	-11.19	37.21	12.61	32.27	140	205	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5100.35	42.51	30.06	54	-11.49	34.08	8.07	29.7	218	292	Average
5100.35	53.1	40.65	74	-20.9	34.08	8.07	29.7	218	292	Peak
5260	91.59	78.85			34.21	8.26	29.73	218	292	Average
5260	98.69	85.95			34.21	8.26	29.73	218	292	Peak
*10520	56.9	39.35	68.2	-11.3	37.21	12.61	32.27	213	333	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.75	42.74	30.24	54	-11.26	34.11	8.1	29.71	100	103	Average
5129.75	52.94	40.44	74	-21.06	34.11	8.1	29.71	100	103	Peak
5300	98.95	86.12			34.24	8.32	29.73	100	103	Average
5300	105.32	92.49			34.24	8.32	29.73	100	103	Peak
5369.36	42.93	29.97	54	-11.07	34.29	8.41	29.74	100	103	Average
5369.36	54.02	41.06	74	-19.98	34.29	8.41	29.74	100	103	Peak
10600	46.09	28.4	54	-7.91	37.28	12.67	32.26	188	222	Average
10600	57.86	40.17	74	-16.14	37.28	12.67	32.26	188	222	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5122.1	42.46	29.98	54	-11.54	34.09	8.1	29.71	218	292	Average
5122.1	53.39	40.91	74	-20.61	34.09	8.1	29.71	218	292	Peak
5300	91.55	78.72			34.24	8.32	29.73	218	292	Average
5300	98.97	86.14			34.24	8.32	29.73	218	292	Peak
5438.99	42.63	29.55	54	-11.37	34.35	8.48	29.75	218	292	Average
5438.99	53.62	40.54	74	-20.38	34.35	8.48	29.75	218	292	Peak
10600	46.02	28.33	54	-7.98	37.28	12.67	32.26	134	333	Average
10600	56.9	39.21	74	-17.1	37.28	12.67	32.26	134	333	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.65	86.78			34.25	8.35	29.73	100	103	Average
5320	106.1	93.23			34.25	8.35	29.73	100	103	Peak
5350	43.6	30.68	54	-10.4	34.28	8.38	29.74	100	103	Average
5350	55.29	42.37	74	-18.71	34.28	8.38	29.74	100	103	Peak
10640	45.87	28.11	54	-8.13	37.31	12.71	32.26	124	4	Average
10640	57.63	39.87	74	-16.37	37.31	12.71	32.26	124	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.53	79.66			34.25	8.35	29.73	218	292	Average
5320	99.26	86.39			34.25	8.35	29.73	218	292	Peak
5388.17	42.61	29.64	54	-11.39	34.31	8.41	29.75	218	292	Average
5388.17	53.53	40.56	74	-20.47	34.31	8.41	29.75	218	292	Peak
10640	46.09	28.33	54	-7.91	37.31	12.71	32.26	134	310	Average
10640	57.44	39.68	74	-16.56	37.31	12.71	32.26	134	310	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.96	43.34	30.23	54	-10.66	34.36	8.51	29.76	100	111	Average
5458.96	54.11	41	74	-19.89	34.36	8.51	29.76	100	111	Peak
*5470.64	53.37	40.25	68.2	-14.83	34.37	8.51	29.76	100	111	Peak
5500	99.65	86.44			34.4	8.57	29.76	100	111	Average
5500	106.42	93.21			34.4	8.57	29.76	100	111	Peak
11000	46.67	28.34	54	-7.33	37.6	12.96	32.23	106	2	Average
11000	59.32	40.99	74	-14.68	37.6	12.96	32.23	106	2	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5418.32	42.64	29.62	54	-11.36	34.33	8.44	29.75	100	304	Average
5418.32	53.46	40.44	74	-20.54	34.33	8.44	29.75	100	304	Peak
*5468.56	52.4	39.28	68.2	-15.8	34.37	8.51	29.76	100	304	Peak
5500	90.59	77.38			34.4	8.57	29.76	100	304	Average
5500	97.42	84.21			34.4	8.57	29.76	100	304	Peak
11000	46.79	28.46	54	-7.21	37.6	12.96	32.23	120	222	Average
11000	57.94	39.61	74	-16.06	37.6	12.96	32.23	120	222	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5445.2	43.05	29.94	54	-10.95	34.35	8.51	29.75	100	111	Average
5445.2	53.33	40.22	74	-20.67	34.35	8.51	29.75	100	111	Peak
*5469.84	52.53	39.41	68.2	-15.67	34.37	8.51	29.76	100	111	Peak
5580	100.24	86.98			34.47	8.6	29.81	100	111	Average
5580	107.84	94.58			34.47	8.6	29.81	100	111	Peak
*5725.32	53.12	39.71	68.2	-15.08	34.62	8.65	29.86	100	111	Peak
11160	46.6	28.25	54	-7.4	37.7	12.83	32.18	157	7	Average
11160	59.7	41.35	74	-14.3	37.7	12.83	32.18	157	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5359.28	42.59	29.67	54	-11.41	34.28	8.38	29.74	100	304	Average
5359.28	52.98	40.06	74	-21.02	34.28	8.38	29.74	100	304	Peak
*5468.56	52.51	39.39	68.2	-15.69	34.37	8.51	29.76	100	304	Peak
5580	91.44	78.18			34.47	8.6	29.81	100	304	Average
5580	98.08	84.82			34.47	8.6	29.81	100	304	Peak
*5724.52	53.42	40.01	68.2	-14.78	34.62	8.65	29.86	100	304	Peak
11160	47.01	28.66	54	-6.99	37.7	12.83	32.18	125	5	Average
11160	60.12	41.77	74	-13.88	37.7	12.83	32.18	125	5	Peak

Remarks:

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	100.25	86.87			34.59	8.64	29.85	100	111	Average
5700	107.71	94.33			34.59	8.64	29.85	100	111	Peak
*5724.12	55.67	42.26	68.2	-12.53	34.62	8.65	29.86	100	111	Peak
11400	46.97	28.55	54	-7.03	37.84	12.67	32.09	158	8	Average
11400	58.06	39.64	74	-15.94	37.84	12.67	32.09	158	8	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	91.55	78.17			34.59	8.64	29.85	100	304	Average
5700	98.46	85.08			34.59	8.64	29.85	100	304	Peak
*5724.84	52.58	39.17	68.2	-15.62	34.62	8.65	29.86	100	304	Peak
11400	47.02	28.6	54	-6.98	37.84	12.67	32.09	138	3	Average
11400	57.9	39.48	74	-16.1	37.84	12.67	32.09	138	3	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.58	85.16			34.64	8.66	29.88	100	101	Average
5745	105.58	92.16			34.64	8.66	29.88	100	101	Peak
11490	46.8	28.36	54	-7.2	37.89	12.62	32.07	118	14	Average
11490	58.71	40.27	74	-15.29	37.89	12.62	32.07	118	14	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	91.75	78.33			34.64	8.66	29.88	100	298	Average
5745	98.45	85.03			34.64	8.66	29.88	100	298	Peak
11490	47.18	28.74	54	-6.82	37.89	12.62	32.07	135	226	Average
11490	58.77	40.33	74	-15.23	37.89	12.62	32.07	135	226	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5619.7	54.43	41.12	68.2	-13.77	34.52	8.61	29.82	100	101	Peak
5651.725	50.46	37.11	69.48	-19.02	34.56	8.62	29.83	100	101	Peak
5918.425	51.92	38.34	73.07	-21.15	34.81	8.73	29.96	100	101	Peak
*5962.525	53.98	40.35	68.2	-14.22	34.87	8.74	29.98	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5600.275	53.5	40.21	68.2	-14.7	34.5	8.6	29.81	100	298	Peak
5652.25	52.66	39.31	69.86	-17.2	34.56	8.62	29.83	100	298	Peak
5922.625	51.62	38.02	69.96	-18.34	34.83	8.73	29.96	100	298	Peak
*6009.775	53.7	40.01	68.2	-14.5	34.92	8.76	29.99	100	298	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	98.59	85.13			34.68	8.68	29.9	100	101	Average
5785	105.79	92.33			34.68	8.68	29.9	100	101	Peak
11570	46.96	28.33	54	-7.04	38	12.68	32.05	164	266	Average
11570	58.51	39.88	74	-15.49	38	12.68	32.05	164	266	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	91.44	77.98			34.68	8.68	29.9	100	298	Average
5785	98.08	84.62			34.68	8.68	29.9	100	298	Peak
11570	47.08	28.45	54	-6.92	38	12.68	32.05	125	55	Average
11570	58.66	40.03	74	-15.34	38	12.68	32.05	125	55	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5587.15	54.11	40.83	68.2	-14.09	34.49	8.6	29.81	100	101	Peak
5658.025	53.29	39.94	74.14	-20.85	34.56	8.63	29.84	100	101	Peak
5917.9	52.4	38.82	73.45	-21.05	34.81	8.73	29.96	100	101	Peak
*5986.15	53.9	40.26	68.2	-14.3	34.88	8.75	29.99	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5612.35	53.26	39.97	68.2	-14.94	34.5	8.61	29.82	100	298	Peak
5654.35	53.32	39.97	71.42	-18.1	34.56	8.63	29.84	100	298	Peak
5920.525	51.9	38.32	71.51	-19.61	34.81	8.73	29.96	100	298	Peak
*5983	53.56	39.91	68.2	-14.64	34.88	8.75	29.98	100	298	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	97.48	83.97			34.73	8.69	29.91	100	101	Average
5825	104.17	90.66			34.73	8.69	29.91	100	101	Peak
11650	47.45	28.59	54	-6.55	38.09	12.8	32.03	127	111	Average
11650	58.13	39.27	74	-15.87	38.09	12.8	32.03	127	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	90.66	77.15			34.73	8.69	29.91	100	298	Average
5825	97.61	84.1			34.73	8.69	29.91	100	298	Peak
11650	47.43	28.57	54	-6.57	38.09	12.8	32.03	128	85	Average
11650	58.4	39.54	74	-15.6	38.09	12.8	32.03	128	85	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5547.775	53.66	40.41	68.2	-14.54	34.45	8.58	29.78	100	101	Peak
5652.25	52.69	39.34	69.86	-17.17	34.56	8.62	29.83	100	101	Peak
5923.15	52.93	39.33	69.57	-16.64	34.83	8.73	29.96	100	101	Peak
*5938.375	53.9	40.3	68.2	-14.3	34.83	8.74	29.97	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5614.975	53.69	40.4	68.2	-14.51	34.5	8.61	29.82	100	298	Peak
5651.725	50.43	37.08	69.48	-19.05	34.56	8.62	29.83	100	298	Peak
5922.625	52.45	38.85	69.96	-17.51	34.83	8.73	29.96	100	298	Peak
*6010.825	54.76	41.09	68.2	-13.44	34.92	8.76	30.01	100	298	Peak

Remarks:

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

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	50.83	38.29	54	-3.17	34.12	8.13	29.71	101	110	Average
5149.85	62.83	50.29	74	-11.17	34.12	8.13	29.71	101	110	Peak
5190	95.57	82.95			34.15	8.19	29.72	101	108	Average
5190	103.83	91.21			34.15	8.19	29.72	101	108	Peak
5444.16	42.76	29.68	54	-11.24	34.35	8.48	29.75	101	108	Average
5444.16	53.34	40.26	74	-20.66	34.35	8.48	29.75	101	108	Peak
*10380	57.67	40.35	68.2	-10.53	37.13	12.36	32.17	161	237	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.85	47.78	35.24	54	-6.22	34.12	8.13	29.71	231	292	Average
5149.85	58.18	45.64	74	-15.82	34.12	8.13	29.71	231	292	Peak
5190	94.65	82.03			34.15	8.19	29.72	231	292	Average
5190	102.1	89.48			34.15	8.19	29.72	231	292	Peak
5394.11	42.61	29.61	54	-11.39	34.31	8.44	29.75	231	292	Average
5394.11	53.93	40.93	74	-20.07	34.31	8.44	29.75	231	292	Peak
*10380	56.82	39.5	68.2	-11.38	37.13	12.36	32.17	149	113	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.4	42.79	30.25	54	-11.21	34.12	8.13	29.71	101	108	Average
5146.4	53.6	41.06	74	-20.4	34.12	8.13	29.71	101	108	Peak
5230	95.96	83.27			34.19	8.22	29.72	101	108	Average
5230	103.28	90.59			34.19	8.22	29.72	101	108	Peak
5364.3	42.85	29.92	54	-11.15	34.29	8.38	29.74	101	108	Average
5364.3	54.04	41.11	74	-19.96	34.29	8.38	29.74	101	108	Peak
*10460	58.51	41.04	68.2	-9.69	37.17	12.53	32.23	176	96	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	42.75	30.21	54	-11.25	34.12	8.13	29.71	231	292	Average
5149.4	53.63	41.09	74	-20.37	34.12	8.13	29.71	231	292	Peak
5230	95.05	82.36			34.19	8.22	29.72	231	292	Average
5230	102.46	89.77			34.19	8.22	29.72	231	292	Peak
5367.38	42.63	29.67	54	-11.37	34.29	8.41	29.74	231	292	Average
5367.38	53.09	40.13	74	-20.91	34.29	8.41	29.74	231	292	Peak
*10460	57.15	39.68	68.2	-11.05	37.17	12.53	32.23	145	187	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5230 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.15	43.12	30.62	54	-10.88	34.11	8.1	29.71	100	103	Average
5129.15	53.22	40.72	74	-20.78	34.11	8.1	29.71	100	103	Peak
5270	97.44	84.67			34.21	8.29	29.73	100	103	Average
5270	104.15	91.38			34.21	8.29	29.73	100	103	Peak
5453.95	43.33	30.22	54	-10.67	34.36	8.51	29.76	100	103	Average
5453.95	53.6	40.49	74	-20.4	34.36	8.51	29.76	100	103	Peak
*10540	57.04	39.45	68.2	-11.16	37.23	12.63	32.27	158	5	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5115.5	42.88	30.39	54	-11.12	34.09	8.1	29.7	218	292	Average
5115.5	53.54	41.05	74	-20.46	34.09	8.1	29.7	218	292	Peak
5270	90.85	78.08			34.21	8.29	29.73	218	292	Average
5270	97.11	84.34			34.21	8.29	29.73	218	292	Peak
5453.51	43.05	29.94	54	-10.95	34.36	8.51	29.76	218	292	Average
5453.51	53.54	40.43	74	-20.46	34.36	8.51	29.76	218	292	Peak
*10540	56.26	38.67	68.2	-11.94	37.23	12.63	32.27	124	226	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5115.8	43.18	30.69	54	-10.82	34.09	8.1	29.7	100	103	Average
5115.8	53.79	41.3	74	-20.21	34.09	8.1	29.7	100	103	Peak
5310	97.77	84.93			34.25	8.32	29.73	100	103	Average
5310	104.47	91.63			34.25	8.32	29.73	100	103	Peak
5350.33	51.86	38.94	54	-2.14	34.28	8.38	29.74	101	103	Average
5350.33	63.18	50.26	74	-10.82	34.28	8.38	29.74	101	103	Peak
10620	45.91	28.18	54	-8.09	37.3	12.69	32.26	111	333	Average
10620	57.06	39.33	74	-16.94	37.3	12.69	32.26	111	333	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5102.45	42.93	30.48	54	-11.07	34.08	8.07	29.7	218	292	Average
5102.45	53.17	40.72	74	-20.83	34.08	8.07	29.7	218	292	Peak
5310	90.52	77.68			34.25	8.32	29.73	218	292	Average
5310	97.64	84.8			34.25	8.32	29.73	218	292	Peak
5350.33	43.84	30.92	54	-10.16	34.28	8.38	29.74	218	292	Average
5350.33	53.64	40.72	74	-20.36	34.28	8.38	29.74	218	292	Peak
10620	46.04	28.31	54	-7.96	37.3	12.69	32.26	158	55	Average
10620	57.29	39.56	74	-16.71	37.3	12.69	32.26	158	55	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	44.69	31.58	54	-9.31	34.36	8.51	29.76	100	111	Average
5460	55.23	42.12	74	-18.77	34.36	8.51	29.76	100	111	Peak
*5470.96	60.21	47.06	68.2	-7.99	34.37	8.54	29.76	100	111	Peak
5510	97.44	84.24			34.4	8.57	29.77	100	111	Average
5510	104.87	91.67			34.4	8.57	29.77	100	111	Peak
*5724.6	52.2	38.79	68.2	-16	34.62	8.65	29.86	100	111	Peak
11020	46.74	28.41	54	-7.26	37.61	12.94	32.22	124	4	Average
11020	59.06	40.73	74	-14.94	37.61	12.94	32.22	124	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	43.2	30.09	54	-10.8	34.36	8.51	29.76	100	304	Average
5460	53	39.89	74	-21	34.36	8.51	29.76	100	304	Peak
*5469.2	53.97	40.85	68.2	-14.23	34.37	8.51	29.76	100	304	Peak
5510	88.59	75.39			34.4	8.57	29.77	100	304	Average
5510	95.88	82.68			34.4	8.57	29.77	100	304	Peak
*5725.48	53.66	40.25	68.2	-14.54	34.62	8.65	29.86	100	304	Peak
11020	46.69	28.36	54	-7.31	37.61	12.94	32.22	167	122	Average
11020	59.31	40.98	74	-14.69	37.61	12.94	32.22	167	122	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5439.76	43.41	30.33	54	-10.59	34.35	8.48	29.75	100	111	Average
5439.76	53.69	40.61	74	-20.31	34.35	8.48	29.75	100	111	Peak
*5470.64	52.92	39.8	68.2	-15.28	34.37	8.51	29.76	100	111	Peak
5550	97.06	83.8			34.45	8.59	29.78	100	111	Average
5550	104.57	91.31			34.45	8.59	29.78	100	111	Peak
*5723.96	52.47	39.06	68.2	-15.73	34.62	8.65	29.86	100	111	Peak
11100	47.1	28.75	54	-6.9	37.66	12.89	32.2	176	216	Average
11100	58.1	39.75	74	-15.9	37.66	12.89	32.2	176	216	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5449.04	43.28	30.16	54	-10.72	34.36	8.51	29.75	100	304	Average
5449.04	53.76	40.64	74	-20.24	34.36	8.51	29.75	100	304	Peak
*5468.24	51.89	38.77	68.2	-16.31	34.37	8.51	29.76	100	304	Peak
5550	88.52	75.26			34.45	8.59	29.78	100	304	Average
5550	95.11	81.85			34.45	8.59	29.78	100	304	Peak
*5725.32	52.31	38.9	68.2	-15.89	34.62	8.65	29.86	100	304	Peak
11100	46.92	28.57	54	-7.08	37.66	12.89	32.2	157	7	Average
11100	58.15	39.8	74	-15.85	37.66	12.89	32.2	157	7	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5451.76	43.2	30.09	54	-10.8	34.36	8.51	29.76	100	111	Average
5451.76	54.32	41.21	74	-19.68	34.36	8.51	29.76	100	111	Peak
*5470.48	53.38	40.26	68.2	-14.82	34.37	8.51	29.76	100	111	Peak
5670	97.95	84.59			34.57	8.63	29.84	100	111	Average
5670	104.49	91.13			34.57	8.63	29.84	100	111	Peak
*5725.88	53.59	40.18	68.2	-14.61	34.62	8.65	29.86	100	111	Peak
11340	46.83	28.44	54	-7.17	37.8	12.71	32.12	158	195	Average
11340	57.99	39.6	74	-16.01	37.8	12.71	32.12	158	195	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5408.56	43.04	30.03	54	-10.96	34.32	8.44	29.75	100	304	Average
5408.56	54.03	41.02	74	-19.97	34.32	8.44	29.75	100	304	Peak
*5470	51.54	38.42	68.2	-16.66	34.37	8.51	29.76	100	304	Peak
5670	88.52	75.16			34.57	8.63	29.84	100	304	Average
5670	95.85	82.49			34.57	8.63	29.84	100	304	Peak
*5725.64	54.07	40.66	68.2	-14.13	34.62	8.65	29.86	100	304	Peak
11340	46.5	28.11	54	-7.5	37.8	12.71	32.12	175	119	Average
11340	58.85	40.46	74	-15.15	37.8	12.71	32.12	175	119	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	95.53	82.09			34.66	8.66	29.88	100	101	Average
5755	102.41	88.97			34.66	8.66	29.88	100	101	Peak
11510	47.3	28.86	54	-6.7	37.9	12.6	32.06	124	164	Average
11510	58.95	40.51	74	-15.05	37.9	12.6	32.06	124	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	88.22	74.78			34.66	8.66	29.88	100	298	Average
5755	95.86	82.42			34.66	8.66	29.88	100	298	Peak
11510	47.01	28.57	54	-6.99	37.9	12.6	32.06	124	188	Average
11510	59.29	40.85	74	-14.71	37.9	12.6	32.06	124	188	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5551.45	53.94	40.68	68.2	-14.26	34.45	8.59	29.78	100	101	Peak
5656.45	53.12	39.77	72.97	-19.85	34.56	8.63	29.84	100	101	Peak
5922.1	53.04	39.44	70.35	-17.31	34.83	8.73	29.96	100	101	Peak
*6022.9	53.8	40.12	68.2	-14.4	34.92	8.77	30.01	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5537.8	54.33	41.1	68.2	-13.87	34.43	8.58	29.78	100	298	Peak
5654.875	52.94	39.59	71.81	-18.87	34.56	8.63	29.84	100	298	Peak
5918.95	52.29	38.71	72.68	-20.39	34.81	8.73	29.96	100	298	Peak
*5976.175	53.36	39.71	68.2	-14.84	34.88	8.75	29.98	100	298	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	95.54	82.07			34.69	8.68	29.9	100	101	Average
5795	102.61	89.14			34.69	8.68	29.9	100	101	Peak
11590	47.28	28.59	54	-6.72	38.02	12.72	32.05	125	2025	Average
11590	58.49	39.8	74	-15.51	38.02	12.72	32.05	125	2025	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	88.55	75.08			34.69	8.68	29.9	100	298	Average
5795	95.25	81.78			34.69	8.68	29.9	100	298	Peak
11590	47.47	28.78	54	-6.53	38.02	12.72	32.05	115	159	Average
11590	58.53	39.84	74	-15.47	38.02	12.72	32.05	115	159	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5629.15	54.11	40.8	68.2	-14.09	34.52	8.62	29.83	100	101	Peak
5651.725	50.62	37.27	69.48	-18.86	34.56	8.62	29.83	100	101	Peak
5923.15	52.82	39.22	69.57	-16.75	34.83	8.73	29.96	100	101	Peak
*5994.55	54.05	40.38	68.2	-14.15	34.9	8.76	29.99	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5621.8	53.7	40.39	68.2	-14.5	34.52	8.61	29.82	100	298	Peak
5651.2	49.66	36.31	69.09	-19.43	34.56	8.62	29.83	100	298	Peak
5923.675	51.66	38.06	69.18	-17.52	34.83	8.73	29.96	100	298	Peak
*5948.875	54.03	40.41	68.2	-14.17	34.85	8.74	29.97	100	298	Peak

Remarks:

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

802.11ac (VHT80)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.25	48.08	35.54	54	-5.92	34.12	8.13	29.71	100	106	Peak
5149.25	59.24	46.7	74	-14.76	34.12	8.13	29.71	100	106	Peak
5210	90.53	77.89			34.17	8.19	29.72	100	108	Average
5210	98.28	85.64			34.17	8.19	29.72	100	108	Peak
5366.39	42.61	29.68	54	-11.39	34.29	8.38	29.74	100	106	Average
5366.39	52.92	39.99	74	-21.08	34.29	8.38	29.74	100	106	Peak
*10420	57.89	40.51	68.2	-10.31	37.15	12.42	32.19	128	63	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.55	46.15	33.61	54	-7.85	34.12	8.13	29.71	231	292	Peak
5149.55	58.06	45.52	74	-15.94	34.12	8.13	29.71	231	292	Peak
5210	89.77	77.13			34.17	8.19	29.72	231	292	Average
5210	96.93	84.29			34.17	8.19	29.72	231	292	Peak
5362.21	42.58	29.65	54	-11.42	34.29	8.38	29.74	231	292	Average
5362.21	53.26	40.33	74	-20.74	34.29	8.38	29.74	231	292	Peak
*10420	57.35	39.97	68.2	-10.85	37.15	12.42	32.19	148	172	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5210 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.2	43.22	30.68	54	-10.78	34.12	8.13	29.71	100	103	Average
5148.2	53.61	41.07	74	-20.39	34.12	8.13	29.71	100	103	Peak
5290	91.44	78.62			34.23	8.32	29.73	100	103	Average
5290	98.06	85.24			34.23	8.32	29.73	100	103	Peak
5352.97	49.18	36.26	54	-4.82	34.28	8.38	29.74	100	103	Average
5352.97	58.93	46.01	74	-15.07	34.28	8.38	29.74	100	103	Peak
*10580	56.99	39.33	68.2	-11.21	37.27	12.65	32.26	157	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5119.55	43.18	30.7	54	-10.82	34.09	8.1	29.71	218	292	Average
5119.55	53.75	41.27	74	-20.25	34.09	8.1	29.71	218	292	Peak
5290	84.59	71.77			34.23	8.32	29.73	218	292	Average
5290	91.02	78.2			34.23	8.32	29.73	218	292	Peak
5355.94	43.69	30.77	54	-10.31	34.28	8.38	29.74	218	292	Average
5355.94	53.87	40.95	74	-20.13	34.28	8.38	29.74	218	292	Peak
*10580	57.15	39.49	68.2	-11.05	37.27	12.65	32.26	124	222	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.8	47.63	34.52	54	-6.37	34.36	8.51	29.76	100	111	Average
5458.8	59.08	45.97	74	-14.92	34.36	8.51	29.76	100	111	Peak
*5468.24	57.83	44.71	68.2	-10.37	34.37	8.51	29.76	100	111	Peak
5530	93.65	80.43			34.42	8.58	29.78	100	111	Average
5530	100.32	87.1			34.42	8.58	29.78	100	111	Peak
*5724.36	52.11	38.7	68.2	-16.09	34.62	8.65	29.86	100	111	Peak
11060	47.3	28.95	54	-6.7	37.64	12.91	32.2	158	188	Average
11060	58.53	40.18	74	-15.47	37.64	12.91	32.2	158	188	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5448.4	43.7	30.58	54	-10.3	34.36	8.51	29.75	100	304	Average
5448.4	54.17	41.05	74	-19.83	34.36	8.51	29.75	100	304	Peak
*5470	53.63	40.51	68.2	-14.57	34.37	8.51	29.76	100	304	Peak
5530	86.53	73.31			34.42	8.58	29.78	100	304	Average
5530	93.84	80.62			34.42	8.58	29.78	100	304	Peak
*5724.84	52.78	39.37	68.2	-15.42	34.62	8.65	29.86	100	304	Peak
11060	47.09	28.74	54	-6.91	37.64	12.91	32.2	164	193	Average
11060	58.84	40.49	74	-15.16	37.64	12.91	32.2	164	193	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5530 MHz: Fundamental Frequency
- *: Out of Restricted Band
- 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5406.96	43.46	30.45	54	-10.54	34.32	8.44	29.75	100	111	Average
5406.96	53.45	40.44	74	-20.55	34.32	8.44	29.75	100	111	Peak
*5469.36	52.47	39.35	68.2	-15.73	34.37	8.51	29.76	100	111	Peak
5610	93.55	80.26			34.5	8.61	29.82	100	111	Average
5610	100.71	87.42			34.5	8.61	29.82	100	111	Peak
*5725.8	53.05	39.64	68.2	-15.15	34.62	8.65	29.86	100	111	Peak
11220	46.95	28.57	54	-7.05	37.73	12.8	32.15	173	325	Average
11220	58.81	40.43	74	-15.19	37.73	12.8	32.15	173	325	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5451.12	43.43	30.32	54	-10.57	34.36	8.51	29.76	100	304	Average
5451.12	53.54	40.43	74	-20.46	34.36	8.51	29.76	100	304	Peak
*5468.4	52.8	39.68	68.2	-15.4	34.37	8.51	29.76	100	304	Peak
5610	86.55	73.26			34.5	8.61	29.82	100	304	Average
5610	93.87	80.58			34.5	8.61	29.82	100	304	Peak
*5724.52	51.98	38.57	68.2	-16.22	34.62	8.65	29.86	100	304	Peak
11220	47.05	28.67	54	-6.95	37.73	12.8	32.15	135	265	Average
11220	59.44	41.06	74	-14.56	37.73	12.8	32.15	135	265	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. 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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	92.22	78.76			34.68	8.67	29.89	100	101	Average
5775	99.27	85.81			34.68	8.67	29.89	100	101	Peak
11550	47.6	29	54	-6.4	37.97	12.68	32.05	158	8	Average
11550	58.69	40.09	74	-15.31	37.97	12.68	32.05	158	8	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	85.22	71.76			34.68	8.67	29.89	100	298	Average
5775	92.19	78.73			34.68	8.67	29.89	100	298	Peak
11550	47.26	28.66	54	-6.74	37.97	12.68	32.05	195	326	Average
11550	58.16	39.56	74	-15.84	37.97	12.68	32.05	195	326	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5579.8	54.75	41.49	68.2	-13.45	34.47	8.6	29.81	100	101	Peak
5655.925	51.88	38.53	72.58	-20.7	34.56	8.63	29.84	100	101	Peak
5922.1	53.56	39.96	70.35	-16.79	34.83	8.73	29.96	100	101	Peak
*5959.375	53.85	40.21	68.2	-14.35	34.87	8.74	29.97	100	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*5627.05	53.3	39.98	68.2	-14.9	34.52	8.62	29.82	100	298	Peak
5655.4	51.94	38.59	72.2	-20.26	34.56	8.63	29.84	100	298	Peak
5921.575	52.09	38.49	70.73	-18.64	34.83	8.73	29.96	100	298	Peak
*5976.175	54.44	40.79	68.2	-13.76	34.88	8.75	29.98	100	298	Peak

Remarks:

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

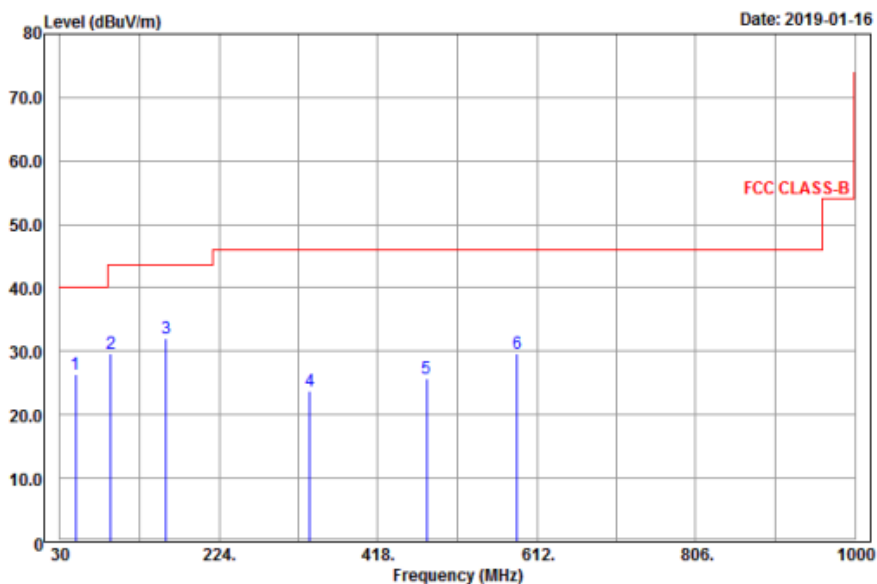
30 MHz ~ 1 GHz Worst-Case Data:

Mode A

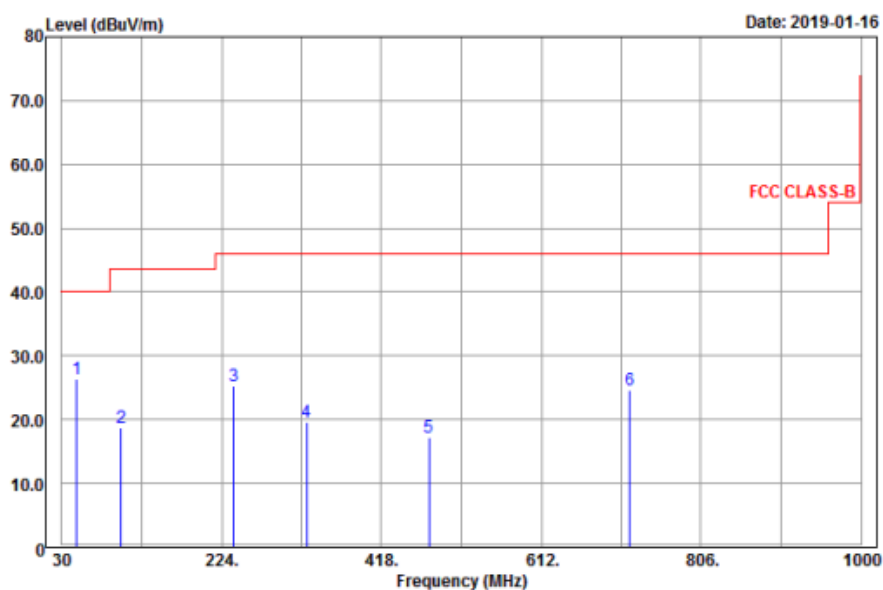
802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
49.17	26.35	43.12	40	-13.65	14.55	0.9	32.22	166	152	Peak
92.37	29.72	49.51	43.5	-13.78	10.92	1.11	31.82	158	145	Peak
159.6	32.02	54.02	43.5	-11.48	8.75	1.52	32.27	123	158	Peak
335	23.71	39.69	46	-22.29	13.92	2.19	32.09	159	178	Peak
477.8	25.67	39.19	46	-20.33	16.04	2.56	32.12	122	153	Peak
587.7	29.56	41.18	46	-16.44	17.75	2.82	32.19	105	128	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
47.82	26.43	43.24	40	-13.57	14.51	0.9	32.22	195	165	Peak
101.82	18.69	37.33	43.5	-24.81	12.34	1.28	32.26	144	185	Peak
238.44	25.28	43.52	46	-20.72	12.05	1.85	32.14	102	132	Peak
327.3	19.68	35.97	46	-26.32	13.7	2.11	32.1	115	126	Peak
475.7	17.19	30.77	46	-28.81	15.98	2.56	32.12	199	157	Peak
719.3	24.53	33.97	46	-21.47	19.51	3.16	32.11	102	157	Peak

Remarks:

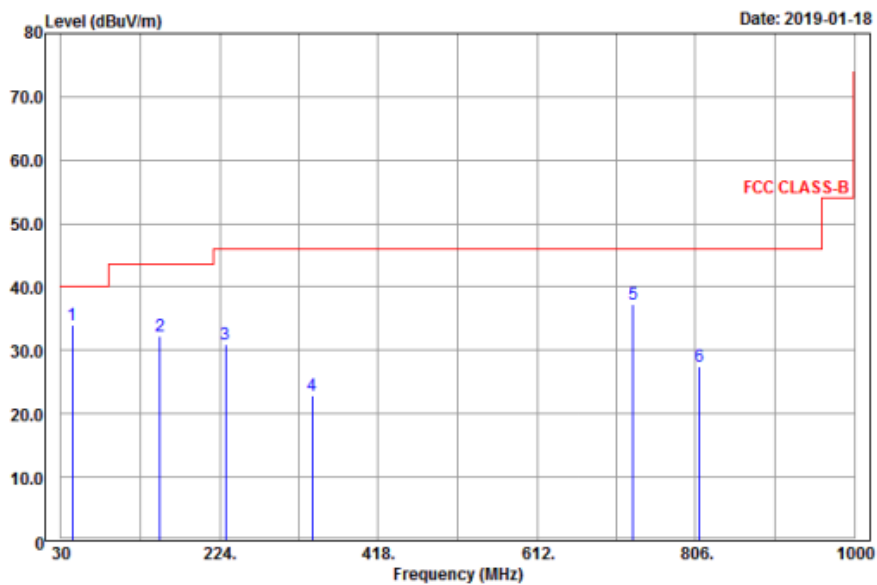
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit

Mode B

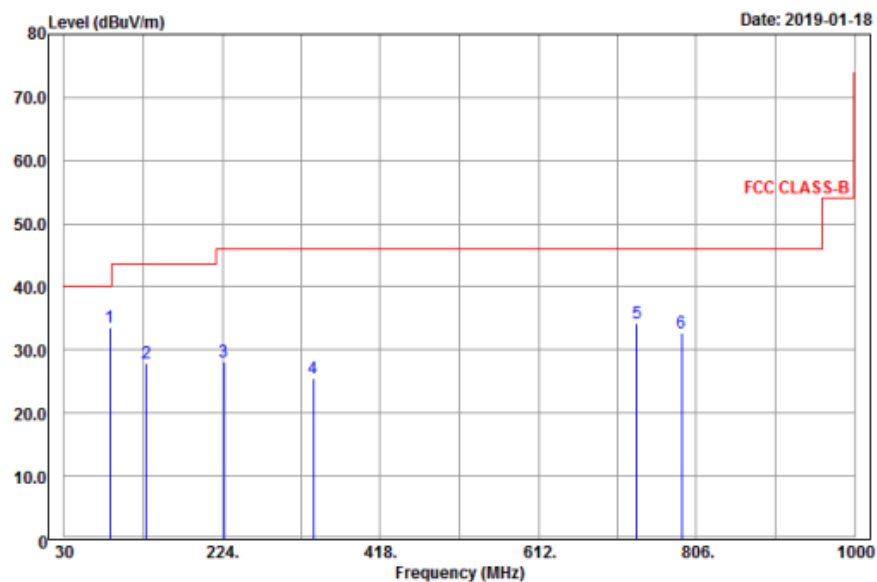
802.11n (HT40)

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)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.77	34.06	51.21	40	-5.94	14.17	0.9	32.22	143	236	Peak
150.96	32.34	54.65	43.5	-11.16	8.44	1.52	32.27	124	13	Peak
230.88	30.96	49.49	46	-15.04	11.79	1.85	32.17	124	306	Peak
337.1	22.89	38.78	46	-23.11	14	2.19	32.08	115	241	Peak
729.8	37.23	46.58	46	-8.77	19.61	3.16	32.12	105	196	Peak
811	27.41	35.59	46	-18.59	20.5	3.32	32	134	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
86.16	33.65	55.01	40	-6.35	9.44	1.11	31.91	159	53	Peak
130.71	27.89	49.83	43.5	-15.61	8.91	1.38	32.23	130	329	Peak
225.75	28.14	46.89	46	-17.86	11.59	1.85	32.19	125	55	Peak
335.7	25.52	41.48	46	-20.48	13.94	2.19	32.09	124	291	Peak
733.3	34.23	43.56	46	-11.77	19.64	3.16	32.13	180	5	Peak
787.9	32.75	41.35	46	-13.25	20.21	3.27	32.08	124	147	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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

4.2.3 Test Procedures

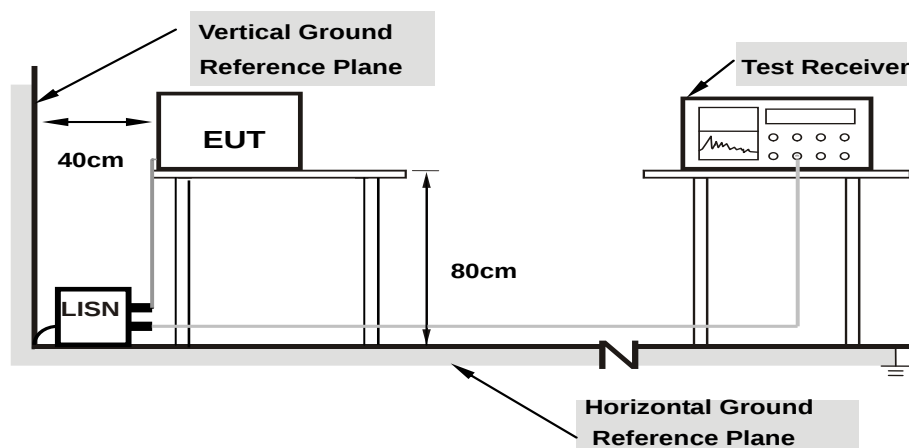
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

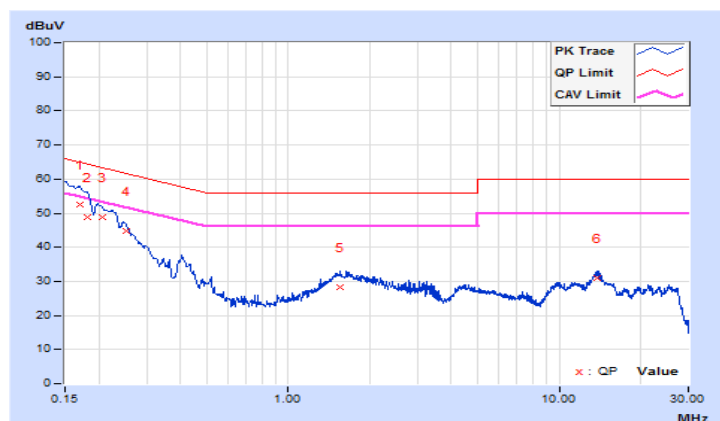
Mode A

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	Jisyong Wang	Test Date	2019/1/18

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	0.17025	10.05	42.31	18.30	52.36	28.35	64.95	54.95	-12.59	-26.60
2	0.18076	10.06	38.72	12.61	48.78	22.67	64.45	54.45	-15.67	-31.78
3	0.20625	10.06	38.65	21.50	48.71	31.56	63.35	53.35	-14.64	-21.79
4	0.25125	10.06	34.65	15.90	44.71	25.96	61.72	51.72	-17.01	-25.76
5	1.56290	10.08	18.11	4.51	28.19	14.59	56.00	46.00	-27.81	-31.41
6	13.79175	10.38	20.75	3.73	31.13	14.11	60.00	50.00	-28.87	-35.89

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

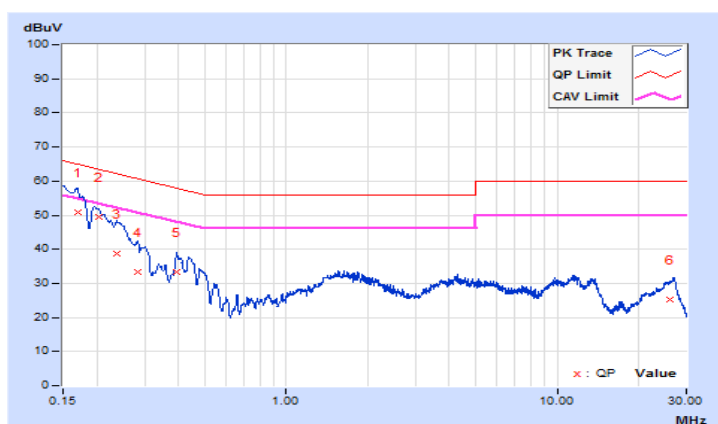


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Jisyong Wang	Test Date	2019/1/18

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	0.17025	10.06	40.89	14.58	50.95	24.64	64.95	54.95	-14.00	-30.31
2	0.20400	10.07	39.26	23.42	49.33	33.49	63.45	53.45	-14.12	-19.96
3	0.23775	10.07	28.74	11.78	38.81	21.85	62.17	52.17	-23.36	-30.32
4	0.28241	10.07	23.11	8.31	33.18	18.38	60.74	50.74	-27.56	-32.36
5	0.39525	10.07	23.11	5.76	33.18	15.83	57.95	47.95	-24.77	-32.12
6	25.99800	10.49	14.74	3.07	25.23	13.56	60.00	50.00	-34.77	-36.44

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



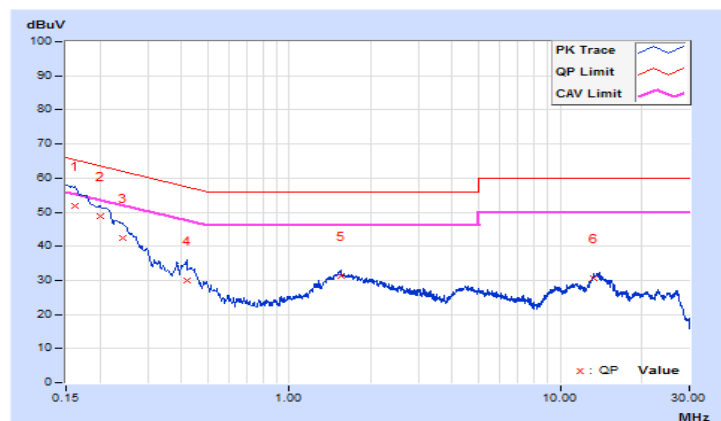
Mode B

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	Jisyong Wang	Test Date	2019/1/18

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	0.16125	10.05	41.93	17.81	51.98	27.86	65.40	55.40	-13.42	-27.54
2	0.19983	10.06	38.76	22.00	48.82	32.06	63.62	53.62	-14.80	-21.56
3	0.24167	10.06	32.49	16.13	42.55	26.19	62.04	52.04	-19.49	-25.85
4	0.41775	10.06	19.82	4.58	29.88	14.64	57.49	47.49	-27.61	-32.85
5	1.54500	10.08	21.37	5.23	31.45	15.31	56.00	46.00	-24.55	-30.69
6	13.35300	10.37	20.26	4.11	30.63	14.48	60.00	50.00	-29.37	-35.52

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

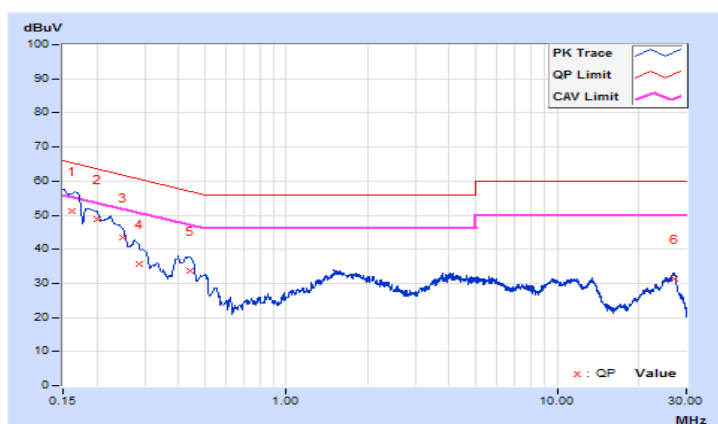


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Jisyong Wang	Test Date	2019/1/18

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	0.16093	10.06	41.12	16.40	51.18	26.46	65.42	55.42	-14.24	-28.96
2	0.19983	10.07	38.73	22.27	48.80	32.34	63.62	53.62	-14.82	-21.28
3	0.24900	10.07	33.48	19.88	43.55	29.95	61.79	51.79	-18.24	-21.84
4	0.28500	10.07	25.64	11.75	35.71	21.82	60.67	50.67	-24.96	-28.85
5	0.43891	10.07	23.49	11.85	33.56	21.92	57.08	47.08	-23.52	-25.16
6	27.06225	10.46	20.91	7.88	31.37	18.34	60.00	50.00	-28.63	-31.66

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



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 $N_{ANT} \leq 4$;

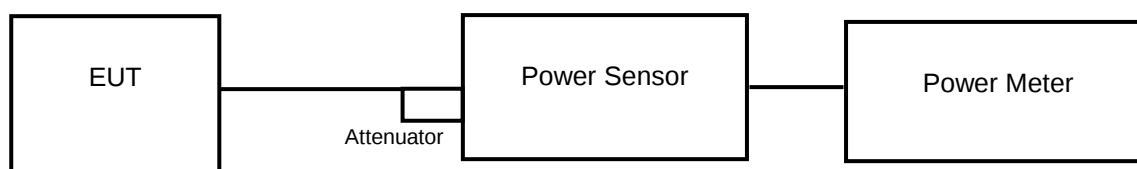
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

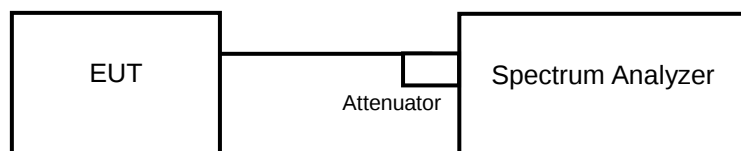
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

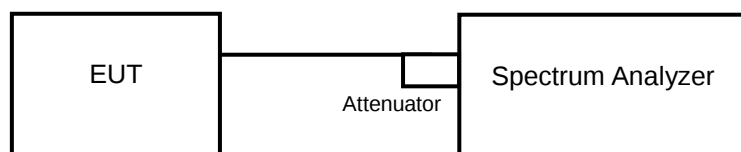
<Power Output Measurement>



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	26.303	14.20	24	Pass
40	5200	24.831	13.95	24	Pass
48	5240	24.831	13.95	24	Pass
52	5260	24.044	13.81	24	Pass
60	5300	26.73	14.27	24	Pass
64	5320	26.792	14.28	24	Pass
100	5500	23.933	13.79	24	Pass
116	5580	25.235	14.02	24	Pass
140	5700	25.763	14.11	24	Pass
149	5745	26.669	14.26	30	Pass
157	5785	27.353	14.37	30	Pass
165	5825	27.102	14.33	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (20.96) = 24.21 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (20.96) = 24.21 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (20.99) = 24.22 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (20.84) = 24.19 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (20.97) = 24.22 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (20.98) = 24.22 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.15	13.22	41.643	16.20	24	Pass
40	5200	13.21	13.26	42.125	16.25	24	Pass
48	5240	13.34	13.27	42.809	16.32	24	Pass
52	5260	13.09	13.22	41.359	16.17	24	Pass
60	5300	13.04	13.07	40.414	16.07	24	Pass
64	5320	13.26	13.32	42.662	16.30	24	Pass
100	5500	13.25	13.17	41.884	16.22	24	Pass
116	5580	13.05	13.07	40.461	16.07	24	Pass
140	5700	13.13	13.19	41.404	16.17	24	Pass
149	5745	13.33	13.25	42.663	16.30	30	Pass
157	5785	13.28	13.25	42.416	16.28	30	Pass
165	5825	13.16	13.18	41.498	16.18	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log(21.34) = 24.29 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(21.47) = 24.32 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(21.24) = 24.27 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(21.30) = 24.28 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(21.24) = 24.27 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(21.25) = 24.27 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log(21.42) = 24.31 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(21.19) = 24.26 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(21.17) = 24.26 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(21.16) = 24.26 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(21.12) = 24.25 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(21.34) = 24.29 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.14	13.02	40.651	16.09	24	Pass
46	5230	13.19	13.15	41.499	16.18	24	Pass
54	5270	13.10	13.02	40.462	16.07	24	Pass
62	5310	11.88	11.88	30.834	14.89	24	Pass
102	5510	13.25	13.27	42.367	16.27	24	Pass
110	5550	13.31	13.33	42.957	16.33	24	Pass
134	5670	13.31	13.27	42.661	16.30	24	Pass
151	5755	12.97	13.08	40.139	16.04	30	Pass
159	5795	13.28	13.25	42.416	16.28	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (43.40) = 27.37 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (43.49) = 27.38 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (43.41) = 27.38 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (43.46) = 27.38 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (43.47) = 27.38 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (43.39) = 27.37 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (43.09) = 27.34 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (43.21) = 27.36 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (43.35) = 27.37 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (43.27) = 27.36 \text{ dBm} > 24 \text{ dBm}$.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	10.22	10.30	21.235	13.27	24	Pass
58	5290	9.71	9.83	18.97	12.78	24	Pass
106	5530	10.27	10.23	21.185	13.26	24	Pass
122	5610	10.26	10.23	21.161	13.26	24	Pass
155	5775	10.30	10.17	21.114	13.25	30	Pass

Note:

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

Chain 0

1. $11 \text{ dBm} + 10\log (83.35) = 30.21 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (83.17) = 30.20 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (83.15) = 30.20 \text{ dBm} > 24 \text{ dBm}$.

Chain 1

1. $11 \text{ dBm} + 10\log (82.81) = 30.18 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (82.51) = 30.17 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (82.05) = 30.14 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	20.93
40	5200	20.84
48	5240	21.09
52	5260	20.96
60	5300	20.96
64	5320	20.99
100	5500	20.84
116	5580	20.97
140	5700	20.98

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	21.52	21.20
40	5200	21.40	21.26
48	5240	21.24	21.25
52	5260	21.34	21.42
60	5300	21.47	21.19
64	5320	21.24	21.17
100	5500	21.30	21.16
116	5580	21.24	21.12
140	5700	21.25	21.34

802.11n (HT40)

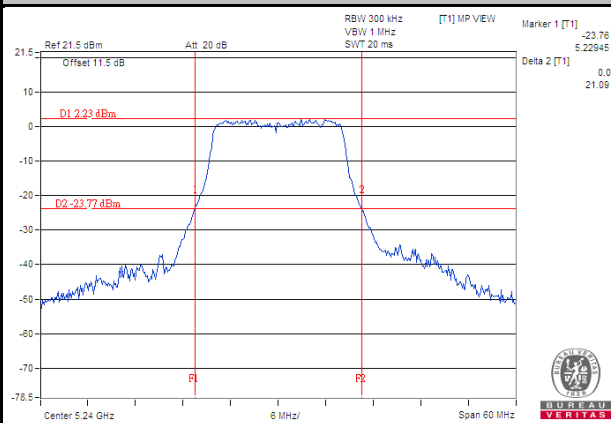
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	43.42	43.15
46	5230	43.46	43.46
54	5270	43.40	43.39
62	5310	43.49	43.09
102	5510	43.41	43.21
110	5550	43.46	43.35
134	5670	43.47	43.27

802.11ac (VHT80)

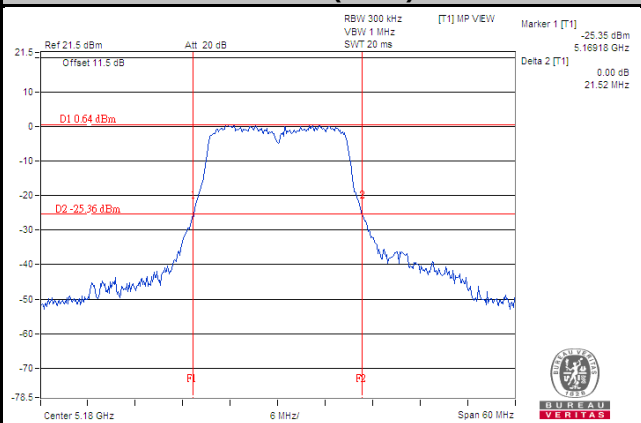
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	83.52	82.03
58	5290	83.35	82.81
106	5530	83.17	82.51
122	5610	83.15	82.05

Spectrum Plot of Worst Value

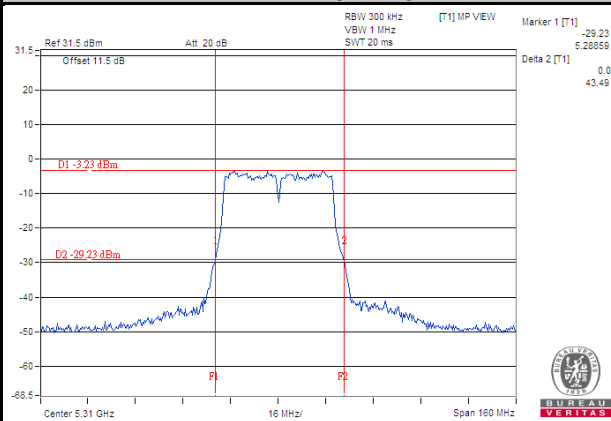
802.11a



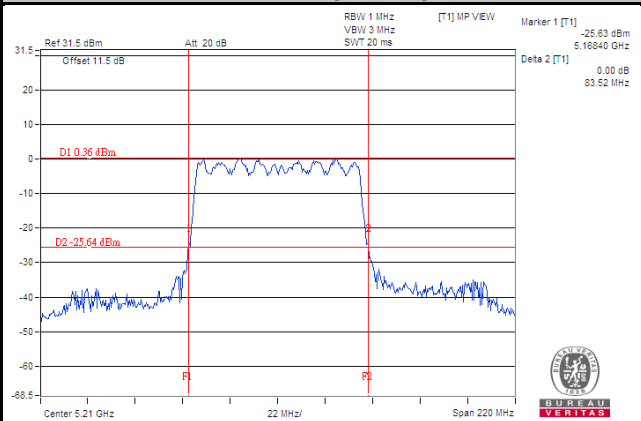
802.11n (HT20)



802.11n (HT40)

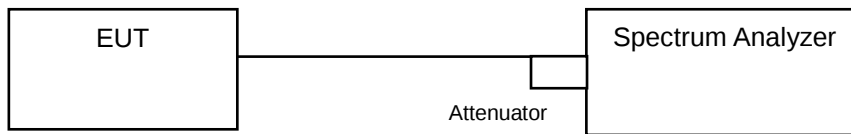


802.11ac (VHT80)



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	16.68
40	5200	16.68
48	5240	16.68
52	5260	16.68
60	5300	16.80
64	5320	16.68
100	5500	16.68
116	5580	16.68
140	5700	16.68
149	5745	16.64
157	5785	16.73
165	5825	16.83

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	17.76	17.64
48	5240	17.76	17.64
52	5260	17.76	17.76
60	5300	17.64	17.64
64	5320	17.76	17.76
100	5500	17.76	17.64
116	5580	17.76	17.76
140	5700	17.64	17.64
149	5745	17.79	17.70
157	5785	17.79	17.79
165	5825	17.79	17.70

802.11n (HT40)

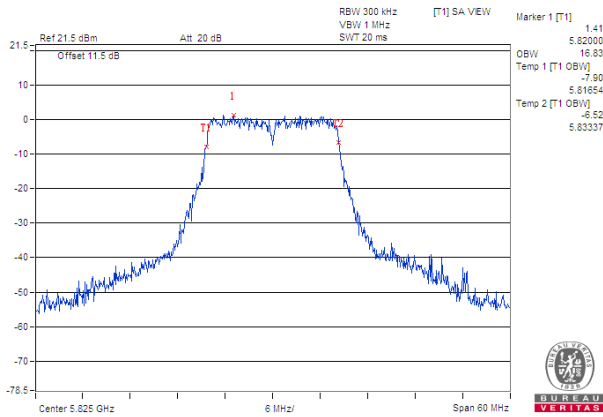
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.84	37.08
46	5230	36.84	36.84
54	5270	36.96	36.84
62	5310	36.84	36.72
102	5510	36.84	36.96
110	5550	36.72	36.96
134	5670	36.96	36.84
151	5755	36.72	36.72
159	5795	37.08	37.08

802.11ac (VHT80)

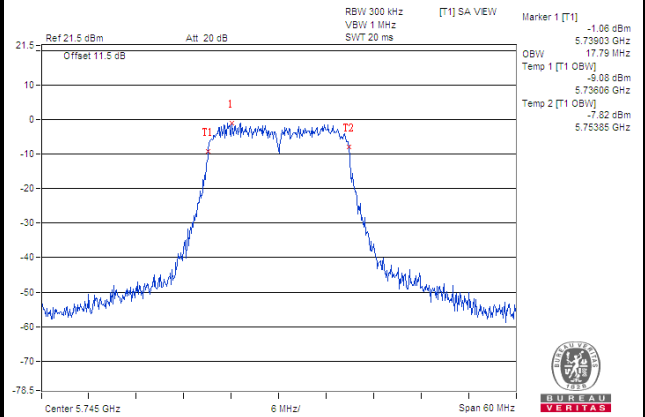
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
58	5290	75.84	75.60
106	5530	76.08	75.60
122	5610	76.08	75.60
155	5775	75.76	75.57

Spectrum Plot of Worst Value

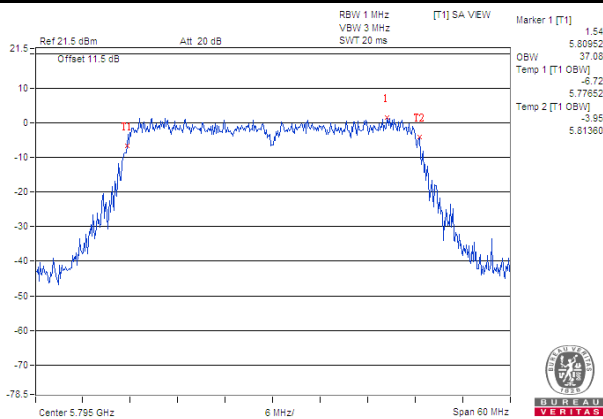
802.11a



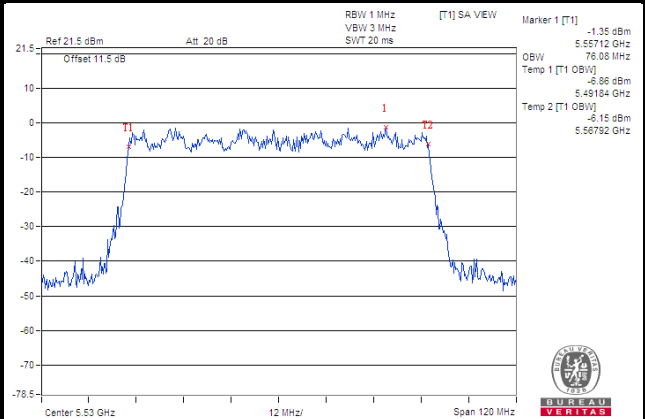
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

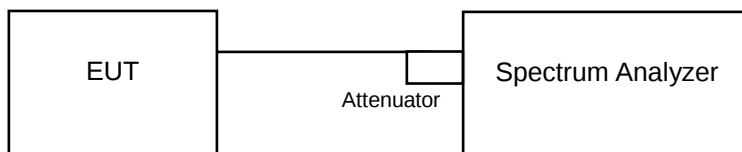


4.5 Peak Power Spectral Density Measurement

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

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 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:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 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	-2.26	0.24	-2.02	11	Pass
40	5200	-2.60	0.24	-2.36	11	Pass
48	5240	-2.70	0.24	-2.46	11	Pass
52	5260	-2.60	0.24	-2.36	11	Pass
60	5300	-1.89	0.24	-1.65	11	Pass
64	5320	-1.99	0.24	-1.75	11	Pass
100	5500	-2.56	0.24	-2.32	11	Pass
116	5580	-2.41	0.24	-2.17	11	Pass
140	5700	-2.77	0.24	-2.53	11	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-4.04	-3.33	0.19	-0.47	8.99	Pass
40	5200	-5.57	-3.22	0.19	-1.04	8.99	Pass
48	5240	-4.04	-3.44	0.19	-0.53	8.99	Pass
52	5260	-4.94	-3.27	0.19	-0.82	8.99	Pass
60	5300	-4.56	-4.14	0.19	-1.14	8.99	Pass
64	5320	-5.32	-4.13	0.19	-1.48	8.99	Pass
100	5500	-4.31	-4.31	0.19	-1.11	8.99	Pass
116	5580	-4.65	-3.47	0.19	-0.82	8.99	Pass
140	5700	-5.06	-4.02	0.19	-1.31	8.99	Pass

Note:

1. Method 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (8.01 - 6) = 8.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-7.56	-6.61	0.39	-3.66	8.99	Pass
46	5230	-7.72	-6.71	0.39	-3.79	8.99	Pass
54	5270	-7.09	-6.78	0.39	-3.53	8.99	Pass
62	5310	-8.15	-7.04	0.39	-4.16	8.99	Pass
102	5510	-7.32	-7.03	0.39	-3.77	8.99	Pass
110	5550	-7.25	-7.34	0.39	-3.89	8.99	Pass
134	5670	-7.76	-7.27	0.39	-4.11	8.99	Pass

Note:

1. Method 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (8.01 - 6) = 8.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

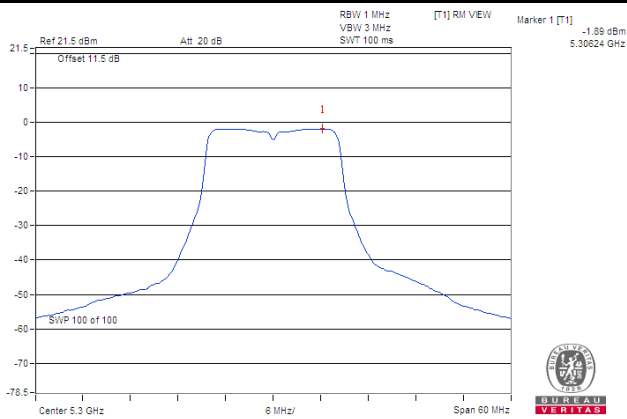
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-11.99	-12.16	0.94	-8.13	8.99	Pass
58	5290	-11.48	-12.21	0.94	-7.88	8.99	Pass
106	5530	-11.27	-11.28	0.94	-7.33	8.99	Pass
122	5610	-11.56	-11.73	0.94	-7.70	8.99	Pass

Note:

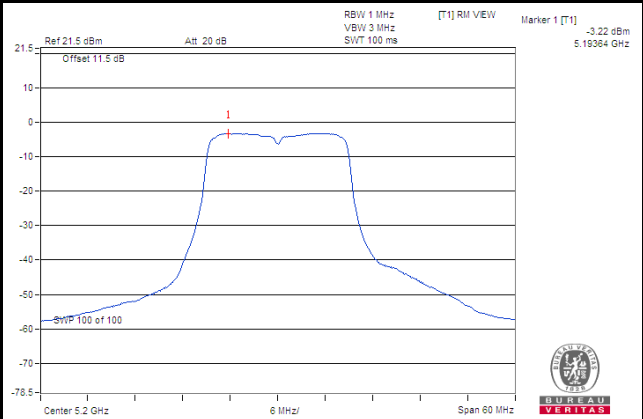
1. Method 2) a) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (8.01 - 6) = 8.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

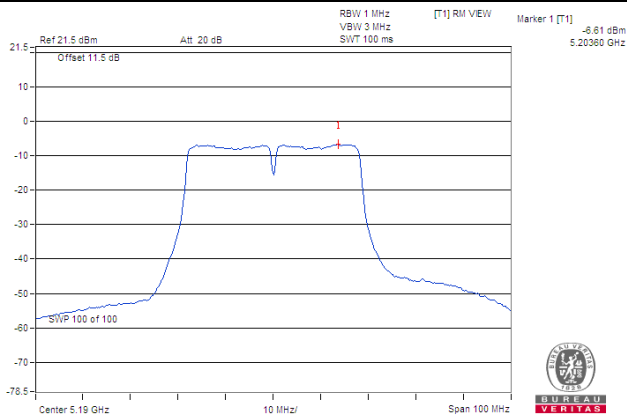
802.11a



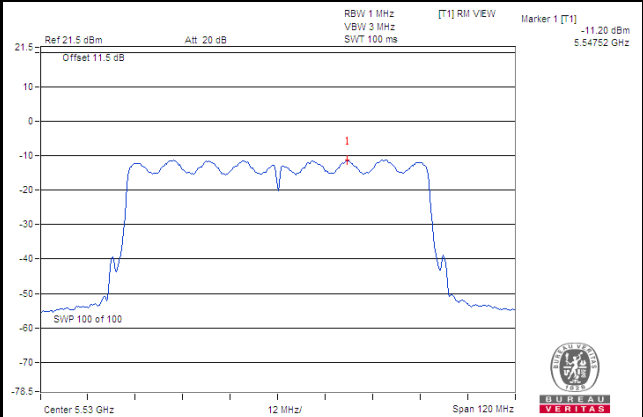
802.11n (HT20)



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	-10.23	-8.01	0.24	-7.77	30	Pass
157	5785	-10.47	-8.25	0.24	-8.01	30	Pass
165	5825	-10.51	-8.29	0.24	-8.05	30	Pass

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

802.11n (HT20)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	149	5745	-12.49	-10.27	3.01	0.19	-7.07	27.99	Pass
	157	5785	-13.29	-11.07	3.01	0.19	-7.87	27.99	Pass
	165	5825	-13.41	-11.19	3.01	0.19	-7.99	27.99	Pass
1	149	5745	-11.95	-9.73	3.01	0.19	-6.53	27.99	Pass
	157	5785	-12.67	-10.45	3.01	0.19	-7.25	27.99	Pass
	165	5825	-12.42	-10.20	3.01	0.19	-7.00	27.99	Pass

Note:

1. Method 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.01 - 6) = 27.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	151	5755	-17.71	-15.49	3.01	0.39	-12.09	27.99	Pass
	159	5795	-17.17	-14.95	3.01	0.39	-11.55	27.99	Pass
1	151	5755	-16.37	-14.15	3.01	0.39	-10.75	27.99	Pass
	159	5795	-16.62	-14.40	3.01	0.39	-11.00	27.99	Pass

Note:

- Method 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.01 - 6) = 27.99 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

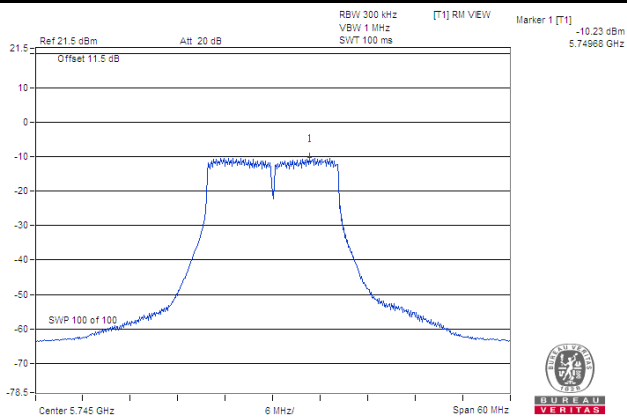
TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	155	5775	-17.94	-15.72	3.01	0.94	-11.77	27.99	Pass
1	155	5775	-18.39	-16.17	3.01	0.94	-12.22	27.99	Pass

Note:

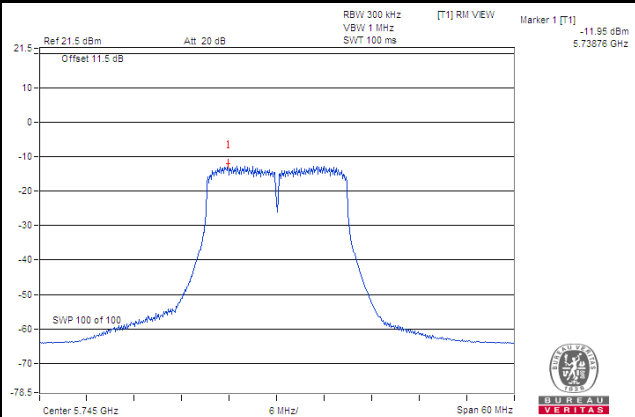
- Method 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 8.01 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.01 - 6) = 27.99 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

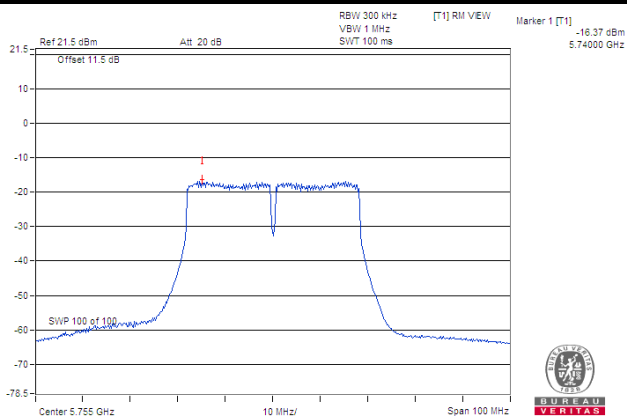
802.11a



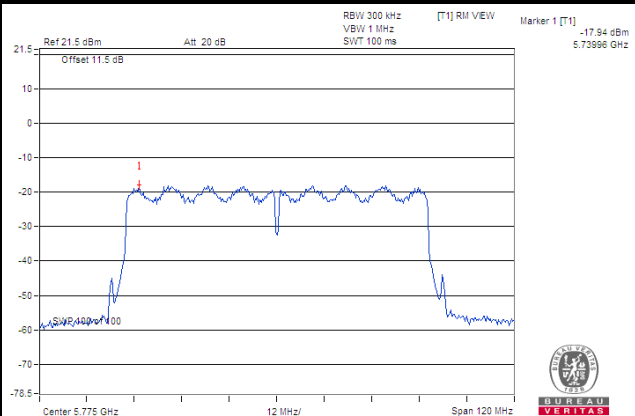
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

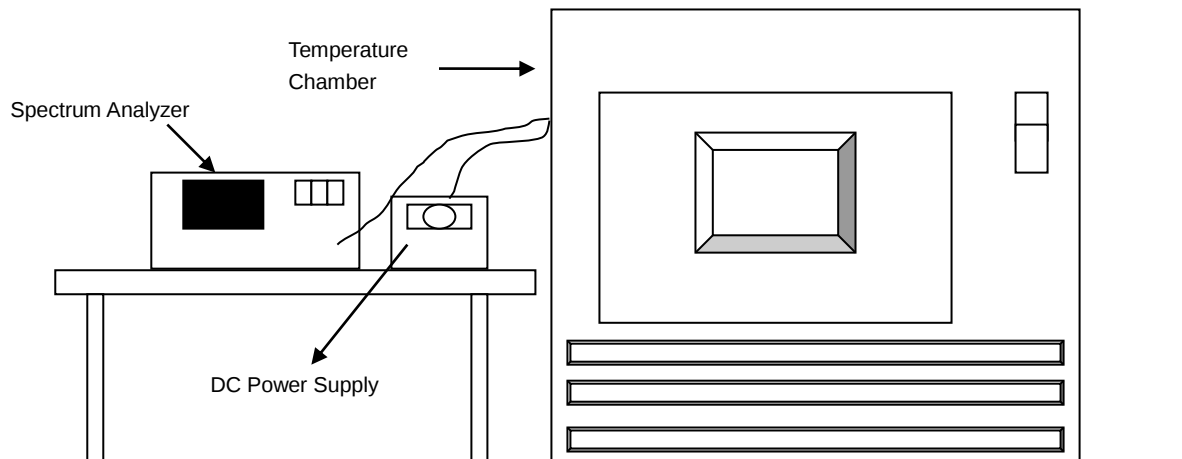


4.6 Frequency Stability

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

- To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

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	
		Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result
50	3.3	5179.9833	PASS	5179.986	PASS	5179.982	PASS	5179.9852	PASS
40	3.3	5180.0226	PASS	5180.019	PASS	5180.0219	PASS	5180.0209	PASS
30	3.3	5180.0199	PASS	5180.023	PASS	5180.0225	PASS	5180.0191	PASS
20	3.3	5179.9933	PASS	5179.9921	PASS	5179.9911	PASS	5179.9942	PASS
10	3.3	5180.0012	PASS	5180.0036	PASS	5180.0033	PASS	5180.0026	PASS
0	3.3	5180.0181	PASS	5180.0184	PASS	5180.0168	PASS	5180.018	PASS
-10	3.3	5179.9783	PASS	5179.9752	PASS	5179.9748	PASS	5179.975	PASS
-20	3.3	5179.9797	PASS	5179.9818	PASS	5179.9797	PASS	5179.9811	PASS
-30	3.3	5179.9818	PASS	5179.982	PASS	5179.9828	PASS	5179.9792	PASS

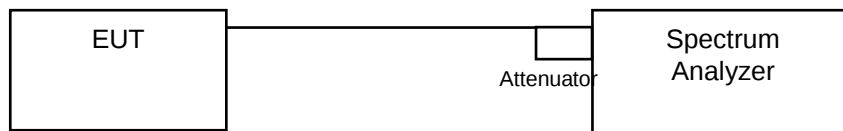
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result
20	3.795	5180.019	PASS	5180.0189	PASS	5180.0174	PASS	5180.0183	PASS
	3.3	5180.0181	PASS	5180.0184	PASS	5180.0168	PASS	5180.018	PASS
	2.805	5180.0171	PASS	5180.0193	PASS	5180.0172	PASS	5180.0185	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	16.35	0.5	Pass
157	5785	16.36	0.5	Pass
165	5825	16.37	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.99	16.75	0.5	Pass
157	5785	17.00	16.77	0.5	Pass
165	5825	16.98	16.97	0.5	Pass

802.11n (HT40)

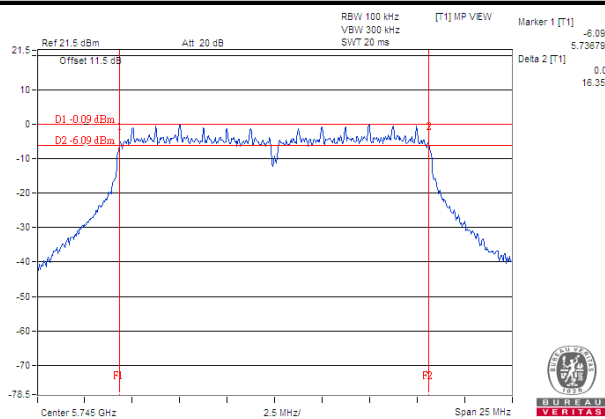
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.28	36.15	0.5	Pass
159	5795	36.41	36.25	0.5	Pass

802.11ac (VHT80)

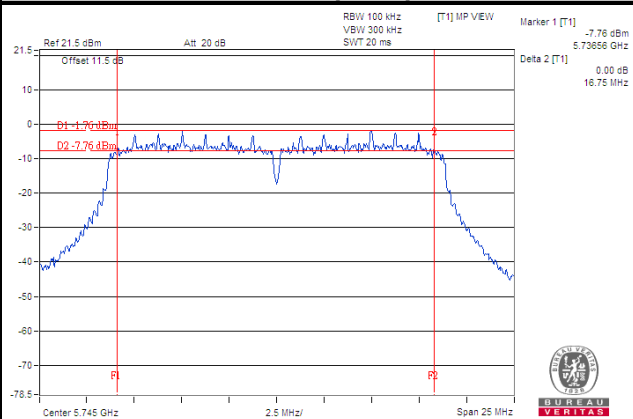
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.54	75.49	0.5	Pass

Spectrum Plot of Worst Value

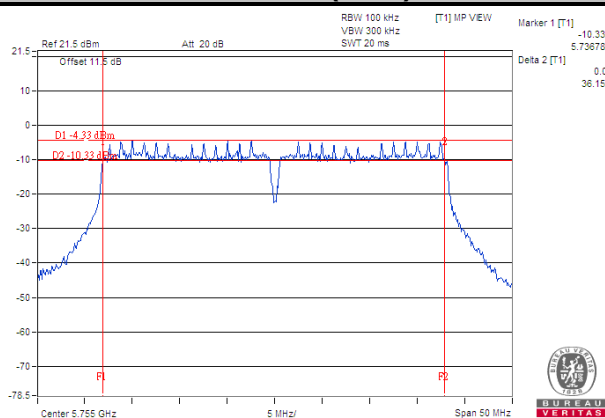
802.11a



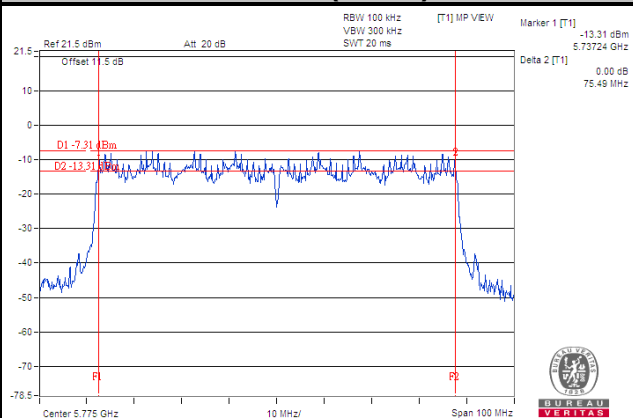
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



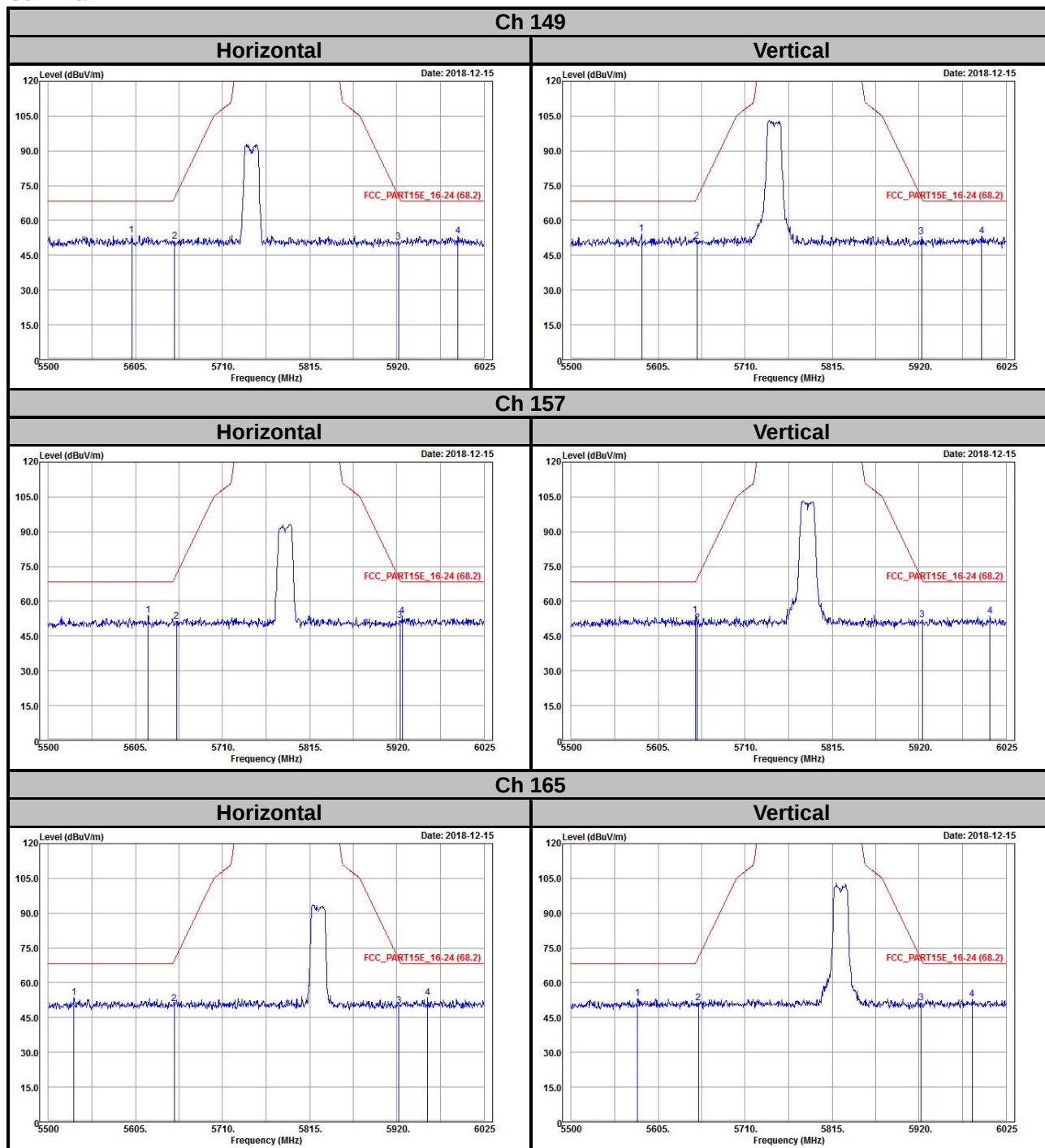
5 Pictures of Test Arrangements

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

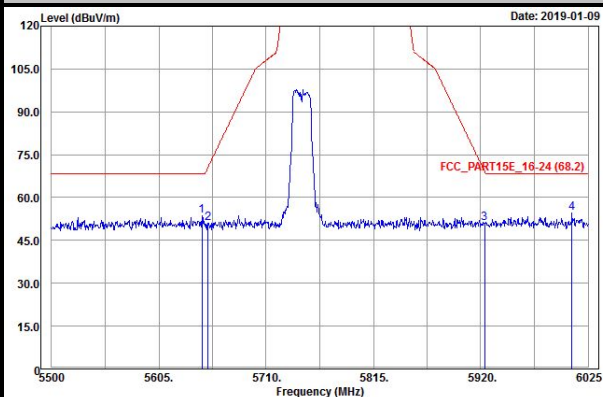
802.11a



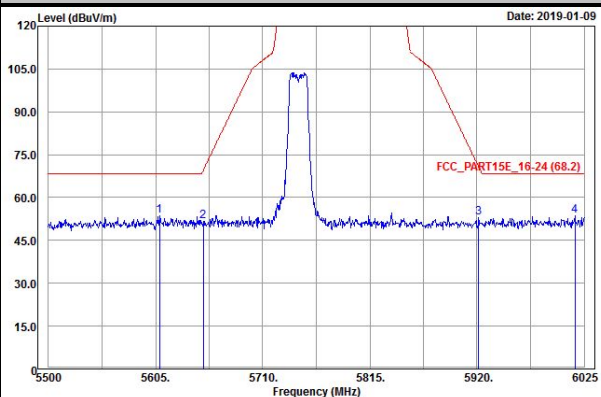
802.11n (HT20)

Ch 149

Horizontal

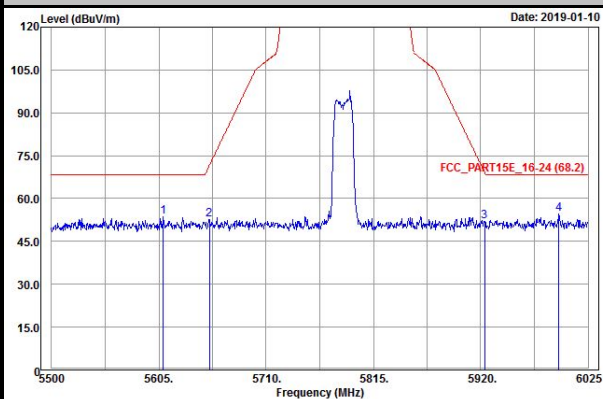


Vertical

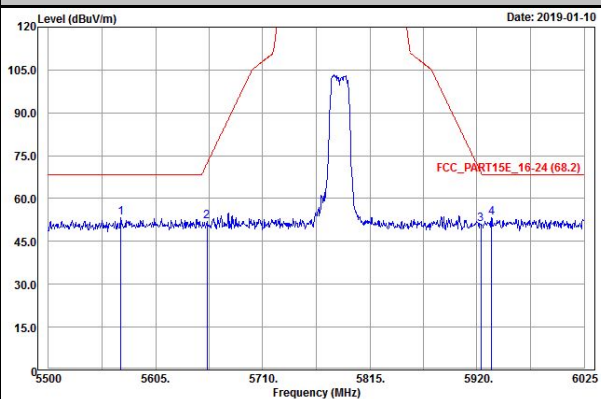


Ch 157

Horizontal

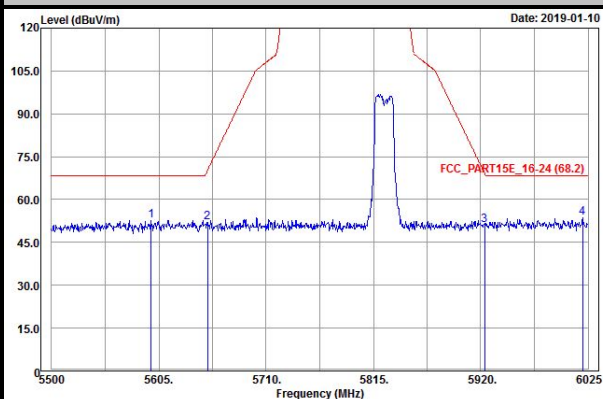


Vertical

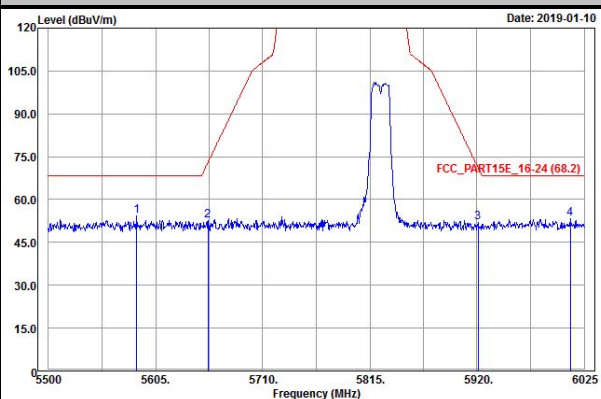


Ch 165

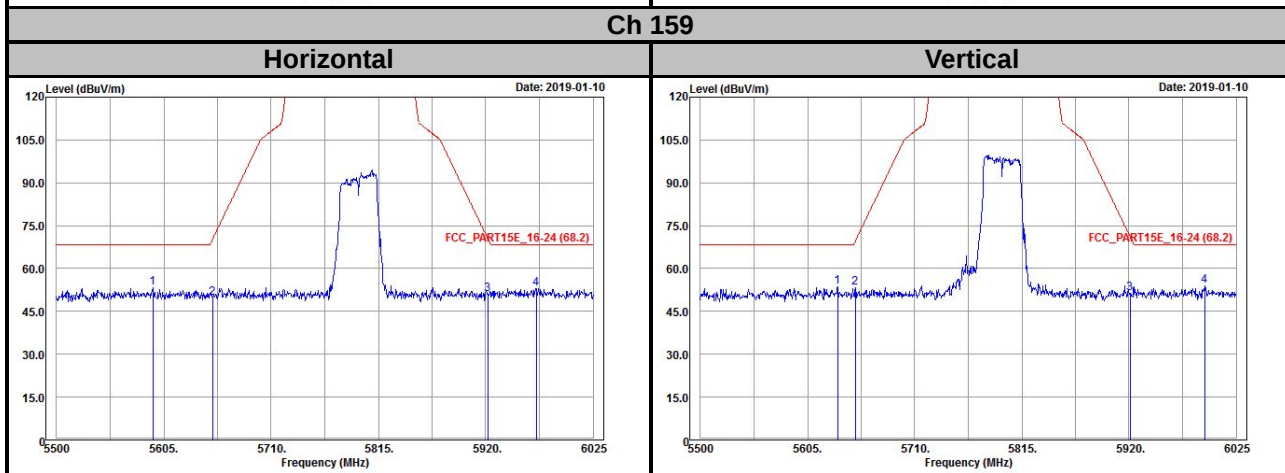
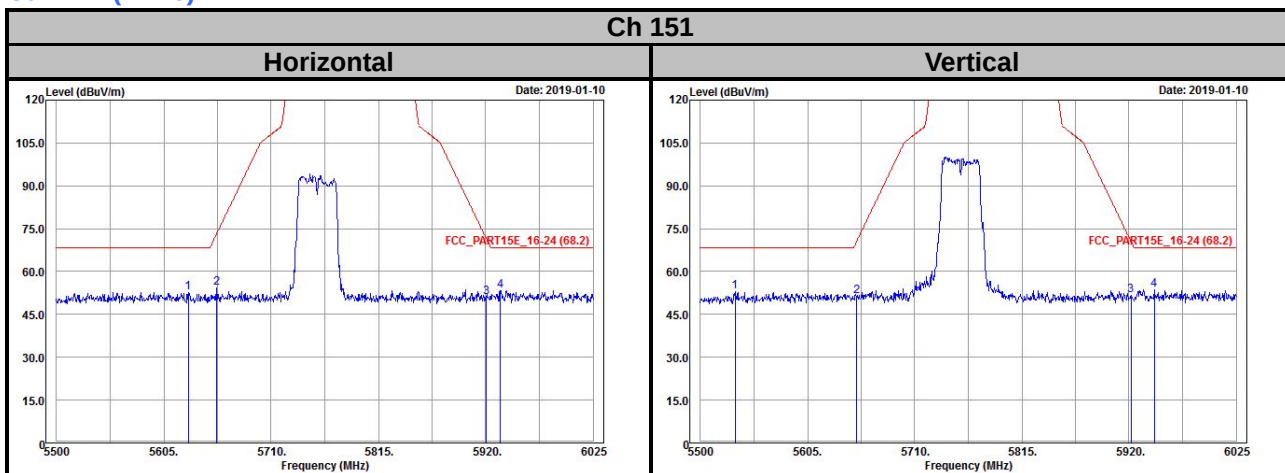
Horizontal



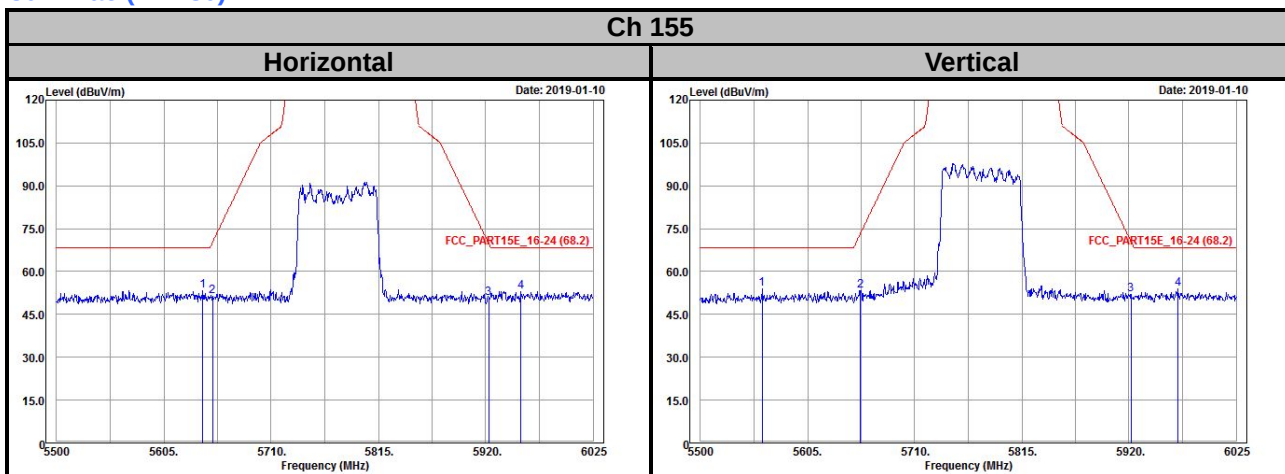
Vertical



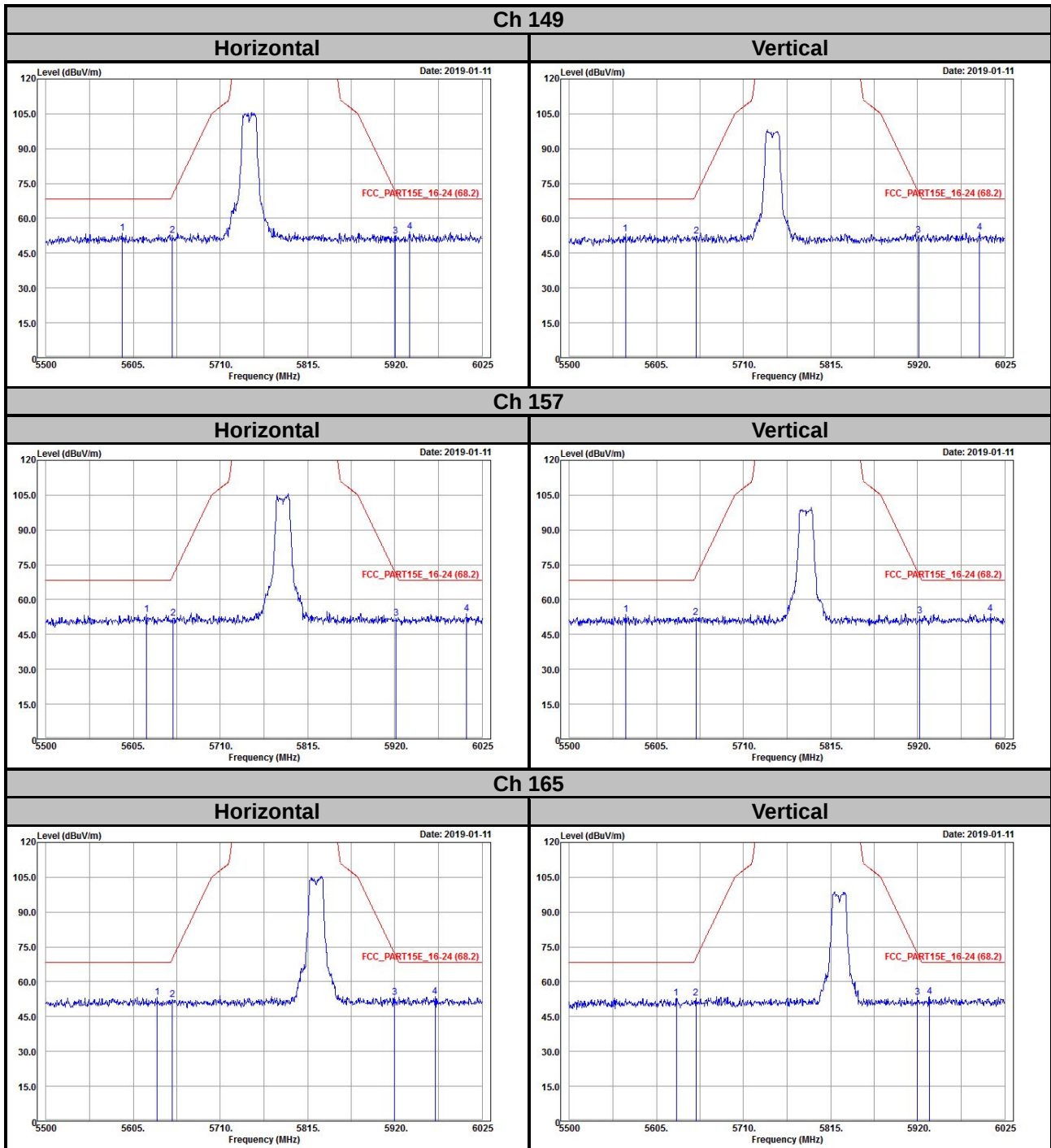
802.11n (HT40)



802.11ac (VHT80)



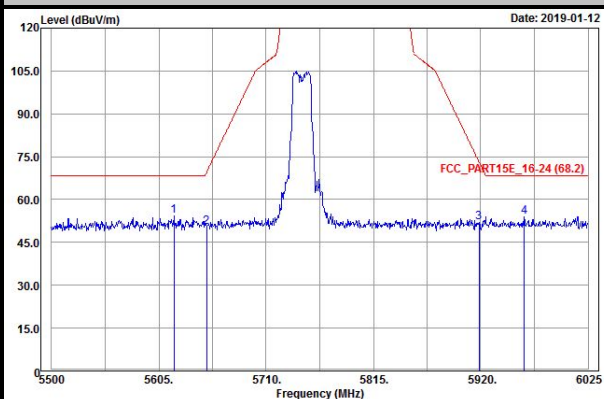
Mode B
802.11a



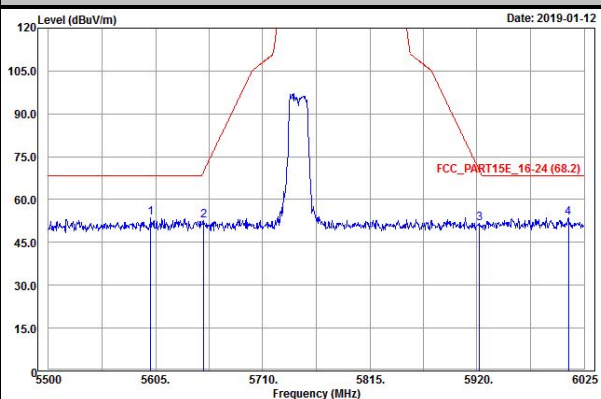
802.11n (HT20)

Ch 149

Horizontal

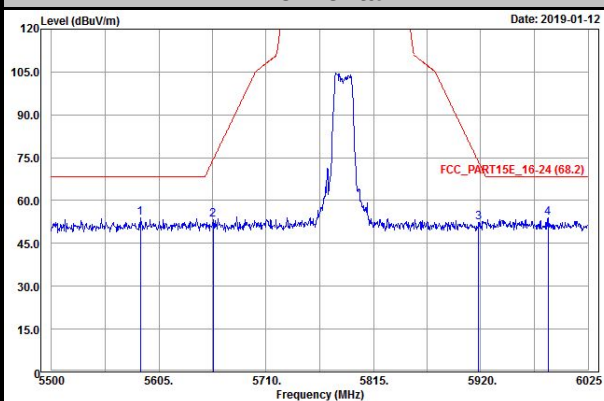


Vertical

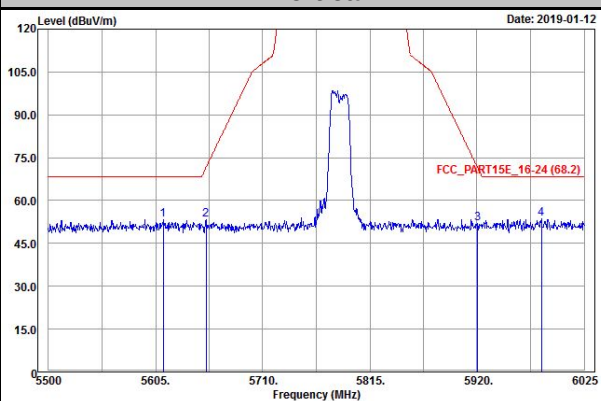


Ch 157

Horizontal

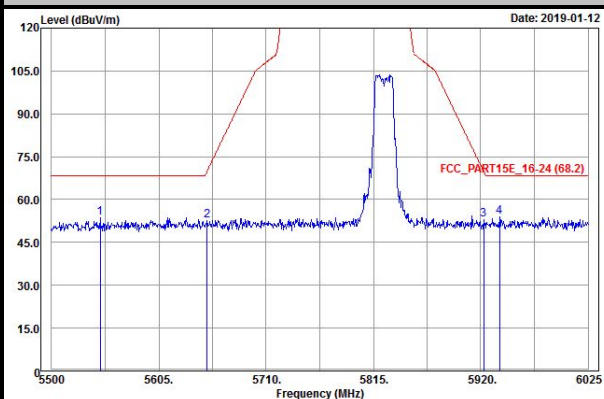


Vertical

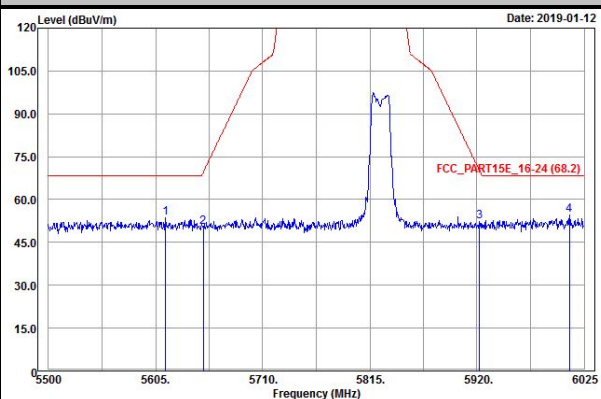


Ch 165

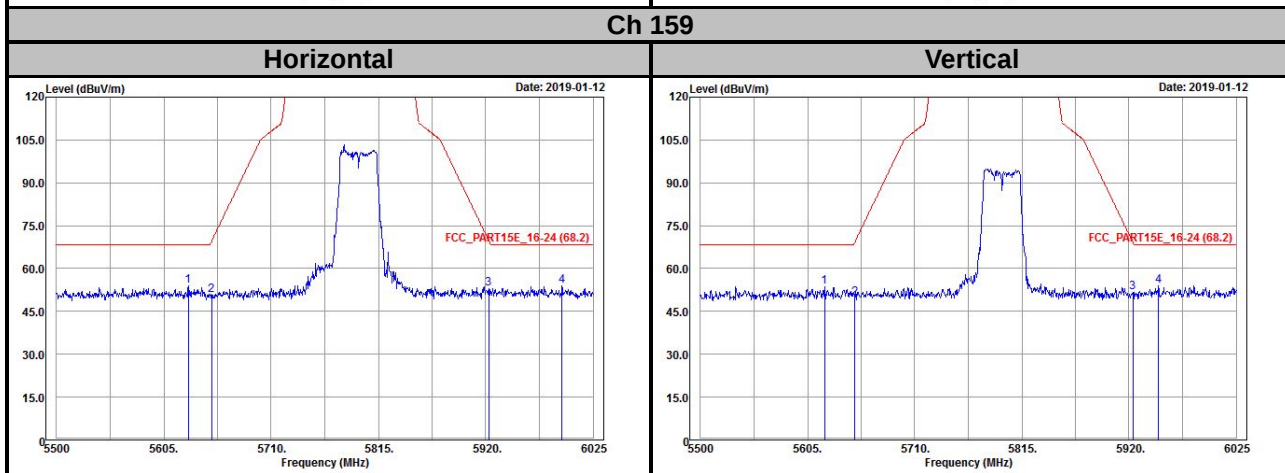
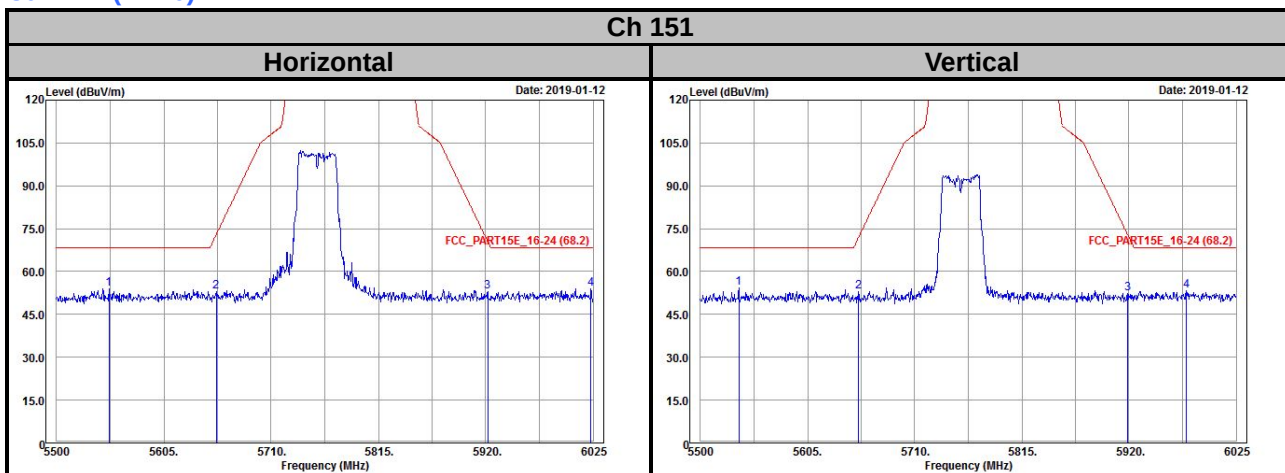
Horizontal



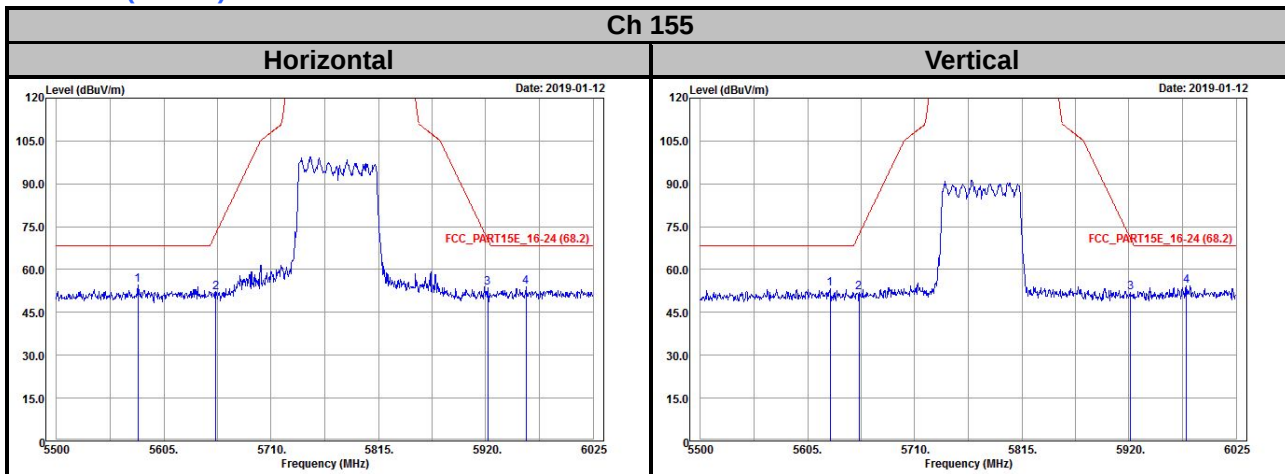
Vertical



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.

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

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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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