FCC Test Report

Report No.:	RF170428C33-1
FCC ID:	QYL8260GAINV110
Test Model:	V110
Received Date:	Apr. 28, 2017
Test Date:	May 13, 2017 ~ May 19, 2017
Issued Date:	Jun. 08, 2017
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF170428C33-1	Original Release	Jun. 08, 2017

1 Certificate of Conformity

Product:	Industrial Tablet
Brand:	Getac
Test Model:	V110
Sample Status:	Production Unit
Applicant:	Getac Technology Corporation.
Test Date:	May 13, 2017 ~ May 19, 2017
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Rona Chen , **Date:** Jun. 08, 2017

Rona Chen / Specialist

Approved by : David Huang , **Date:** Jun. 08, 2017

David Huang / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.73 dB at 0.15781 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.07 dB at 5147.9 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	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 U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

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	Expended 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	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Industrial Tablet	
Brand	Getac	
Test Model	V110	
Status of EUT	Production Unit	
Power Supply Rating	19 Vdc (Adapter) 11.1 Vdc (Li-ion battery)	
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK	
Modulation Technology	OFDM	
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to V9	
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	61.816 mW for 5180 ~ 5240 MHz 87.744 mW for 5260 ~ 5320 MHz 88.293 mW for 5500 ~ 5700 MHz 86.696 mW for 5745 ~ 5825 MHz	
Antenna Type	PIFA antenna with	Main: 2.81 dBi / Aux.: 0.34 dBi gain (5180 ~ 5240 MHz)
		Main: 3.5 dBi / Aux.: 1.48 dBi gain (5260 ~ 5320 MHz)
		Main: 3.19 dBi / Aux.: 0.618 dBi gain (5500 ~ 5700 MHz)
		Main: 2.2 dBi / Aux.: 0.83 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

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 (VHT80)	2TX

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	Chicony	A12-065N2A	I/P: 100-240Vac, 50/60Hz, 1.7A O/P: 19Vdc, 3.42A
Battery	Getac Technology Corp.	BP3S1P2100-S	11.1Vdc, 2100mAh
WLAN/BT Module	Intel	8260NGW	--
Digitizer	KYE	T116 EMR Digitizer	--
LTE Module	Sierra	EM7355	Function: WWAN SW: SWI9X15C_01.05.11.08 HW: 1.1
OS	N/A	N/A	Win10 64bit

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 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≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	SISO
B	√	√	√	√	MIMO

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis and NB Mode. The worst case was found when positioned on **NB Mode**.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
A	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0
A	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
B	5260-5320	802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
B	5500-5700	802.11ac (VHT80)	106 to 122	106	OFDM	BPSK	MCS0
B	5745-5825	802.11n (HT20)	149 to 165	149	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
A	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0
A	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
APCM	25 deg. C, 65 % RH	11.1 Vdc	Carlos Chen

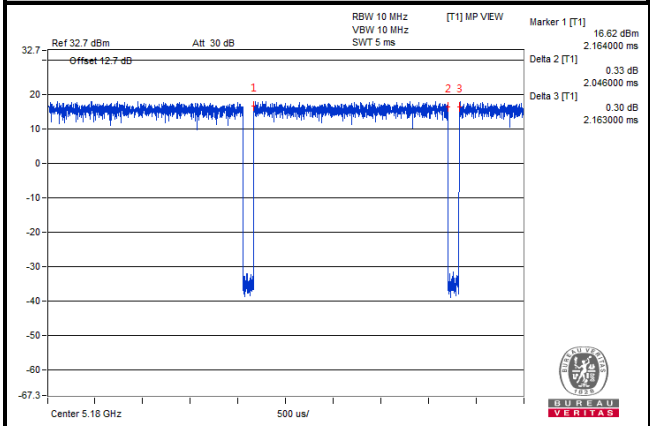
3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

Mode A

802.11a: Duty cycle = 2.046/2.163 = 0.946, Duty factor = 10 * log(1/0.946) = 0.24

802.11a



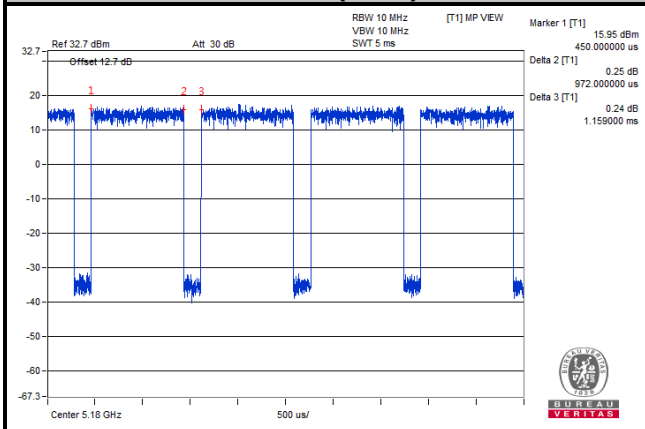
Mode B

802.11n (HT20): Duty cycle = 0.972/1.159 = 0.839, Duty factor = 10 * log(1/0.839) = 0.76

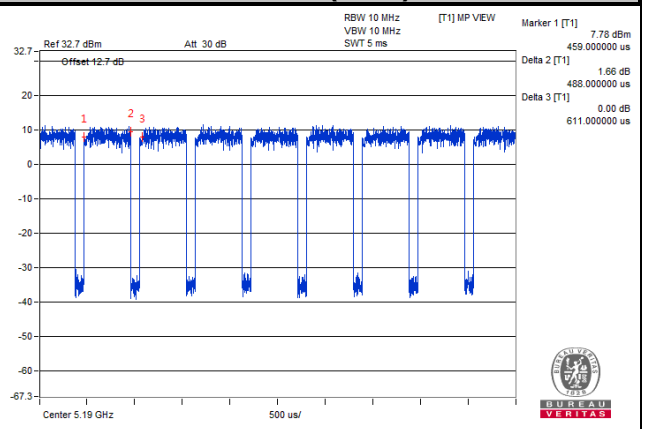
802.11n (HT40): Duty cycle = 0.488/0.611 = 0.799, Duty factor = 10 * log(1/0.799) = 0.98

802.11ac (VHT80): Duty cycle = 0.523/0.328 = 0.771, Duty factor = 10 * log(1/0.771) = 1.13

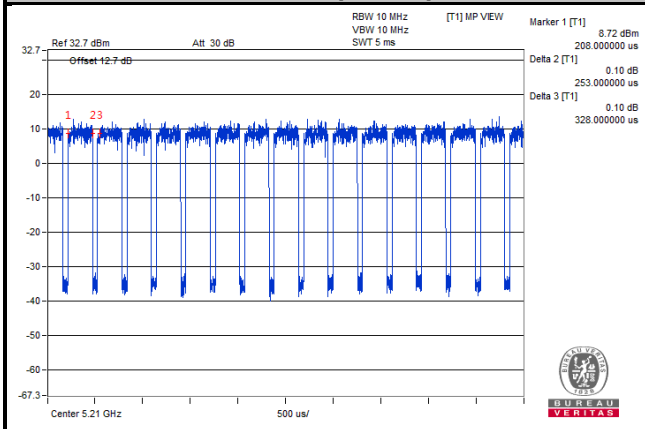
802.11n (HT20)



802.11n (HT40)



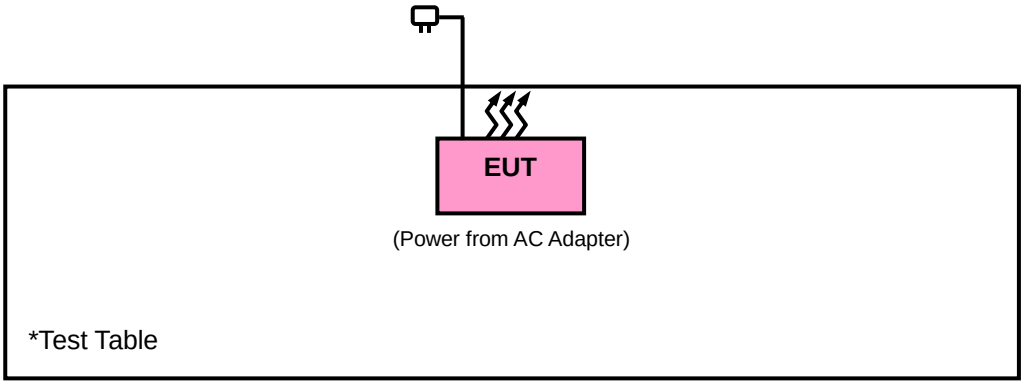
802.11ac (VHT80)



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01r04
644545 D03 Guidance for IEEE 802 11ac New Rules v01
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r04		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 16, 2016	Dec. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier EMCI	EMC 012645	980115	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 184045	980116	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 330H	980112	Oct. 21, 2016	Oct. 20, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 21, 2016	Oct. 20, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 21, 2016	Oct. 20, 2017
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 21, 2016	Oct. 20, 2017
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 02, 2016	Sep. 01, 2017
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	70360742	Jul. 01, 2016	Jun. 30, 2017

Note:
1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC7450F-10.

4.1.4 Test Procedures

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

Note:

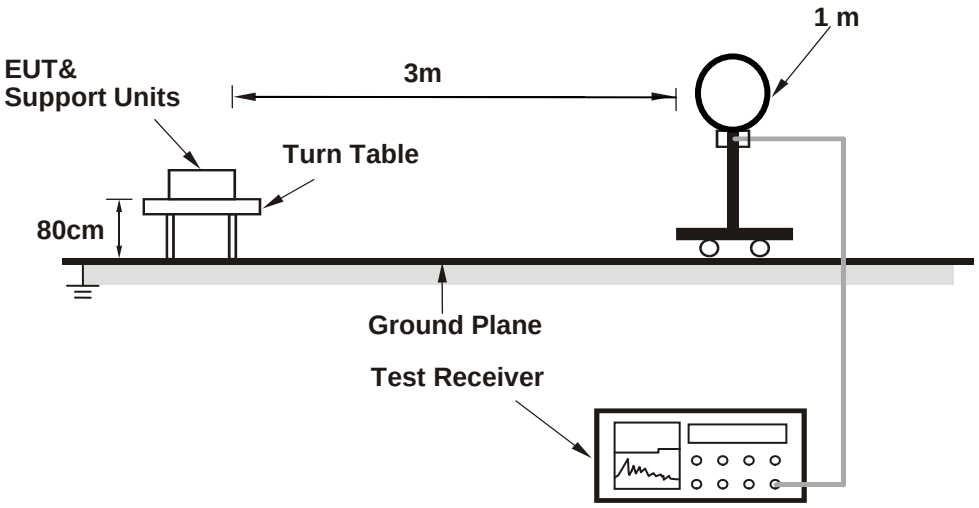
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency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

4.1.5 Deviation from Test Standard

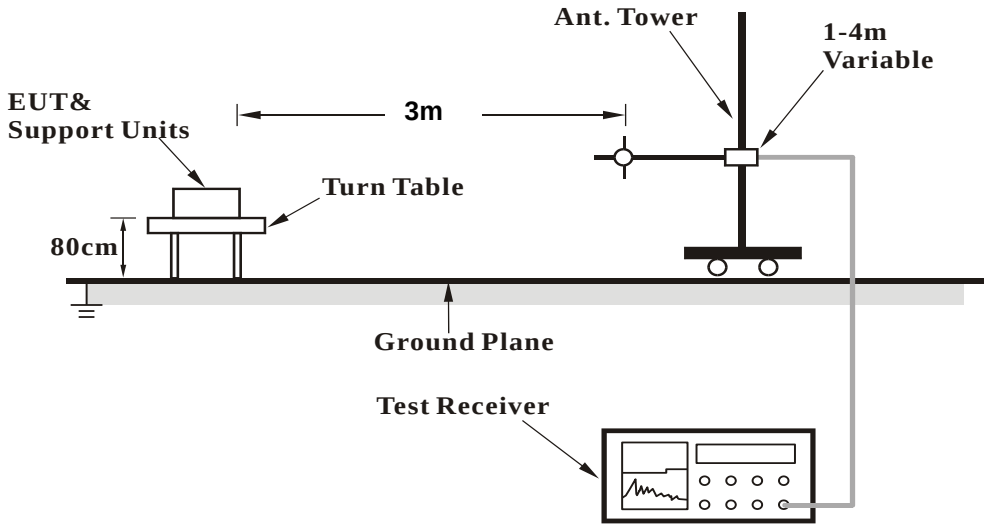
No deviation.

4.1.6 Test Set Up

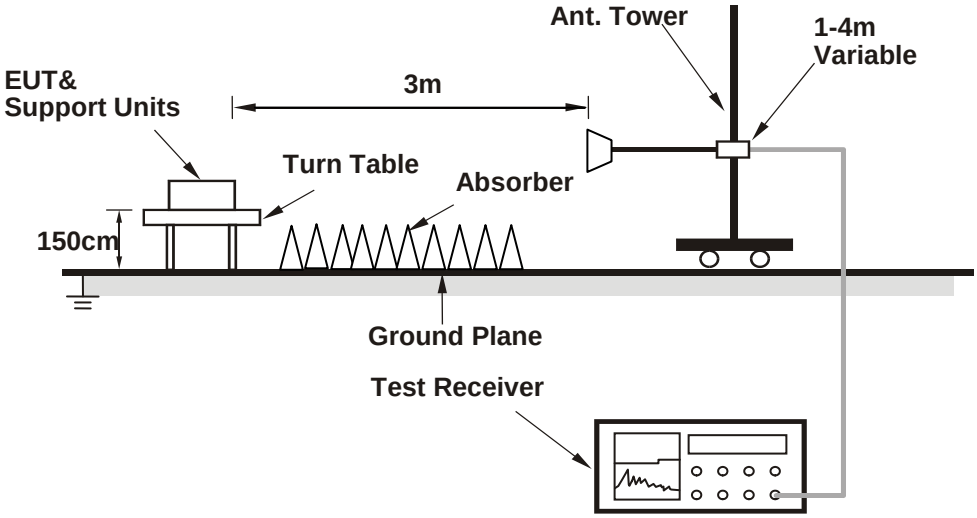
<Radiated emission below 30MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data：

Mode A

802.11a

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

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	52	51.8	74	-22	31.32	6.2	37.32	248	107	Peak
5150	40.26	40.06	54	-13.74	31.32	6.2	37.32	248	107	Average
5180	89.48	89.25			31.35	6.22	37.34	248	107	Average
5180	98.67	98.44			31.35	6.22	37.34	248	107	Peak
*10360	55.7	59.6	68.2	-12.5	39.19	9.05	52.14	146	68	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**
5148.8	54.88	54.68	74	-19.12	31.32	6.2	37.32	192	266	Peak
5150	40.47	40.27	54	-13.53	31.32	6.2	37.32	192	266	Average
5180	90.85	90.62			31.35	6.22	37.34	192	266	Average
5180	99.96	99.73			31.35	6.22	37.34	192	266	Peak
*10360	55.26	59.16	68.2	-12.94	39.19	9.05	52.14	128	324	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

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

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**
5021.75	51.03	50.89	74	-22.97	31.23	6.15	37.24	246	108	Peak
5139.95	38.49	38.27	54	-15.51	31.32	6.2	37.3	246	108	Average
5220	89.62	89.37			31.37	6.24	37.36	246	108	Average
5220	98.74	98.49			31.37	6.24	37.36	246	108	Peak
5446.69	40.59	39.82	54	-13.41	31.56	6.34	37.13	246	108	Average
5452.96	52.01	51.19	74	-21.99	31.56	6.34	37.08	246	108	Peak
*10440	53.9	58	68.2	-14.3	39.29	9.09	52.48	149	62	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5012.45	50.68	50.57	74	-23.32	31.21	6.13	37.23	192	267	Peak
5146.55	38.7	38.5	54	-15.3	31.32	6.2	37.32	192	267	Average
5220	90.86	90.61			31.37	6.24	37.36	192	267	Average
5220	99.89	99.64			31.37	6.24	37.36	192	267	Peak
5369.8	40.36	39.74	54	-13.64	31.49	6.31	37.18	192	267	Average
5370.02	51.94	51.32	74	-22.06	31.49	6.31	37.18	192	267	Peak
*10440	53.59	57.69	68.2	-14.61	39.29	9.09	52.48	124	335	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

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**
5088.05	51.04	50.85	74	-22.96	31.27	6.19	37.27	242	105	Peak
5126.9	38.65	38.44	54	-15.35	31.31	6.2	37.3	242	105	Average
5240	89.62	89.3			31.39	6.25	37.32	242	105	Average
5240	98.82	98.5			31.39	6.25	37.32	242	105	Peak
5390.59	40.07	39.43	54	-13.93	31.51	6.31	37.18	242	105	Average
5399.28	51.64	50.98	74	-22.36	31.52	6.32	37.18	242	105	Peak
*10480	52.84	57.09	68.2	-15.36	39.37	9.09	52.71	152	71	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**
5002.4	52.02	51.92	74	-21.98	31.2	6.13	37.23	189	271	Peak
5091.35	38.73	38.53	54	-15.27	31.28	6.19	37.27	189	271	Average
5240	90.88	90.56			31.39	6.25	37.32	189	271	Average
5240	99.96	99.64			31.39	6.25	37.32	189	271	Peak
5395.87	51.19	50.54	74	-22.81	31.52	6.31	37.18	189	271	Peak
5396.53	39.92	39.27	54	-14.08	31.52	6.31	37.18	189	271	Average
*10480	54.03	58.28	68.2	-14.17	39.37	9.09	52.71	126	327	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

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**	Toby Tian

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**
5104.25	50.62	50.43	74	-23.38	31.28	6.19	37.28	243	111	Peak
5108	38.85	38.65	54	-15.15	31.29	6.19	37.28	243	111	Average
5260	90.65	90.26			31.41	6.25	37.27	243	111	Average
5260	99.69	99.3			31.41	6.25	37.27	243	111	Peak
5407.2	51.86	51.2	74	-22.14	31.52	6.32	37.18	243	111	Peak
5415.45	40.05	39.38	54	-13.95	31.53	6.32	37.18	243	111	Average
*10520	53.62	57.9	68.2	-14.58	39.43	9.12	52.83	141	79	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**
5007.35	51.53	51.42	74	-22.47	31.21	6.13	37.23	187	264	Peak
5108.45	39.27	39.07	54	-14.73	31.29	6.19	37.28	187	264	Average
5260	92.35	91.96			31.41	6.25	37.27	187	264	Average
5260	101.77	101.38			31.41	6.25	37.27	187	264	Peak
5415.34	40.88	40.21	54	-13.12	31.53	6.32	37.18	187	264	Average
5416.77	52.36	51.69	74	-21.64	31.53	6.32	37.18	187	264	Peak
*10520	54.28	58.56	68.2	-13.92	39.43	9.12	52.83	131	311	Peak

Remarks:

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

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

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**
5147.9	51.2	51	74	-22.8	31.32	6.2	37.32	245	109	Peak
5148.65	38.85	38.65	54	-15.15	31.32	6.2	37.32	245	109	Average
5300	89.79	89.27			31.44	6.27	37.19	245	109	Average
5300	99.3	98.78			31.44	6.27	37.19	245	109	Peak
5420.29	51.64	50.97	74	-22.36	31.53	6.32	37.18	245	109	Peak
5448.56	39.69	38.92	54	-14.31	31.56	6.34	37.13	245	109	Average
10600	44.62	48.3	54	-9.38	39.57	9.16	52.41	132	81	Average
10600	54.25	57.93	74	-19.75	39.57	9.16	52.41	132	81	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**
5004.2	52.34	52.23	74	-21.66	31.21	6.13	37.23	188	268	Peak
5147.45	39.23	39.03	54	-14.77	31.32	6.2	37.32	188	268	Average
5300	92.09	91.57			31.44	6.27	37.19	188	268	Average
5300	101.46	100.94			31.44	6.27	37.19	188	268	Peak
5385.31	52.06	51.42	74	-21.94	31.51	6.31	37.18	188	268	Peak
5450.1	40.04	39.22	54	-13.96	31.56	6.34	37.08	188	268	Average
10600	44.88	48.56	54	-9.12	39.57	9.16	52.41	139	309	Average
10600	53.56	57.24	74	-20.44	39.57	9.16	52.41	139	309	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

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**	Toby Tian

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	89.53	88.98			31.45	6.29	37.19	246	107	Average
5320	99.19	98.64			31.45	6.29	37.19	246	107	Peak
5351.1	40.58	39.99	54	-13.42	31.48	6.29	37.18	246	107	Average
5351.32	52.79	52.2	74	-21.21	31.48	6.29	37.18	246	107	Peak
10640	44.67	48.12	54	-9.33	39.62	9.2	52.27	138	76	Average
10640	55.92	59.37	74	-18.08	39.62	9.2	52.27	138	76	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	92.3	91.75			31.45	6.29	37.19	186	265	Average
5320	101.59	101.04			31.45	6.29	37.19	186	265	Peak
5350	41.75	41.16	54	-12.25	31.48	6.29	37.18	186	265	Average
5354.4	54.71	54.12	74	-19.29	31.48	6.29	37.18	186	265	Peak
10640	45.2	48.65	54	-8.8	39.62	9.2	52.27	134	316	Average
10640	55.78	59.23	74	-18.22	39.62	9.2	52.27	134	316	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

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**	Toby Tian

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**
5350.32	41.3	40.71	54	-12.7	31.48	6.29	37.18	246	109	Average
5455.76	51.96	51.14	74	-22.04	31.56	6.34	37.08	246	109	Peak
*5470.16	55.34	54.51	68.2	-12.86	31.57	6.34	37.08	246	109	Peak
5500	91.94	91.01			31.6	6.36	37.03	246	109	Average
5500	101.2	100.27			31.6	6.36	37.03	246	109	Peak
*5725.4	55.63	54.35	68.2	-12.57	31.96	6.75	37.43	246	109	Peak
11000	44.13	48.03	54	-9.87	40.2	9.35	53.45	162	52	Average
11000	54.41	58.31	74	-19.59	40.2	9.35	53.45	162	52	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**
5350.16	42.29	41.7	54	-11.71	31.48	6.29	37.18	177	257	Average
5353.52	52.68	52.09	74	-21.32	31.48	6.29	37.18	177	257	Peak
*5470.16	58.42	57.59	68.2	-9.78	31.57	6.34	37.08	177	257	Peak
5500	93.94	93.01			31.6	6.36	37.03	177	257	Average
5500	103.16	102.23			31.6	6.36	37.03	177	257	Peak
*5725.96	55.59	54.31	68.2	-12.61	31.96	6.75	37.43	177	257	Peak
11000	44.31	48.21	54	-9.69	40.2	9.35	53.45	142	338	Average
11000	53.83	57.73	74	-20.17	40.2	9.35	53.45	142	338	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

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**	Toby Tian

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**
5351.92	42.82	42.23	54	-11.18	31.48	6.29	37.18	244	111	Average
5424.72	54.18	53.46	74	-19.82	31.53	6.32	37.13	244	111	Peak
*5470.8	50.06	49.23	68.2	-18.14	31.57	6.34	37.08	244	111	Peak
5580	92.05	91.01			31.71	6.49	37.16	244	111	Average
5580	101.21	100.17			31.71	6.49	37.16	244	111	Peak
*5725.96	52.22	50.94	68.2	-15.98	31.96	6.75	37.43	244	111	Peak
11160	44.5	48.22	54	-9.5	40.1	9.57	53.39	300	360	Average
11160	56.78	60.5	74	-17.22	40.1	9.57	53.39	300	360	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**
5352.72	43.19	42.6	54	-10.81	31.48	6.29	37.18	174	259	Average
5354.8	53.75	53.16	74	-20.25	31.48	6.29	37.18	174	259	Peak
*5469.36	50.2	49.37	68.2	-18	31.57	6.34	37.08	174	259	Peak
5580	93.84	92.8			31.71	6.49	37.16	174	259	Average
5580	103.16	102.12			31.71	6.49	37.16	174	259	Peak
*5725.48	51.9	50.62	68.2	-16.3	31.96	6.75	37.43	174	259	Peak
11160	44.64	48.36	54	-9.36	40.1	9.57	53.39	149	342	Average
11160	56.28	60	74	-17.72	40.1	9.57	53.39	149	342	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

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**	Toby Tian

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**
5388.08	52.34	51.7	74	-21.66	31.51	6.31	37.18	244	110	Peak
5394.8	41.43	40.78	54	-12.57	31.52	6.31	37.18	244	110	Average
*5469.84	51.97	51.14	68.2	-16.23	31.57	6.34	37.08	244	110	Peak
5700	92.64	91.45			31.9	6.69	37.4	244	110	Average
5700	101.95	100.76			31.9	6.69	37.4	244	110	Peak
*5725.16	58.45	57.17	68.2	-9.75	31.96	6.75	37.43	244	110	Peak
11400	46	48.26	54	-8	39.96	9.91	52.13	157	53	Average
11400	55.97	58.23	74	-18.03	39.96	9.91	52.13	157	53	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**
5389.2	52.78	52.14	74	-21.22	31.51	6.31	37.18	175	256	Peak
5396.08	42.18	41.53	54	-11.82	31.52	6.31	37.18	175	256	Average
*5468.56	51.73	50.9	68.2	-16.47	31.57	6.34	37.08	175	256	Peak
5700	93.57	92.38			31.9	6.69	37.4	175	256	Average
5700	103.58	102.39			31.9	6.69	37.4	175	256	Peak
*5724.12	57.86	56.64	68.2	-10.34	31.96	6.69	37.43	175	256	Peak
11400	46.12	48.38	54	-7.88	39.96	9.91	52.13	141	351	Average
11400	57.8	60.06	74	-16.2	39.96	9.91	52.13	141	351	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

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**	Toby Tian

<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	91.97	90.7			31.99	6.75	37.47	236	108	Average
5745	101.54	100.27			31.99	6.75	37.47	236	108	Peak
11490	45.23	48.12	54	-8.77	39.91	10.03	52.83	148	19	Average
11490	55.1	57.99	74	-18.9	39.91	10.03	52.83	148	19	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	93.63	92.36			31.99	6.75	37.47	176	262	Average
5745	102.94	101.67			31.99	6.75	37.47	176	262	Peak
11490	45.31	48.2	54	-8.69	39.91	10.03	52.83	168	329	Average
11490	54.91	57.8	74	-19.09	39.91	10.03	52.83	168	329	Peak

<Ouf 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**
5583.25	50.96	49.89	68.2	-17.24	31.74	6.49	37.16	236	108	Peak
5654.025	50.8	49.67	71.19	-20.39	31.85	6.62	37.34	236	108	Peak
5915.75	51.7	49.93	75.02	-23.32	32.26	7.01	37.5	236	108	Peak
5981.3	52.49	50.55	68.2	-15.71	32.37	7.08	37.51	236	108	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5598.925	51.36	50.26	68.2	-16.84	31.77	6.49	37.16	176	262	Peak
5654.5	50.48	49.35	71.54	-21.06	31.85	6.62	37.34	176	262	Peak
5916.7	51.73	49.96	74.32	-22.59	32.26	7.01	37.5	176	262	Peak
5973.225	52.97	51.03	68.2	-15.23	32.37	7.08	37.51	176	262	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

<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	91.92	90.6			32.04	6.82	37.54	236	106	Average
5785	101.32	100			32.04	6.82	37.54	236	106	Peak
11570	44.6	48.06	54	-9.4	39.78	10.09	53.33	142	22	Average
11570	52.65	56.11	74	-21.35	39.78	10.09	53.33	142	22	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	93.54	92.22			32.04	6.82	37.54	182	264	Average
5785	102.86	101.54			32.04	6.82	37.54	182	264	Peak
11570	44.82	48.28	54	-9.18	39.78	10.09	53.33	172	331	Average
11570	54.27	57.73	74	-19.73	39.78	10.09	53.33	172	331	Peak

<Ouf 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**
5566.625	51.09	50.01	68.2	-17.11	31.71	6.49	37.12	236	106	Peak
5654.5	51.47	50.34	71.54	-20.07	31.85	6.62	37.34	236	106	Peak
5918.125	52.55	50.78	73.27	-20.72	32.26	7.01	37.5	236	106	Peak
6015.975	53.45	51.36	68.2	-14.75	32.45	7.14	37.5	236	106	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**
5584.2	52.73	51.66	68.2	-15.47	31.74	6.49	37.16	182	264	Peak
5657.35	50.64	49.51	73.66	-23.02	31.85	6.62	37.34	182	264	Peak
5920.975	51.65	49.88	71.17	-19.52	32.26	7.01	37.5	182	264	Peak
5985.1	51.92	49.92	68.2	-16.28	32.37	7.14	37.51	182	264	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

<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	91.96	90.49			32.12	6.88	37.53	236	105	Average
5825	101.34	99.87			32.12	6.88	37.53	236	105	Peak
11650	44.6	48.15	54	-9.4	39.65	10.15	53.35	145	14	Average
11650	56.18	59.73	74	-17.82	39.65	10.15	53.35	145	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**
5825	93.5	92.03			32.12	6.88	37.53	180	265	Average
5825	102.99	101.52			32.12	6.88	37.53	180	265	Peak
11650	44.74	48.29	54	-9.26	39.65	10.15	53.35	166	338	Average
11650	55.73	59.28	74	-18.27	39.65	10.15	53.35	166	338	Peak

<Ouf 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**
5597.025	51.08	50.01	68.2	-17.12	31.74	6.49	37.16	236	105	Peak
5659.25	49.98	48.85	75.07	-25.09	31.85	6.62	37.34	236	105	Peak
5920.025	52.35	50.58	71.87	-19.52	32.26	7.01	37.5	236	105	Peak
5990.8	52.18	50.15	68.2	-16.02	32.4	7.14	37.51	236	105	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**
5597.5	51.71	50.64	68.2	-16.49	31.74	6.49	37.16	180	265	Peak
5658.775	50.87	49.74	74.72	-23.85	31.85	6.62	37.34	180	265	Peak
5912.425	51.88	50.11	77.48	-25.6	32.26	7.01	37.5	180	265	Peak
5984.625	53.41	51.41	68.2	-14.79	32.37	7.14	37.51	180	265	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band

Mode B

802.11n (HT20)

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

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**
5148.65	53.28	53.08	74	-20.72	31.32	6.2	37.32	243	109	Peak
5149.55	40.76	40.56	54	-13.24	31.32	6.2	37.32	243	109	Average
5180	88.66	88.43			31.35	6.22	37.34	243	109	Average
5180	97.92	97.69			31.35	6.22	37.34	243	109	Peak
*10360	53.73	57.63	68.2	-14.47	39.19	9.05	52.14	172	19	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5146.4	52.77	52.57	74	-21.23	31.32	6.2	37.32	191	265	Peak
5150	41.32	41.12	54	-12.68	31.32	6.2	37.32	191	265	Average
5180	89.64	89.41			31.35	6.22	37.34	191	265	Average
5180	98.96	98.73			31.35	6.22	37.34	191	265	Peak
*10360	54.63	58.53	68.2	-13.57	39.19	9.05	52.14	150	300	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

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

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**
5092.1	50.58	50.38	74	-23.42	31.28	6.19	37.27	241	111	Peak
5146.4	38.55	38.35	54	-15.45	31.32	6.2	37.32	241	111	Average
5220	88.59	88.34			31.37	6.24	37.36	241	111	Average
5220	98.04	97.79			31.37	6.24	37.36	241	111	Peak
5449.66	52.22	51.45	74	-21.78	31.56	6.34	37.13	241	111	Peak
5451.53	40.25	39.43	54	-13.75	31.56	6.34	37.08	241	111	Average
*10440	56.08	60.18	68.2	-12.12	39.29	9.09	52.48	162	21	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**
5009.75	51.5	51.39	74	-22.5	31.21	6.13	37.23	192	268	Peak
5147.45	38.62	38.42	54	-15.38	31.32	6.2	37.32	192	268	Average
5220	90.07	89.82			31.37	6.24	37.36	192	268	Average
5220	99.13	98.88			31.37	6.24	37.36	192	268	Peak
5370.24	40.11	39.49	54	-13.89	31.49	6.31	37.18	192	268	Average
5449.66	51.93	51.16	74	-22.07	31.56	6.34	37.13	192	268	Peak
*10440	55.27	59.37	68.2	-12.93	39.29	9.09	52.48	148	298	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

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**
5039.75	50.94	50.79	74	-23.06	31.24	6.15	37.24	242	106	Peak
5145.95	38.48	38.28	54	-15.52	31.32	6.2	37.32	242	106	Average
5240	88.33	88.01			31.39	6.25	37.32	242	106	Average
5240	97.6	97.28			31.39	6.25	37.32	242	106	Peak
5360.34	40.18	39.57	54	-13.82	31.48	6.31	37.18	242	106	Average
5391.03	51.22	50.58	74	-22.78	31.51	6.31	37.18	242	106	Peak
*10480	53.06	57.31	68.2	-15.14	39.37	9.09	52.71	178	11	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**
5003.3	38.61	38.51	54	-15.39	31.2	6.13	37.23	191	267	Average
5004.65	51.98	51.87	74	-22.02	31.21	6.13	37.23	191	267	Peak
5240	89.64	89.32			31.39	6.25	37.32	191	267	Average
5240	98.73	98.41			31.39	6.25	37.32	191	267	Peak
5389.05	40.26	39.62	54	-13.74	31.51	6.31	37.18	191	267	Average
5394.33	51.65	51.01	74	-22.35	31.51	6.31	37.18	191	267	Peak
*10480	53.05	57.3	68.2	-15.15	39.37	9.09	52.71	157	306	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

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**	Toby Tian

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**
5012.15	50.33	50.22	74	-23.67	31.21	6.13	37.23	242	110	Peak
5108.15	38.76	38.56	54	-15.24	31.29	6.19	37.28	242	110	Average
5260	89.86	89.47			31.41	6.25	37.27	242	110	Average
5260	99.32	98.93			31.41	6.25	37.27	242	110	Peak
5410.94	40.04	39.38	54	-13.96	31.52	6.32	37.18	242	110	Average
5411.27	52.52	51.86	74	-21.48	31.52	6.32	37.18	242	110	Peak
*10520	54.29	58.57	68.2	-13.91	39.43	9.12	52.83	189	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**
5007.65	51.69	51.58	74	-22.31	31.21	6.13	37.23	187	267	Peak
5107.25	39.09	38.89	54	-14.91	31.29	6.19	37.28	187	267	Average
5260	90.92	90.53			31.41	6.25	37.27	187	267	Average
5260	100.02	99.63			31.41	6.25	37.27	187	267	Peak
5417.21	40.53	39.86	54	-13.47	31.53	6.32	37.18	187	267	Average
5419.08	52.13	51.46	74	-21.87	31.53	6.32	37.18	187	267	Peak
*10520	54.01	58.29	68.2	-14.19	39.43	9.12	52.83	164	310	Peak

Remarks:

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

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

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**
5143.4	38.82	38.6	54	-15.18	31.32	6.2	37.3	243	108	Average
5144.45	50.92	50.72	74	-23.08	31.32	6.2	37.32	243	108	Peak
5300	89.87	89.35			31.44	6.27	37.19	243	108	Average
5300	99.39	98.87			31.44	6.27	37.19	243	108	Peak
5350.99	40.1	39.51	54	-13.9	31.48	6.29	37.18	243	108	Average
5397.63	52.13	51.47	74	-21.87	31.52	6.32	37.18	243	108	Peak
10600	44.69	48.37	54	-9.31	39.57	9.16	52.41	184	31	Average
10600	56.19	59.87	74	-17.81	39.57	9.16	52.41	184	31	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**
5142.5	50.82	50.6	74	-23.18	31.32	6.2	37.3	187	266	Peak
5149.7	38.9	38.7	54	-15.1	31.32	6.2	37.32	187	266	Average
5300	90.98	90.46			31.44	6.27	37.19	187	266	Average
5300	100	99.48			31.44	6.27	37.19	187	266	Peak
5351.32	42.78	42.19	54	-11.22	31.48	6.29	37.18	187	266	Average
5397.74	52.33	51.67	74	-21.67	31.52	6.32	37.18	187	266	Peak
10600	44.92	48.6	54	-9.08	39.57	9.16	52.41	158	306	Average
10600	56.44	60.12	74	-17.56	39.57	9.16	52.41	158	306	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

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**	Toby Tian

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	89.72	89.17			31.45	6.29	37.19	243	107	Average
5320	99.1	98.55			31.45	6.29	37.19	243	107	Peak
5350	41.59	41	54	-12.41	31.48	6.29	37.18	243	107	Average
5350.77	58.48	57.89	74	-15.52	31.48	6.29	37.18	243	107	Peak
10640	44.8	48.25	54	-9.2	39.62	9.2	52.27	192	27	Average
10640	55.15	58.6	74	-18.85	39.62	9.2	52.27	192	27	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	90.84	90.29			31.45	6.29	37.19	186	264	Average
5320	99.93	99.38			31.45	6.29	37.19	186	264	Peak
5350	57.21	56.62	74	-16.79	31.48	6.29	37.18	186	264	Peak
5350.11	41.81	41.22	54	-12.19	31.48	6.29	37.18	186	264	Average
10640	45.14	48.59	54	-8.86	39.62	9.2	52.27	166	321	Average
10640	54.9	58.35	74	-19.1	39.62	9.2	52.27	166	321	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

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**	Toby Tian

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**
5350	40.68	40.09	54	-13.32	31.48	6.29	37.18	242	108	Average
5356.88	51.7	51.11	74	-22.3	31.48	6.29	37.18	242	108	Peak
*5470.96	53.35	52.52	68.2	-14.85	31.57	6.34	37.08	242	108	Peak
5500	90.32	89.39			31.6	6.36	37.03	242	108	Average
5500	99.63	98.7			31.6	6.36	37.03	242	108	Peak
*5725.48	54.73	53.45	68.2	-13.47	31.96	6.75	37.43	242	108	Peak
11000	44.48	48.38	54	-9.52	40.2	9.35	53.45	202	77	Average
11000	55.29	59.19	74	-18.71	40.2	9.35	53.45	202	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**
5350	41.59	41	54	-12.41	31.48	6.29	37.18	185	263	Average
5458.8	52.88	52.06	74	-21.12	31.56	6.34	37.08	185	263	Peak
*5468.4	56.13	55.3	68.2	-12.07	31.57	6.34	37.08	185	263	Peak
5500	92.27	91.34			31.6	6.36	37.03	185	263	Average
5500	101.75	100.82			31.6	6.36	37.03	185	263	Peak
*5725.56	54.58	53.3	68.2	-13.62	31.96	6.75	37.43	185	263	Peak
11000	44.79	48.69	54	-9.21	40.2	9.35	53.45	179	355	Average
11000	54.84	58.74	74	-19.16	40.2	9.35	53.45	179	355	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

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**	Toby Tian

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**
5351.92	41.37	40.78	54	-12.63	31.48	6.29	37.18	241	109	Average
5354.16	52.49	51.9	74	-21.51	31.48	6.29	37.18	241	109	Peak
*5469.52	50.1	49.27	68.2	-18.1	31.57	6.34	37.08	241	109	Peak
5580	90.52	89.48			31.71	6.49	37.16	241	109	Average
5580	99.86	98.82			31.71	6.49	37.16	241	109	Peak
*5726.04	52.36	51.08	68.2	-15.84	31.96	6.75	37.43	241	109	Peak
11160	44.83	48.55	54	-9.17	40.1	9.57	53.39	208	81	Average
11160	56.76	60.48	74	-17.24	40.1	9.57	53.39	208	81	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**
5351.76	42.48	41.89	54	-11.52	31.48	6.29	37.18	184	265	Average
5354.8	53.83	53.24	74	-20.17	31.48	6.29	37.18	184	265	Peak
*5469.04	51.46	50.63	68.2	-16.74	31.57	6.34	37.08	184	265	Peak
5580	92.59	91.55			31.71	6.49	37.16	184	265	Average
5580	101.93	100.89			31.71	6.49	37.16	184	265	Peak
*5725.56	51.94	50.66	68.2	-16.26	31.96	6.75	37.43	184	265	Peak
11160	45.16	48.88	54	-8.84	40.1	9.57	53.39	177	347	Average
11160	56.68	60.4	74	-17.32	40.1	9.57	53.39	177	347	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

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**	Toby Tian

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**
5386.16	51.59	50.95	74	-22.41	31.51	6.31	37.18	243	102	Peak
5393.52	41.35	40.71	54	-12.65	31.51	6.31	37.18	243	102	Average
*5468.72	50.61	49.78	68.2	-17.59	31.57	6.34	37.08	243	102	Peak
5700	90.95	89.76			31.9	6.69	37.4	243	102	Average
5700	100.13	98.94			31.9	6.69	37.4	243	102	Peak
*5724.84	58.22	57	68.2	-9.98	31.96	6.69	37.43	243	102	Peak
11400	46.2	48.46	54	-7.8	39.96	9.91	52.13	196	69	Average
11400	55.95	58.21	74	-18.05	39.96	9.91	52.13	196	69	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**
5388.56	40.67	40.03	54	-13.33	31.51	6.31	37.18	185	262	Average
5392.4	52.19	51.55	74	-21.81	31.51	6.31	37.18	185	262	Peak
*5469.04	51.43	50.6	68.2	-16.77	31.57	6.34	37.08	185	262	Peak
5700	93.17	91.98			31.9	6.69	37.4	185	262	Average
5700	102	100.81			31.9	6.69	37.4	185	262	Peak
*5724.12	56.09	54.87	68.2	-12.11	31.96	6.69	37.43	185	262	Peak
11400	46.38	48.64	54	-7.62	39.96	9.91	52.13	172	344	Average
11400	57.23	59.49	74	-16.77	39.96	9.91	52.13	172	344	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

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**	Toby Tian

<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	92.15	90.88			31.99	6.75	37.47	230	105	Average
5745	101.47	100.2			31.99	6.75	37.47	230	105	Peak
11490	45.61	48.5	54	-8.39	39.91	10.03	52.83	149	31	Average
11490	57.32	60.21	74	-16.68	39.91	10.03	52.83	149	31	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	92.8	91.53			31.99	6.75	37.47	176	262	Average
5745	102.3	101.03			31.99	6.75	37.47	176	262	Peak
11490	45.75	48.64	54	-8.25	39.91	10.03	52.83	176	306	Average
11490	56.69	59.58	74	-17.31	39.91	10.03	52.83	176	306	Peak

<Ouf 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**
5589.9	50.94	49.87	68.2	-17.26	31.74	6.49	37.16	230	105	Peak
5659.25	51.36	50.23	75.07	-23.71	31.85	6.62	37.34	230	105	Peak
5919.55	51.94	50.17	72.22	-20.28	32.26	7.01	37.5	230	105	Peak
5977.975	53.26	51.32	68.2	-14.94	32.37	7.08	37.51	230	105	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**
5593.225	51.01	49.94	68.2	-17.19	31.74	6.49	37.16	176	262	Peak
5653.55	50.66	49.47	70.84	-20.18	31.85	6.62	37.28	176	262	Peak
5920.975	51.65	49.88	71.17	-19.52	32.26	7.01	37.5	176	262	Peak
5976.075	52.39	50.45	68.2	-15.81	32.37	7.08	37.51	176	262	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

<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	91.91	90.59			32.04	6.82	37.54	228	107	Average
5785	101.49	100.17			32.04	6.82	37.54	228	107	Peak
11570	44.7	48.16	54	-9.3	39.78	10.09	53.33	148	35	Average
11570	53.77	57.23	74	-20.23	39.78	10.09	53.33	148	35	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	93.17	91.85			32.04	6.82	37.54	183	265	Average
5785	102.43	101.11			32.04	6.82	37.54	183	265	Peak
11570	44.75	48.21	54	-9.25	39.78	10.09	53.33	173	303	Average
11570	53.82	57.28	74	-20.18	39.78	10.09	53.33	173	303	Peak

<Ouf 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**
5580.4	51.01	49.97	68.2	-17.19	31.71	6.49	37.16	228	107	Peak
5658.775	50.88	49.75	74.72	-23.84	31.85	6.62	37.34	228	107	Peak
5917.175	51.34	49.57	73.97	-22.63	32.26	7.01	37.5	228	107	Peak
5970.375	53.3	51.39	68.2	-14.9	32.34	7.08	37.51	228	107	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**
5572.325	51.16	50.08	68.2	-17.04	31.71	6.49	37.12	183	265	Peak
5655.45	50.45	49.32	72.25	-21.8	31.85	6.62	37.34	183	265	Peak
5920.5	52.97	51.2	71.52	-18.55	32.26	7.01	37.5	183	265	Peak
6013.125	53.42	51.33	68.2	-14.78	32.45	7.14	37.5	183	265	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

<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	91.99	90.52			32.12	6.88	37.53	228	104	Average
5825	101.39	99.92			32.12	6.88	37.53	228	104	Peak
11650	44.56	48.11	54	-9.44	39.65	10.15	53.35	143	28	Average
11650	54.44	57.99	74	-19.56	39.65	10.15	53.35	143	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**
5825	93.02	91.55			32.12	6.88	37.53	189	256	Average
5825	102.35	100.88			32.12	6.88	37.53	189	256	Peak
11650	44.7	48.25	54	-9.3	39.65	10.15	53.35	181	317	Average
11650	54.12	57.67	74	-19.88	39.65	10.15	53.35	181	317	Peak

<Ouf 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**
5594.175	51.85	50.78	68.2	-16.35	31.74	6.49	37.16	228	104	Peak
5655.925	50.17	49.04	72.6	-22.43	31.85	6.62	37.34	228	104	Peak
5921.925	51.18	49.38	70.47	-19.29	32.29	7.01	37.5	228	104	Peak
5980.35	53.98	52.04	68.2	-14.22	32.37	7.08	37.51	228	104	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**
5594.65	51.43	50.36	68.2	-16.77	31.74	6.49	37.16	189	256	Peak
5656.4	50.94	49.81	72.95	-22.01	31.85	6.62	37.34	189	256	Peak
5917.65	51.59	49.82	73.62	-22.03	32.26	7.01	37.5	189	256	Peak
5979.4	53.79	51.85	68.2	-14.41	32.37	7.08	37.51	189	256	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.7	56.83	56.63	74	-17.17	31.32	6.2	37.32	244	108	Peak
5150	45.1	44.9	54	-8.9	31.32	6.2	37.32	244	108	Average
5190	84.58	84.35			31.35	6.22	37.34	244	108	Average
5190	93.95	93.72			31.35	6.22	37.34	244	108	Peak
5409.73	51.15	50.49	74	-22.85	31.52	6.32	37.18	244	108	Peak
5422.82	40.01	39.34	54	-13.99	31.53	6.32	37.18	244	108	Average
*10380	53.26	57.25	68.2	-14.94	39.21	9.05	52.25	176	9	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.85	58.23	58.03	74	-15.77	31.32	6.2	37.32	189	262	Peak
5150	47.21	47.01	54	-6.79	31.32	6.2	37.32	189	262	Average
5190	85.7	85.47			31.35	6.22	37.34	189	262	Average
5190	95.16	94.93			31.35	6.22	37.34	189	262	Peak
5350.55	51.8	51.21	74	-22.2	31.48	6.29	37.18	189	262	Peak
5427.44	40.16	39.44	54	-13.84	31.53	6.32	37.13	189	262	Average
*10380	54.39	58.38	68.2	-13.81	39.21	9.05	52.25	153	291	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5093.6	51.07	50.88	74	-22.93	31.28	6.19	37.28	241	110	Peak
5124.8	38.93	38.73	54	-15.07	31.31	6.19	37.3	241	110	Average
5230	85.24	84.93			31.39	6.24	37.32	241	110	Average
5230	94.26	93.95			31.39	6.24	37.32	241	110	Peak
5362.21	51.42	50.8	74	-22.58	31.49	6.31	37.18	241	110	Peak
5449.99	39.82	39	54	-14.18	31.56	6.34	37.08	241	110	Average
*10460	52.84	57.03	68.2	-15.36	39.32	9.09	52.6	165	26	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5025.5	51.69	51.55	74	-22.31	31.23	6.15	37.24	190	264	Peak
5087.15	39.68	39.51	54	-14.32	31.27	6.17	37.27	190	264	Average
5230	86.26	85.95			31.39	6.24	37.32	190	264	Average
5230	95.46	95.15			31.39	6.24	37.32	190	264	Peak
5387.73	39.92	39.28	54	-14.08	31.51	6.31	37.18	190	264	Average
5390.04	51.15	50.51	74	-22.85	31.51	6.31	37.18	190	264	Peak
*10460	54.08	58.27	68.2	-14.12	39.32	9.09	52.6	159	294	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

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**	Toby Tian

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**
5039.6	50.63	50.48	74	-23.37	31.24	6.15	37.24	242	109	Peak
5120.75	38.64	38.46	54	-15.36	31.29	6.19	37.3	242	109	Average
5270	88.31	87.92			31.41	6.25	37.27	242	109	Average
5270	97.53	97.14			31.41	6.25	37.27	242	109	Peak
5417.43	39.8	39.13	54	-14.2	31.53	6.32	37.18	242	109	Average
5419.08	52.22	51.55	74	-21.78	31.53	6.32	37.18	242	109	Peak
*10540	53.59	57.7	68.2	-14.61	39.46	9.12	52.69	188	33	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**
5001.65	51.19	51.09	74	-22.81	31.2	6.13	37.23	189	263	Peak
5128.7	39.05	38.84	54	-14.95	31.31	6.2	37.3	189	263	Average
5270	88.85	88.46			31.41	6.25	37.27	189	263	Average
5270	98.34	97.95			31.41	6.25	37.27	189	263	Peak
5412.92	52.21	51.54	74	-21.79	31.53	6.32	37.18	189	263	Peak
5419.52	40.24	39.57	54	-13.76	31.53	6.32	37.18	189	263	Average
*10540	54.39	58.5	68.2	-13.81	39.46	9.12	52.69	171	327	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

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**	Toby Tian

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**
5017.7	51.16	51.04	74	-22.84	31.21	6.15	37.24	242	112	Peak
5146.85	38.86	38.66	54	-15.14	31.32	6.2	37.32	242	112	Average
5310	88.24	87.71			31.45	6.27	37.19	242	112	Average
5310	97.43	96.9			31.45	6.27	37.19	242	112	Peak
5350	49.24	48.65	54	-4.76	31.48	6.29	37.18	242	112	Average
5352.86	60.84	60.25	74	-13.16	31.48	6.29	37.18	242	112	Peak
10620	44.46	48.05	54	-9.54	39.59	9.16	52.34	186	35	Average
10620	55.72	59.31	74	-18.28	39.59	9.16	52.34	186	35	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**
5000.3	55.25	55.15	74	-18.75	31.2	6.13	37.23	188	265	Peak
5144.45	39.01	38.81	54	-14.99	31.32	6.2	37.32	188	265	Average
5310	89.1	88.57			31.45	6.27	37.19	188	265	Average
5310	98.33	97.8			31.45	6.27	37.19	188	265	Peak
5350	50.19	49.6	54	-3.81	31.48	6.29	37.18	188	265	Average
5353.63	63.31	62.72	74	-10.69	31.48	6.29	37.18	188	265	Peak
10620	44.62	48.21	54	-9.38	39.59	9.16	52.34	167	325	Average
10620	55.9	59.49	74	-18.1	39.59	9.16	52.34	167	325	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

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**	Toby Tian

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	56.31	55.49	74	-17.69	31.56	6.34	37.08	241	104	Peak
5460.08	42.97	42.15	54	-11.03	31.56	6.34	37.08	241	104	Average
*5470.16	60.58	59.75	68.2	-7.62	31.57	6.34	37.08	241	104	Peak
5510	88.28	87.38			31.6	6.36	37.06	241	104	Average
5510	97.31	96.41			31.6	6.36	37.06	241	104	Peak
*5725.48	51.71	50.43	68.2	-16.49	31.96	6.75	37.43	241	104	Peak
11020	44.42	48.37	54	-9.58	40.19	9.35	53.49	199	85	Average
11020	53.71	57.66	74	-20.29	40.19	9.35	53.49	199	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5457.52	56.87	56.05	74	-17.13	31.56	6.34	37.08	186	264	Peak
5460.08	43.39	42.57	54	-10.61	31.56	6.34	37.08	186	264	Average
*5469.84	62.04	61.21	68.2	-6.16	31.57	6.34	37.08	186	264	Peak
5510	89.99	89.09			31.6	6.36	37.06	186	264	Average
5510	99.53	98.63			31.6	6.36	37.06	186	264	Peak
*5724.36	52.48	51.26	68.2	-15.72	31.96	6.69	37.43	186	264	Peak
11020	44.84	48.79	54	-9.16	40.19	9.35	53.49	170	342	Average
11020	54.57	58.52	74	-19.43	40.19	9.35	53.49	170	342	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

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**	Toby Tian

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**
5442.8	52.41	51.65	74	-21.59	31.55	6.34	37.13	242	106	Peak
5460.08	41.48	40.66	54	-12.52	31.56	6.34	37.08	242	106	Average
*5469.04	54.09	53.26	68.2	-14.11	31.57	6.34	37.08	242	106	Peak
5550	88.39	87.38			31.68	6.42	37.09	242	106	Average
5550	97.74	96.73			31.68	6.42	37.09	242	106	Peak
*5725.48	51.26	49.98	68.2	-16.94	31.96	6.75	37.43	242	106	Peak
11100	44.41	48.42	54	-9.59	40.14	9.46	53.61	206	73	Average
11100	55.64	59.65	74	-18.36	40.14	9.46	53.61	206	73	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**
5398.48	41.84	41.18	54	-12.16	31.52	6.32	37.18	183	266	Average
5400.24	53.34	52.68	74	-20.66	31.52	6.32	37.18	183	266	Peak
*5468.24	53.6	52.77	68.2	-14.6	31.57	6.34	37.08	183	266	Peak
5550	90.42	89.41			31.68	6.42	37.09	183	266	Average
5550	99.57	98.56			31.68	6.42	37.09	183	266	Peak
*5724.12	51.03	49.81	68.2	-17.17	31.96	6.69	37.43	183	266	Peak
11100	44.69	48.7	54	-9.31	40.14	9.46	53.61	178	341	Average
11100	54.69	58.7	74	-19.31	40.14	9.46	53.61	178	341	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

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**	Toby Tian

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**
5371.76	51.58	50.96	74	-22.42	31.49	6.31	37.18	242	107	Peak
5426.32	44.01	43.29	54	-9.99	31.53	6.32	37.13	242	107	Average
*5469.2	49.78	48.95	68.2	-18.42	31.57	6.34	37.08	242	107	Peak
5670	88.69	87.53			31.88	6.62	37.34	242	107	Average
5670	97.79	96.63			31.88	6.62	37.34	242	107	Peak
*5724.84	55.51	54.29	68.2	-12.69	31.96	6.69	37.43	242	107	Peak
11340	45.69	48.4	54	-8.31	40	9.8	52.51	207	68	Average
11340	55.09	57.8	74	-18.91	40	9.8	52.51	207	68	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**
5360.08	52.24	51.63	74	-21.76	31.48	6.31	37.18	182	268	Peak
5434.8	41.14	40.4	54	-12.86	31.55	6.32	37.13	182	268	Average
*5470	50.09	49.26	68.2	-18.11	31.57	6.34	37.08	182	268	Peak
5670	90.39	89.23			31.88	6.62	37.34	182	268	Average
5670	99.79	98.63			31.88	6.62	37.34	182	268	Peak
*5725.16	53.52	52.24	68.2	-14.68	31.96	6.75	37.43	182	268	Peak
11340	45.9	48.61	54	-8.1	40	9.8	52.51	163	348	Average
11340	54.77	57.48	74	-19.23	40	9.8	52.51	163	348	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

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**	Toby Tian

<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	90.37	89.08			32.01	6.75	37.47	229	106	Average
5755	99.81	98.52			32.01	6.75	37.47	229	106	Peak
11510	45.07	48.21	54	-8.93	39.9	10.03	53.07	152	27	Average
11510	54.53	57.67	74	-19.47	39.9	10.03	53.07	152	27	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	90.81	89.52			32.01	6.75	37.47	190	259	Average
5755	100.44	99.15			32.01	6.75	37.47	190	259	Peak
11510	45.25	48.39	54	-8.75	39.9	10.03	53.07	185	318	Average
11510	54.36	57.5	74	-19.64	39.9	10.03	53.07	185	318	Peak

<Ouf 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**
5599.4	50.88	49.78	68.2	-17.32	31.77	6.49	37.16	229	106	Peak
5657.35	50.79	49.66	73.66	-22.87	31.85	6.62	37.34	229	106	Peak
5923.35	51.56	49.76	69.42	-17.86	32.29	7.01	37.5	229	106	Peak
5964.675	52.01	50.1	68.2	-16.19	32.34	7.08	37.51	229	106	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**
5589.9	51.89	50.82	68.2	-16.31	31.74	6.49	37.16	190	259	Peak
5654.025	50.65	49.52	71.19	-20.54	31.85	6.62	37.34	190	259	Peak
5911.475	51.49	49.72	78.18	-26.69	32.26	7.01	37.5	190	259	Peak
5977.975	52.68	50.74	68.2	-15.52	32.37	7.08	37.51	190	259	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

<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	89.92	88.57			32.07	6.82	37.54	229	109	Average
5795	99.5	98.15			32.07	6.82	37.54	229	109	Peak
11590	44.64	48.14	54	-9.36	39.74	10.09	53.33	156	24	Average
11590	54.02	57.52	74	-19.98	39.74	10.09	53.33	156	24	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	91.12	89.77			32.07	6.82	37.54	182	261	Average
5795	100.46	99.11			32.07	6.82	37.54	182	261	Peak
11590	44.73	48.23	54	-9.27	39.74	10.09	53.33	169	302	Average
11590	54.75	58.25	74	-19.25	39.74	10.09	53.33	169	302	Peak

<Ouf 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**
5558.55	51.05	50	68.2	-17.15	31.68	6.49	37.12	229	109	Peak
5655.45	52.25	51.12	72.25	-20	31.85	6.62	37.34	229	109	Peak
5917.175	51.84	50.07	73.97	-22.13	32.26	7.01	37.5	229	109	Peak
6016.45	53.18	51.09	68.2	-15.02	32.45	7.14	37.5	229	109	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**
5597.025	51.33	50.26	68.2	-16.87	31.74	6.49	37.16	182	261	Peak
5655.925	51.38	50.25	72.6	-21.22	31.85	6.62	37.34	182	261	Peak
5920.5	51.41	49.64	71.52	-20.11	32.26	7.01	37.5	182	261	Peak
6021.2	53.35	51.26	68.2	-14.85	32.45	7.14	37.5	182	261	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5795 MHz: Fundamental Frequency
3. *: Out of Restricted Band

802.11ac (VHT80)

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

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**
5143.85	62.69	62.49	74	-11.31	31.32	6.2	37.32	239	113	Peak
5147.75	50.82	50.62	54	-3.18	31.32	6.2	37.32	239	113	Average
5210	84.92	84.67			31.37	6.24	37.36	239	113	Average
5210	94.37	94.12			31.37	6.24	37.36	239	113	Peak
5374.86	51.64	51.02	74	-22.36	31.49	6.31	37.18	239	113	Peak
5438.33	40.06	39.3	54	-13.94	31.55	6.34	37.13	239	113	Average
*10420	52.95	56.95	68.2	-15.25	39.27	9.09	52.36	169	12	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**
5145.95	64.74	64.54	74	-9.26	31.32	6.2	37.32	189	266	Peak
5147.9	**52.93**	**52.73**	**54**	**-1.07**	**31.32**	**6.2**	**37.32**	**189**	**266**	**Average**
5210	86.24	85.99			31.37	6.24	37.36	189	266	Average
5210	95.54	95.29			31.37	6.24	37.36	189	266	Peak
5416.33	40.59	39.92	54	-13.41	31.53	6.32	37.18	189	266	Average
5418.86	52.33	51.66	74	-21.67	31.53	6.32	37.18	189	266	Peak
*10420	54.35	58.35	68.2	-13.85	39.27	9.09	52.36	152	302	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5210 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

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**
5007.5	51.31	51.2	74	-22.69	31.21	6.13	37.23	243	110	Peak
5143.7	39.56	39.34	54	-14.44	31.32	6.2	37.3	243	110	Average
5290	86.35	85.88			31.43	6.27	37.23	243	110	Average
5290	95.65	95.18			31.43	6.27	37.23	243	110	Peak
5350.77	62.64	62.05	74	-11.36	31.48	6.29	37.18	243	110	Peak
5351.43	50.01	49.42	54	-3.99	31.48	6.29	37.18	243	110	Average
*10580	54.39	58.1	68.2	-13.81	39.54	9.16	52.41	182	22	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**
5077.4	51.47	51.3	74	-22.53	31.27	6.17	37.27	189	262	Peak
5145.8	39.77	39.57	54	-14.23	31.32	6.2	37.32	189	262	Average
5290	87.52	87.05			31.43	6.27	37.23	189	262	Average
5290	96.56	96.09			31.43	6.27	37.23	189	262	Peak
5351.1	51.81	51.22	54	-2.19	31.48	6.29	37.18	189	262	Average
5351.65	63.06	62.47	74	-10.94	31.48	6.29	37.18	189	262	Peak
*10580	55.09	58.8	68.2	-13.11	39.54	9.16	52.41	162	319	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

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**	Toby Tian

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**
5458.48	50.24	49.42	54	-3.76	31.56	6.34	37.08	241	105	Average
5459.44	63.26	62.44	74	-10.74	31.56	6.34	37.08	241	105	Peak
*5470.96	63.84	63.01	68.2	-4.36	31.57	6.34	37.08	241	105	Peak
5530	86.08	85.12			31.63	6.42	37.09	241	105	Average
5530	95.65	94.69			31.63	6.42	37.09	241	105	Peak
*5724.04	51.48	50.26	68.2	-16.72	31.96	6.69	37.43	241	105	Peak
11060	44.39	48.34	54	-9.61	40.16	9.46	53.57	209	76	Average
11060	53.78	57.73	74	-20.22	40.16	9.46	53.57	209	76	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5456.4	63.07	62.25	74	-10.93	31.56	6.34	37.08	185	262	Peak
5456.88	51.15	50.33	54	-2.85	31.56	6.34	37.08	185	262	Average
*5470.8	65.62	64.79	68.2	-2.58	31.57	6.34	37.08	185	262	Peak
5530	88.26	87.3			31.63	6.42	37.09	185	262	Average
5530	97.58	96.62			31.63	6.42	37.09	185	262	Peak
*5724.28	51.49	50.27	68.2	-16.71	31.96	6.69	37.43	185	262	Peak
11060	44.57	48.52	54	-9.43	40.16	9.46	53.57	162	358	Average
11060	53.73	57.68	74	-20.27	40.16	9.46	53.57	162	358	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

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**	Toby Tian

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**
5398.32	40.7	40.04	54	-13.3	31.52	6.32	37.18	242	113	Average
5412.08	52.47	51.8	74	-21.53	31.53	6.32	37.18	242	113	Peak
*5468.08	51.68	50.85	68.2	-16.52	31.57	6.34	37.08	242	113	Peak
5610	87.33	86.22			31.77	6.56	37.22	242	113	Average
5610	96.81	95.7			31.77	6.56	37.22	242	113	Peak
*5725.56	54.01	52.73	68.2	-14.19	31.96	6.75	37.43	242	113	Peak
11220	44.92	48.19	54	-9.08	40.07	9.69	53.03	207	72	Average
11220	54.66	57.93	74	-19.34	40.07	9.69	53.03	207	72	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5442.96	41.21	40.45	54	-12.79	31.55	6.34	37.13	183	258	Average
5459.44	52.92	52.1	74	-21.08	31.56	6.34	37.08	183	258	Peak
*5468.88	52.22	51.39	68.2	-15.98	31.57	6.34	37.08	183	258	Peak
5610	89.21	88.1			31.77	6.56	37.22	183	258	Average
5610	98.34	97.23			31.77	6.56	37.22	183	258	Peak
*5725.48	54.7	53.42	68.2	-13.5	31.96	6.75	37.43	183	258	Peak
11220	45.16	48.43	54	-8.84	40.07	9.69	53.03	168	349	Average
11220	55.3	58.57	74	-18.7	40.07	9.69	53.03	168	349	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

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**	Toby Tian

<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	86.54	85.18			32.04	6.82	37.5	227	103	Average
5775	95.86	94.5			32.04	6.82	37.5	227	103	Peak
11550	44.71	48.05	54	-9.29	39.81	10.09	53.24	144	29	Average
11550	54.42	57.76	74	-19.58	39.81	10.09	53.24	144	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**
5775	97.54	96.18			32.04	6.82	37.5	183	259	Average
5775	96.95	95.59			32.04	6.82	37.5	183	259	Peak
11550	44.86	48.2	54	-9.14	39.81	10.09	53.24	173	311	Average
11550	55.58	58.92	74	-18.42	39.81	10.09	53.24	173	311	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5592.275	51.34	50.27	68.2	-16.86	31.74	6.49	37.16	227	103	Peak
5653.55	51.64	50.45	70.84	-19.2	31.85	6.62	37.28	227	103	Peak
5920.5	50.89	49.12	71.52	-20.63	32.26	7.01	37.5	227	103	Peak
5983.2	52.62	50.68	68.2	-15.58	32.37	7.08	37.51	227	103	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**
5596.075	51.24	50.17	68.2	-16.96	31.74	6.49	37.16	183	259	Peak
5653.55	52.29	51.1	70.84	-18.55	31.85	6.62	37.28	183	259	Peak
5920.025	53.11	51.34	71.87	-18.76	32.26	7.01	37.5	183	259	Peak
5974.175	53.09	51.15	68.2	-15.11	32.37	7.08	37.51	183	259	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775 MHz: Fundamental Frequency
3. *: Out of Restricted Band

9 kHz ~ 30 MHz DATA:

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

30 MHz ~ 1 GHz WORST-CASE DATA:

Mode B

802.11ac (VHT80)

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

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**
216.24	22.42	42.67	46	-23.58	10.05	1.36	31.66	140	25	Peak
257.95	22.78	41.43	46	-23.22	11.71	1.51	31.87	126	333	Peak
324.88	24.03	40.64	46	-21.97	13.54	1.7	31.85	121	251	Peak
500.45	24.17	36.37	46	-21.83	17.33	2.09	31.62	119	239	Peak
576.11	24.07	34.89	46	-21.93	19.06	2.22	32.1	120	263	Peak
647.89	25.52	35.01	46	-20.48	20.19	2.35	32.03	122	142	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**
33.88	25.19	43.04	40	-14.81	12.63	0.6	31.08	115	185	Peak
120.21	24.54	44.26	43.5	-18.96	11.02	1.16	31.9	137	3	Peak
312.27	25.87	42.9	46	-20.13	13.24	1.67	31.94	127	90	Peak
504.33	26.46	38.55	46	-19.54	17.42	2.1	31.61	104	204	Peak
576.11	28.37	39.19	46	-17.63	19.06	2.22	32.1	127	270	Peak
647.89	26.5	35.99	46	-19.5	20.19	2.35	32.03	105	97	Peak

Remarks:

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

802.11ac (VHT80)

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

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**
160.95	20.54	38.62	43.5	-22.96	12.63	1.15	31.86	106	57	Peak
263.77	25.18	43.69	46	-20.82	11.88	1.53	31.92	125	50	Peak
334.58	22.9	39.2	46	-23.1	13.78	1.73	31.81	136	229	Peak
504.33	24.97	37.06	46	-21.03	17.42	2.1	31.61	113	87	Peak
576.11	24.54	35.36	46	-21.46	19.06	2.22	32.1	140	139	Peak
641.1	24.13	33.77	46	-21.87	20.1	2.34	32.08	129	177	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**
32.91	25.16	43.18	40	-14.84	12.47	0.6	31.09	139	338	Peak
108.57	23.04	43.89	43.5	-20.46	9.9	1.1	31.85	116	136	Peak
288.02	23.78	41.28	46	-22.22	12.6	1.6	31.7	118	227	Peak
504.33	26.44	38.53	46	-19.56	17.42	2.1	31.61	136	128	Peak
576.11	28.4	39.22	46	-17.6	19.06	2.22	32.1	126	77	Peak
647.89	28.85	38.34	46	-17.15	20.19	2.35	32.03	121	211	Peak

Remarks:

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

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 106	**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**	Toby Tian

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**
86.26	18.72	41.33	40	-21.28	8.23	0.94	31.78	133	122	Peak
208.48	22.56	43.12	43.5	-20.94	9.73	1.33	31.62	100	112	Peak
263.77	23.83	42.34	46	-22.17	11.88	1.53	31.92	103	169	Peak
431.58	21.9	35.99	46	-24.1	15.96	1.96	32.01	111	238	Peak
576.11	24.01	34.83	46	-21.99	19.06	2.22	32.1	125	164	Peak
647.89	25.6	35.09	46	-20.4	20.19	2.35	32.03	109	89	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**
110.51	22.93	43.58	43.5	-20.57	10.09	1.11	31.85	107	72	Peak
263.77	24.56	43.07	46	-21.44	11.88	1.53	31.92	117	82	Peak
329.73	25.96	42.39	46	-20.04	13.66	1.72	31.81	131	357	Peak
504.33	27.07	39.16	46	-18.93	17.42	2.1	31.61	116	211	Peak
576.11	26.85	37.67	46	-19.15	19.06	2.22	32.1	113	262	Peak
741.01	29.78	37.33	46	-16.22	21.39	2.52	31.46	139	110	Peak

Remarks:

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

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**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**	Toby Tian

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**
33.88	22.8	40.65	40	-17.2	12.63	0.6	31.08	123	171	Peak
208.48	26.08	46.64	43.5	-17.42	9.73	1.33	31.62	121	62	Peak
263.77	25.06	43.57	46	-20.94	11.88	1.53	31.92	137	122	Peak
326.82	21.95	38.49	46	-24.05	13.59	1.7	31.83	135	299	Peak
504.33	24.74	36.83	46	-21.26	17.42	2.1	31.61	129	232	Peak
576.11	24.41	35.23	46	-21.59	19.06	2.22	32.1	132	287	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**
41.64	28.02	44.85	40	-11.98	13.56	0.66	31.05	123	221	Peak
95.96	28.48	50.66	43.5	-15.02	8.76	1.02	31.96	107	96	Peak
253.1	24.74	43.58	46	-21.26	11.57	1.5	31.91	117	159	Peak
325.85	24.99	41.56	46	-21.01	13.57	1.7	31.84	104	337	Peak
504.33	27.1	39.19	46	-18.9	17.42	2.1	31.61	128	85	Peak
600.36	27.61	37.99	46	-18.39	19.61	2.26	32.25	132	321	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Aug. 18, 2016	Aug. 17, 2017
RF signal cable Woken	5D-FB	Cable-cond2-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 17, 2017	Jan. 16, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 26, 2016	Jul. 25, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

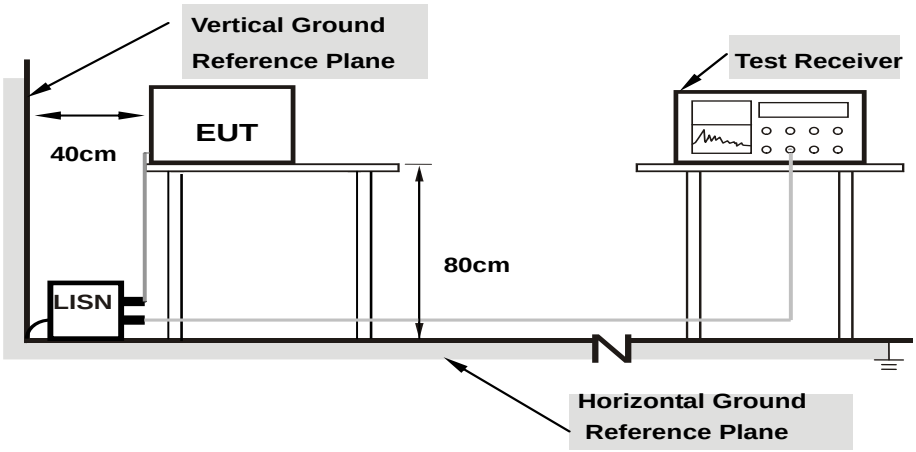
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

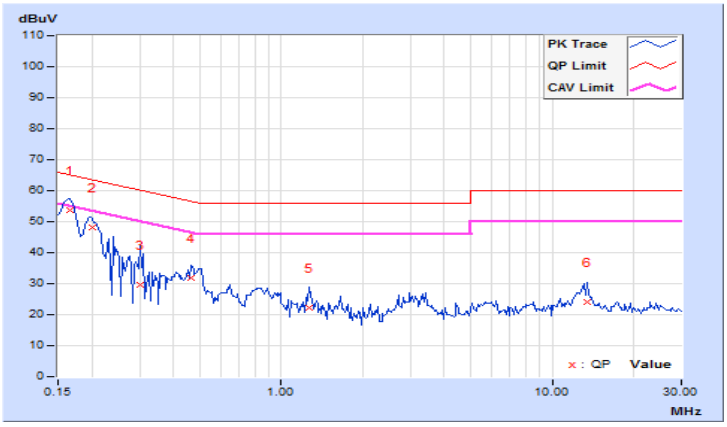
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/19

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	0.16562	10.01	43.58	27.32	53.59	37.33	65.18	55.18	-11.59	-17.85
2	0.20078	9.92	38.28	24.11	48.20	34.03	63.58	53.58	-15.38	-19.55
3	0.30234	9.91	19.72	7.73	29.63	17.64	60.18	50.18	-30.55	-32.54
4	0.46250	9.92	21.77	14.09	31.69	24.01	56.65	46.65	-24.96	-22.64
5	1.26953	9.99	12.17	5.64	22.16	15.63	56.00	46.00	-33.84	-30.37
6	13.40625	10.17	14.07	4.79	24.24	14.96	60.00	50.00	-35.76	-35.04

Remarks:

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

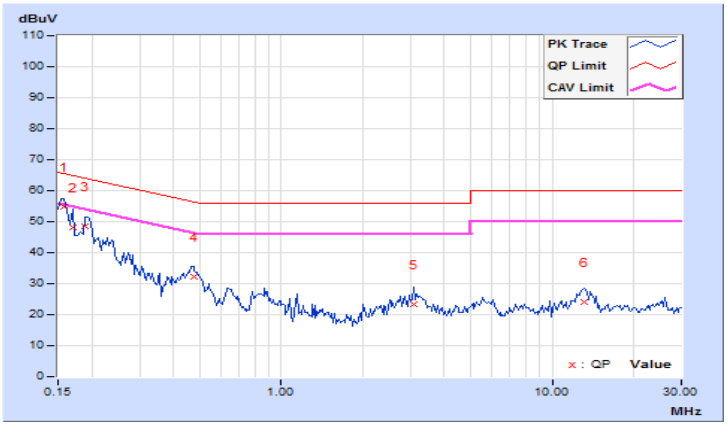


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/19

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	**0.15781**	**9.87**	**44.98**	**31.38**	**54.85**	**41.25**	**65.58**	**55.58**	**-10.73**	**-14.33**
2	0.16953	9.85	38.33	20.00	48.18	29.85	64.98	54.98	-16.80	-25.13
3	0.18906	9.81	38.79	24.52	48.60	34.33	64.08	54.08	-15.48	-19.75
4	0.47422	9.95	22.09	15.70	32.04	25.65	56.44	46.44	-24.40	-20.79
5	3.08203	10.09	13.21	7.69	23.30	17.78	56.00	46.00	-32.70	-28.22
6	13.12891	10.20	13.72	6.87	23.92	17.07	60.00	50.00	-36.08	-32.93

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 Measurment

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 ≦ 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 $N_{ANT} \leq 4$;

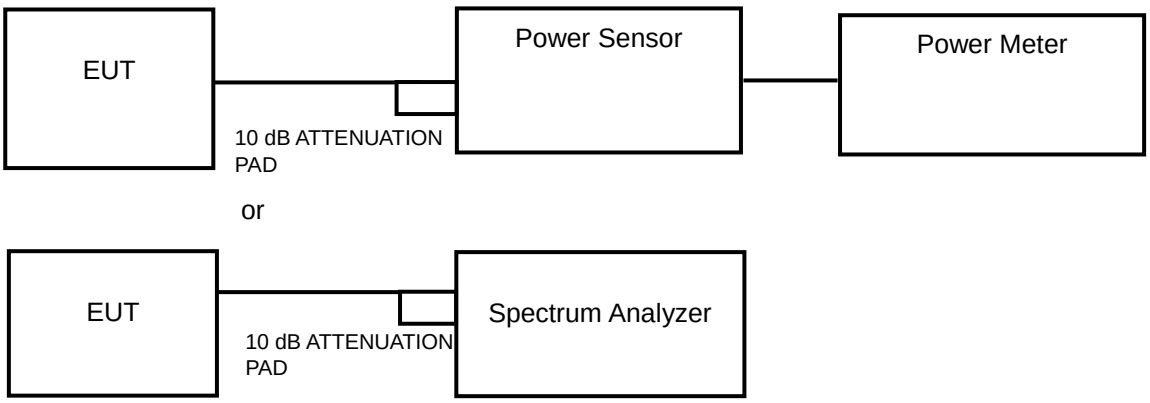
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

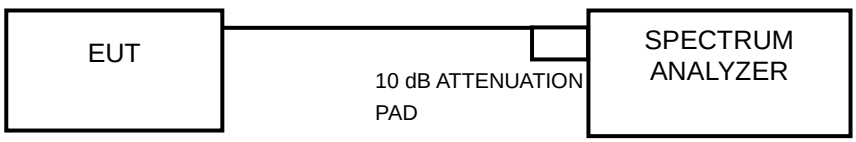
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<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)>

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

26 dB Bandwidth

1) Set RBW = approximately 1 % of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) 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 fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

Mode A

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	51.523	17.12	24	Pass
44	5220	54.075	17.33	24	Pass
48	5240	54.2	17.34	24	Pass
52	5260	85.901	19.34	24	Pass
60	5300	82.604	19.17	24	Pass
64	5320	82.414	19.16	24	Pass
100	5500	84.333	19.26	24	Pass
116	5580	83.946	19.24	24	Pass
140	5700	85.901	19.34	24	Pass
149	5745	83.368	19.21	30	Pass
157	5785	86.696	19.38	30	Pass
165	5825	82.604	19.17	30	Pass

Note:

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

1. 11 dBm + 10log (24.97) = 24.97 dBm > 24 dBm.
2. 11 dBm + 10log (24.06) = 24.81 dBm > 24 dBm.
3. 11 dBm + 10log (24.69) = 24.93 dBm > 24 dBm.
4. 11 dBm + 10log (23.12) = 24.64 dBm > 24 dBm.
5. 11 dBm + 10log (23.31) = 24.68 dBm > 24 dBm.
6. 11 dBm + 10log (23.19) = 24.65 dBm > 24 dBm.

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.11	8.16	57.95	17.63	24	Pass
44	5220	17.44	8.03	61.816	17.91	24	Pass
48	5240	17.03	7.90	56.632	17.53	24	Pass
52	5260	18.50	9.61	79.936	19.03	24	Pass
60	5300	18.79	8.90	83.445	19.21	24	Pass
64	5320	18.87	8.90	84.852	19.29	24	Pass
100	5500	19.11	8.34	88.293	19.46	24	Pass
116	5580	18.89	8.25	84.129	19.25	24	Pass
140	5700	18.83	8.07	82.796	19.18	24	Pass
149	5745	18.85	8.06	83.133	19.20	30	Pass
157	5785	18.94	7.87	84.467	19.27	30	Pass
165	5825	18.86	6.39	81.268	19.10	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (25.71) = 25.10 dBm > 24 dBm.
2. 11 dBm + 10log (25.24) = 25.02 dBm > 24 dBm.
3. 11 dBm + 10log (24.60) = 24.91 dBm > 24 dBm.
4. 11 dBm + 10log (23.63) = 24.73 dBm > 24 dBm.
5. 11 dBm + 10log (23.78) = 24.76 dBm > 24 dBm.
6. 11 dBm + 10log (22.92) = 24.60 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (24.09) = 24.82 dBm > 24 dBm.
2. 11 dBm + 10log (24.50) = 24.89 dBm > 24 dBm.
3. 11 dBm + 10log (22.75) = 24.57 dBm > 24 dBm.
4. 11 dBm + 10log (23.85) = 24.77 dBm > 24 dBm.
5. 11 dBm + 10log (23.91) = 24.79 dBm > 24 dBm.
6. 11 dBm + 10log (24.62) = 24.91 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.56	5.43	32.067	15.06	24	Pass
46	5230	14.76	5.20	33.234	15.22	24	Pass
54	5270	18.61	9.78	82.117	19.14	24	Pass
62	5310	19.01	9.10	87.744	19.43	24	Pass
102	5510	18.72	7.96	80.725	19.07	24	Pass
110	5550	18.82	8.05	82.591	19.17	24	Pass
134	5670	18.86	8.04	83.281	19.21	24	Pass
151	5755	18.85	8.37	83.607	19.22	30	Pass
159	5795	18.79	7.24	80.98	19.08	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (46.54) = 27.68 dBm > 24 dBm.
2. 11 dBm + 10log (47.28) = 27.75 dBm > 24 dBm.
3. 11 dBm + 10log (45.25) = 27.56 dBm > 24 dBm.
4. 11 dBm + 10log (45.31) = 27.56 dBm > 24 dBm.
5. 11 dBm + 10log (44.98) = 27.53 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (45.79) = 27.61 dBm > 24 dBm.
2. 11 dBm + 10log (44.97) = 27.53 dBm > 24 dBm.
3. 11 dBm + 10log (44.50) = 27.48 dBm > 24 dBm.
4. 11 dBm + 10log (45.92) = 27.62 dBm > 24 dBm.
5. 11 dBm + 10log (44.75) = 27.51 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.96	5.86	35.188	15.46	24	Pass
58	5290	18.67	9.56	82.657	19.17	24	Pass
106	5530	18.80	8.39	82.76	19.18	24	Pass
122	5610	18.92	9.05	86.018	19.35	24	Pass
155	5775	16.00	5.45	43.319	16.37	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (87.42) = 30.42 dBm > 24 dBm.
2. 11 dBm + 10log (84.50) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (83.75) = 30.23 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (84.94) = 30.29 dBm > 24 dBm.
2. 11 dBm + 10log (83.93) = 30.24 dBm > 24 dBm.
3. 11 dBm + 10log (83.84) = 30.23 dBm > 24 dBm.

26 dB Bandwidth:

Mode A

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	25.93
44	5220	25.70
48	5240	25.40
52	5260	24.97
60	5300	24.06
64	5320	24.69
100	5500	23.12
116	5580	23.31
140	5700	23.19

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	27.11	23.97
44	5220	26.25	24.11
48	5240	25.92	23.88
52	5260	25.71	24.09
60	5300	25.24	24.50
64	5320	24.60	22.75
100	5500	23.63	23.85
116	5580	23.78	23.91
140	5700	22.92	24.62

802.11n (HT40)

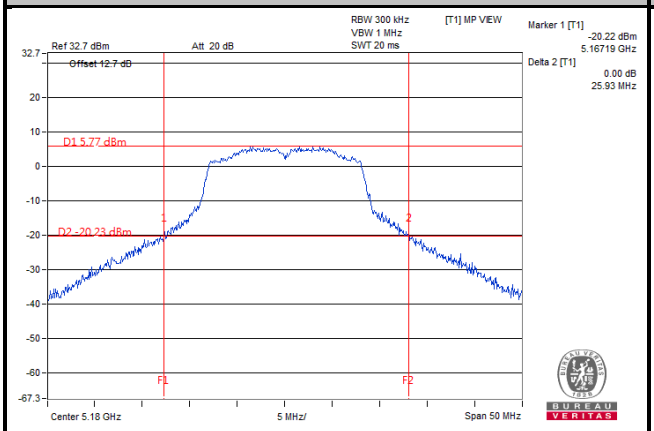
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	48.14	44.89
46	5230	47.39	45.25
54	5270	46.54	45.79
62	5310	47.28	44.97
102	5510	45.25	44.50
110	5550	45.31	45.92
134	5670	44.98	44.75

802.11ac (VHT80)

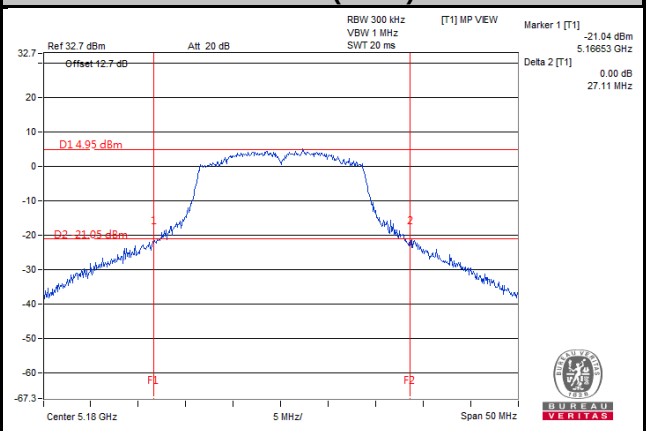
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	90.09	85.30
58	5290	87.42	84.94
106	5530	84.50	83.93
122	5610	83.75	83.84

Spectrum Plot of Worst Value

802.11a



802.11n (HT20)



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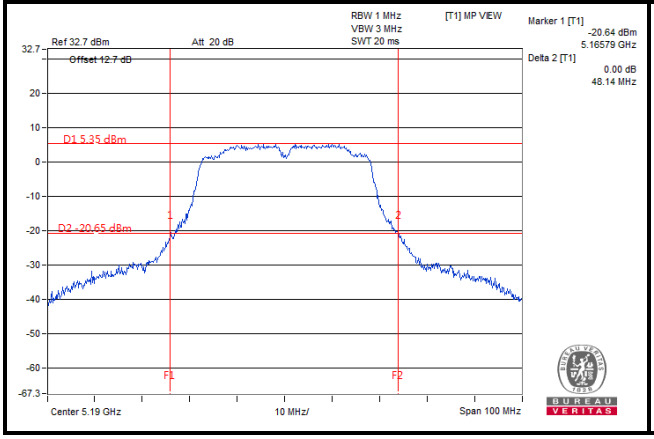
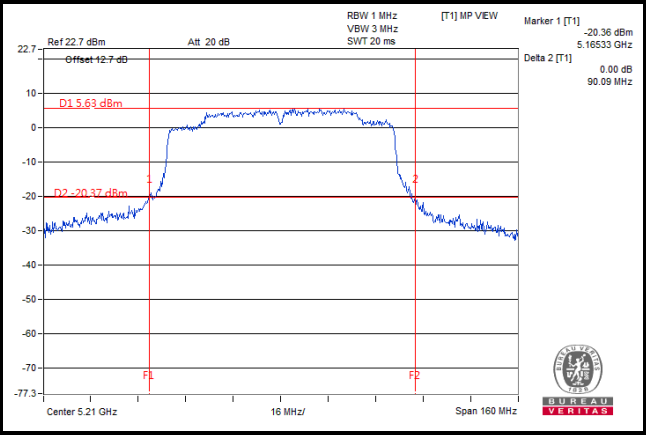


802.11ac (VHT80)

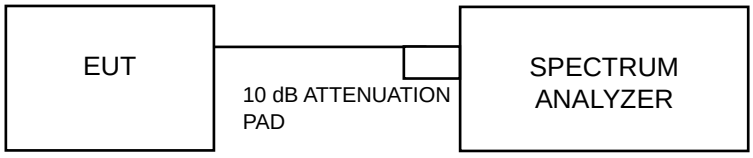


4.4 Peak Power Spectral Density Measurement

4.4.1 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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 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 ≥ 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 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
4. Sweep time = auto, trigger set to “free run”.
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

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

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

Mode A

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	2.13	0.24	2.37	11	Pass
44	5220	2.67	0.24	2.91	11	Pass
48	5240	2.49	0.24	2.73	11	Pass
52	5260	4.57	0.24	4.81	11	Pass
60	5300	5.06	0.24	5.30	11	Pass
64	5320	4.97	0.24	5.21	11	Pass
100	5500	6.48	0.24	6.72	11	Pass
116	5580	5.54	0.24	5.78	11	Pass
140	5700	5.24	0.24	5.48	11	Pass

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

Mode B

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	0.61	-5.17	0.76	2.39	11	Pass
44	5220	1.67	-4.98	0.76	3.28	11	Pass
48	5240	1.33	-4.91	0.76	3.02	11	Pass
52	5260	3.30	-2.93	0.76	4.99	11	Pass
60	5300	3.98	-2.92	0.76	5.55	11	Pass
64	5320	4.17	-3.04	0.76	5.69	11	Pass
100	5500	5.30	-2.85	0.76	6.68	11	Pass
116	5580	4.39	-3.22	0.76	5.85	11	Pass
140	5700	3.50	-4.45	0.76	4.91	11	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 10log[(10G1/20 + 10G2/20)2 / NANT] = 4.67 dBi < 6 dB, so the limit does not need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}] = 5.55$ dBi < 6 dBi, so the limit does not need to be reduced.
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	-4.10	-9.72	0.98	-2.07	11	Pass
46	5230	-4.12	-5.37	0.98	-0.72	11	Pass
54	5270	1.00	-5.20	0.98	2.91	11	Pass
62	5310	2.47	-5.45	0.98	4.09	11	Pass
102	5510	2.28	-5.67	0.98	3.90	11	Pass
110	5550	2.42	-5.66	0.98	4.02	11	Pass
134	5670	1.35	-6.66	0.98	2.96	11	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 10log[(10G1/20 + 10G2/20)2 / NANT] = 4.67 dBi < 6 dB, so the limit does not need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.55 dBi < 6 dBi, so the limit does not need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

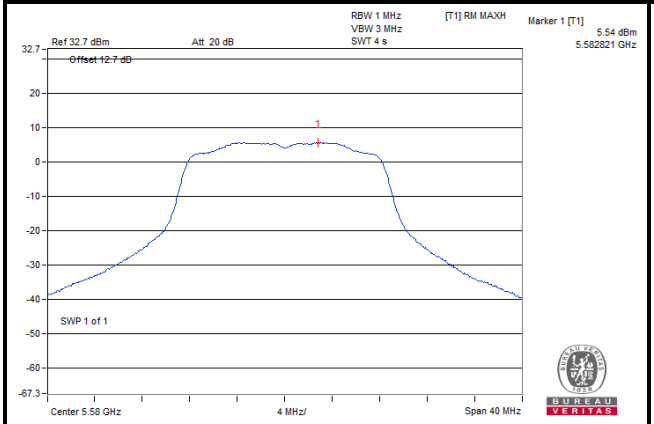
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-5.10	-11.48	1.13	-3.07	11	Pass
58	5290	-0.93	-7.92	1.13	0.99	11	Pass
106	5530	-1.22	-9.94	1.13	0.46	11	Pass
122	5610	-1.15	-9.27	1.13	0.60	11	Pass

Note:

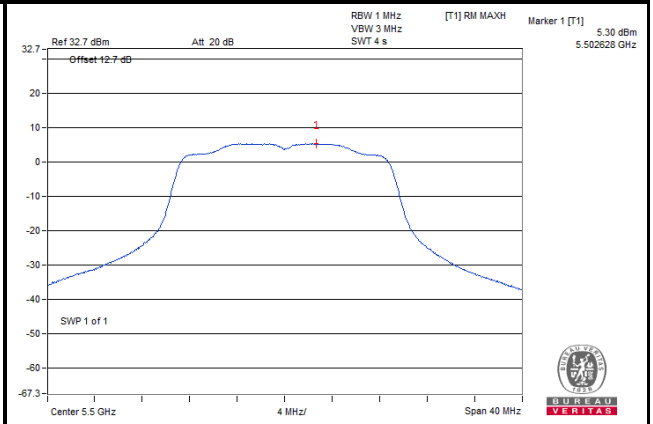
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 10log[(10G1/20 + 10G2/20)2 / NANT] = 4.67 dBi < 6 dB, so the limit does not need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.55 dBi < 6 dBi, so the limit does not need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

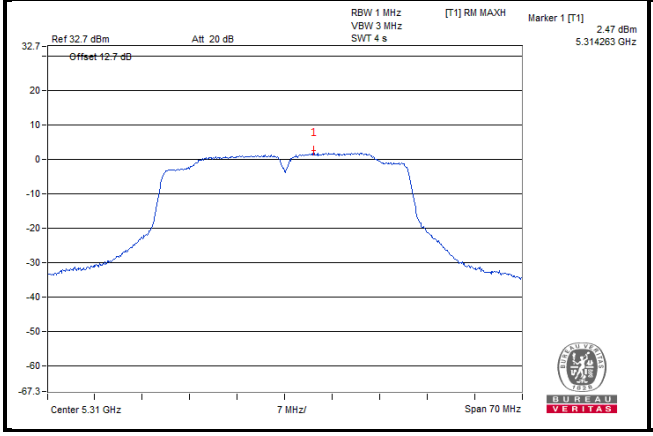
802.11a



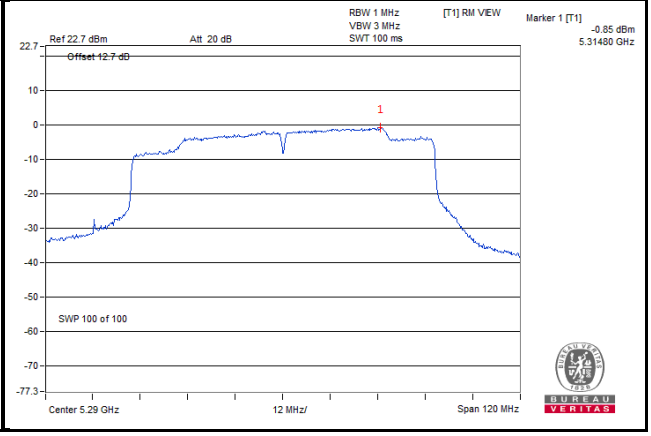
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

Mode A

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	0.61	0.24	0.85	30	Pass
157	5785	2.09	0.24	2.33	30	Pass
165	5825	1.85	0.24	2.09	30	Pass

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

Mode B

802.11n (HT20)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-0.80	3.01	0.76	2.97	30	Pass
	157	5785	-0.05	3.01	0.76	3.72	30	Pass
	165	5825	0.46	3.01	0.76	4.23	30	Pass
1	149	5745	-8.43	3.01	0.76	-4.66	30	Pass
	157	5785	-8.62	3.01	0.76	-4.85	30	Pass
	165	5825	-9.68	3.01	0.76	-5.91	30	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}] = 4.55 < 6$ dBi, so the limit does not need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-2.60	3.01	0.98	1.39	30	Pass
	159	5795	-3.82	3.01	0.98	0.17	30	Pass
1	151	5755	-11.32	3.01	0.98	-7.33	30	Pass
	159	5795	-11.73	3.01	0.98	-7.74	30	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}] = 4.55 < 6$ dBi, so the limit does not need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

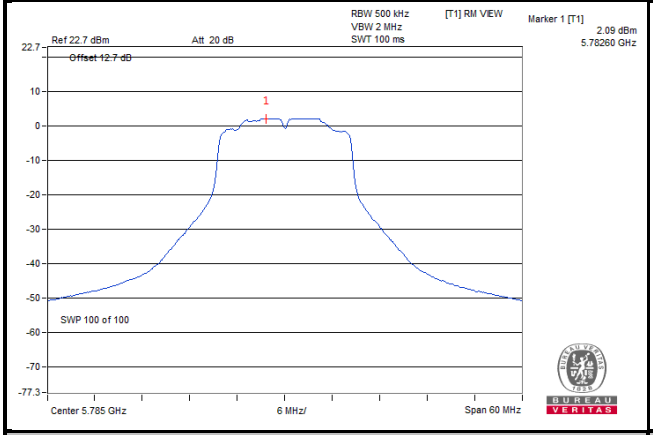
TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-7.02	3.01	1.13	-2.88	30	Pass
1	155	5775	-15.20	3.01	1.13	-11.06	30	Pass

Note:

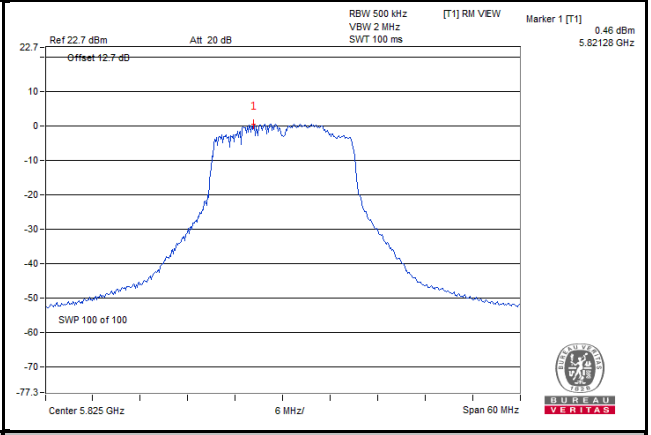
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}$]= 4.55 < 6 dBi, so the limit does not need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

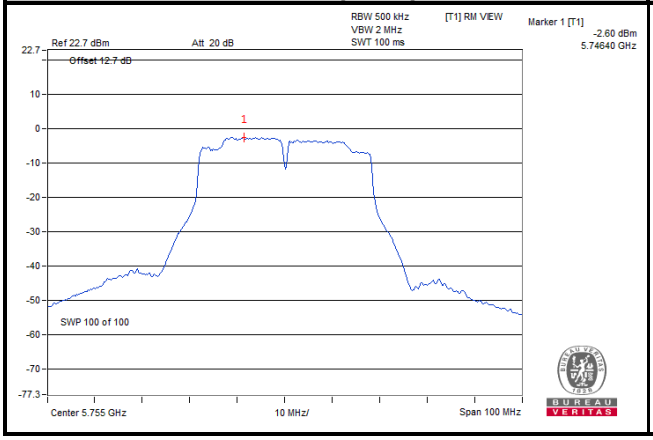
802.11a



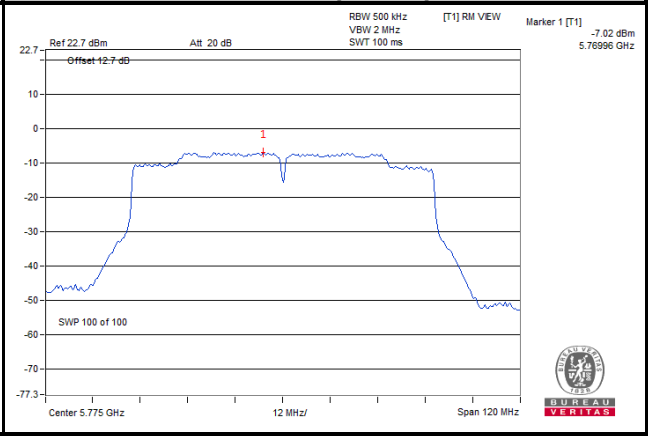
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

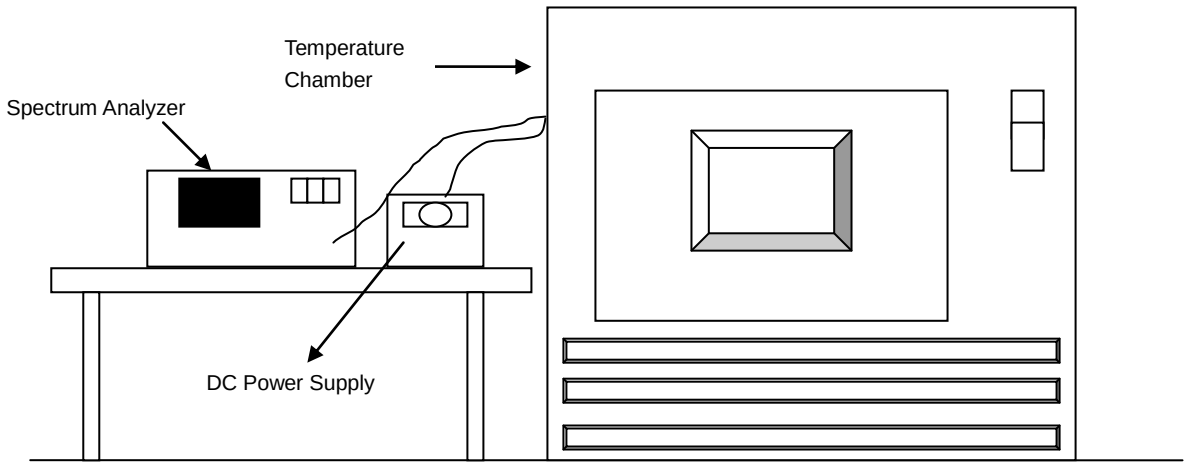


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

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 Procedure

a. 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.
b. 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.
c. 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	19	5179.9956	-0.85	5179.9961	-0.75	5179.9998	-0.04	5179.9978	-0.42
40	19	5179.9909	-1.76	5179.9901	-1.91	5179.992	-1.54	5179.9924	-1.47
30	19	5180.0234	4.52	5180.026	5.02	5180.0253	4.88	5180.0273	5.27
20	19	5179.9903	-1.87	5179.9918	-1.58	5179.9875	-2.41	5179.9913	-1.68
10	19	5180.0006	0.12	5180.0022	0.42	5180.0053	1.02	5180.0019	0.37
0	19	5180.0151	2.92	5180.0122	2.36	5180.012	2.32	5180.0125	2.41
-10	19	5179.9778	-4.29	5179.9804	-3.78	5179.9818	-3.51	5179.9814	-3.59
-20	19	5179.9883	-2.26	5179.9876	-2.39	5179.9883	-2.26	5179.9872	-2.47
-30	19	5179.997	-0.58	5179.9929	-1.37	5179.9921	-1.53	5179.9957	-0.83

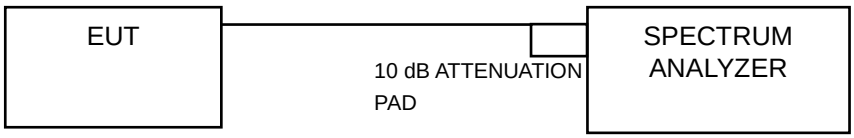
Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	21.85	5179.9913	-1.68	5179.9924	-1.47	5179.9882	-2.28	5179.9921	-1.53
	19	5179.9903	-1.87	5179.9918	-1.58	5179.9875	-2.41	5179.9913	-1.68
	16.15	5179.9902	-1.89	5179.9928	-1.39	5179.9871	-2.49	5179.9903	-1.87

4.6 6 dB Bandwidth Measurment

4.6.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

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

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100 kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Mode A

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.11	0.5	Pass
157	5785	15.34	0.5	Pass
165	5825	15.15	0.5	Pass

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.16	16.30	0.5	Pass
157	5785	15.13	15.75	0.5	Pass
165	5825	15.15	16.97	0.5	Pass

802.11n (HT40)

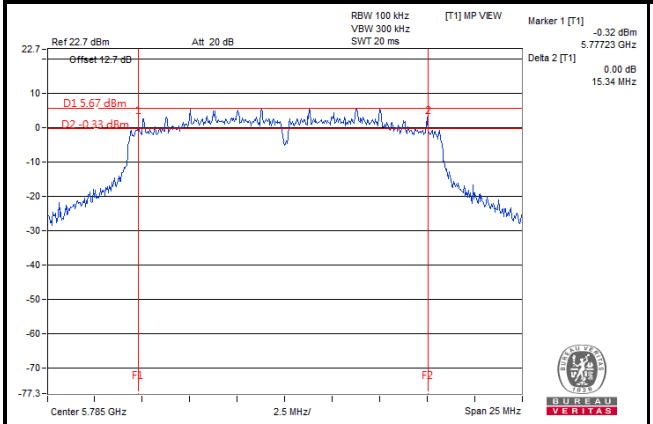
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.23	35.09	0.5	Pass
159	5795	35.21	35.17	0.5	Pass

802.11ac (VHT80)

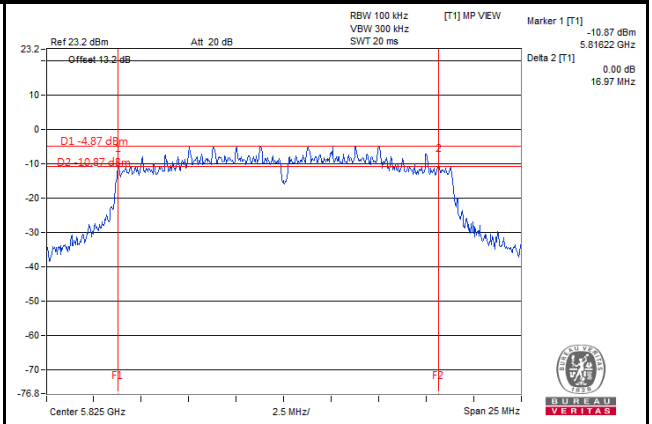
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	72.76	72.68	0.5	Pass

Spectrum Plot of Worst Value

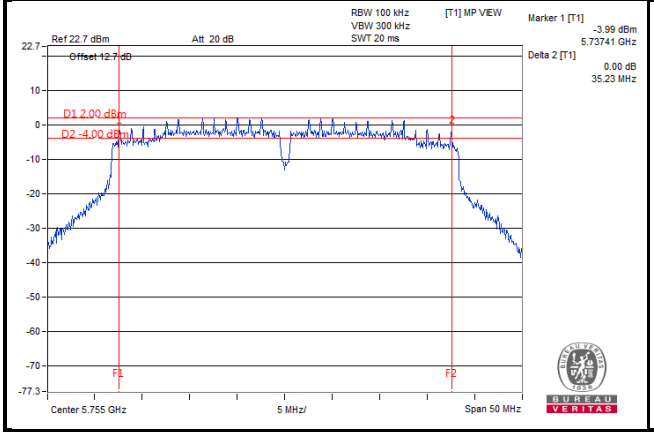
802.11a



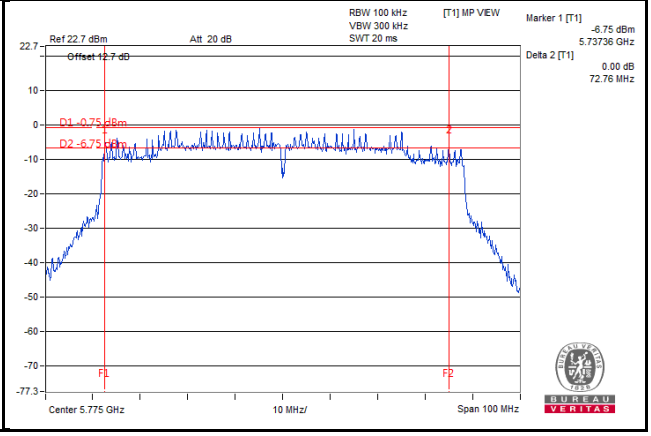
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

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

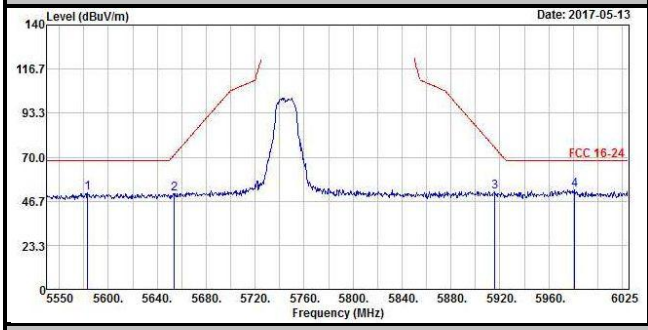
Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)

Mode A

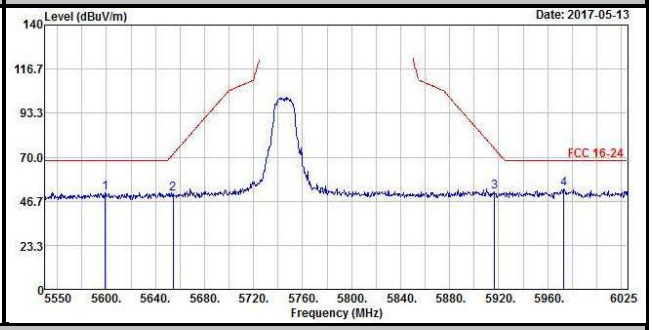
802.11a

Ch 149

Horizontal

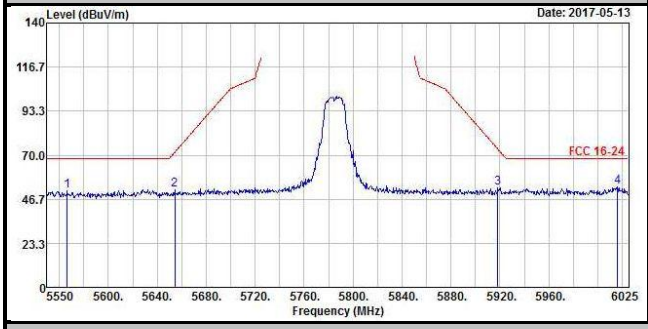


Vertical

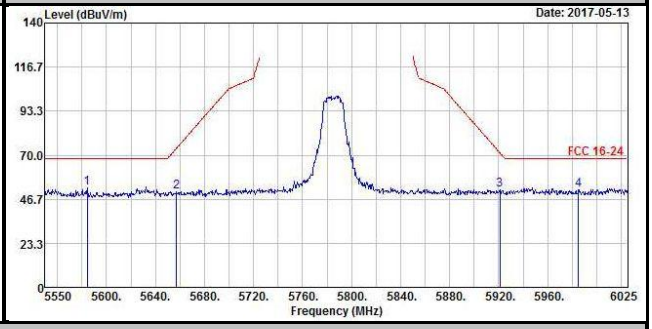


Ch 157

Horizontal

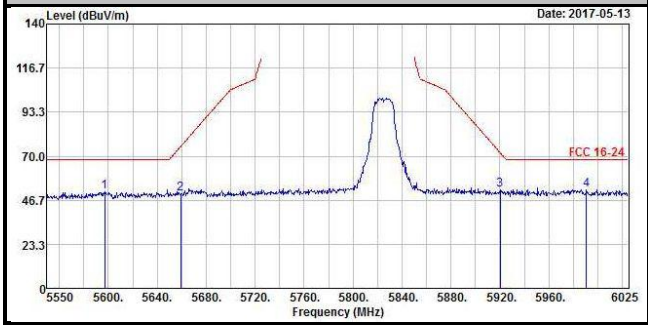


Vertical

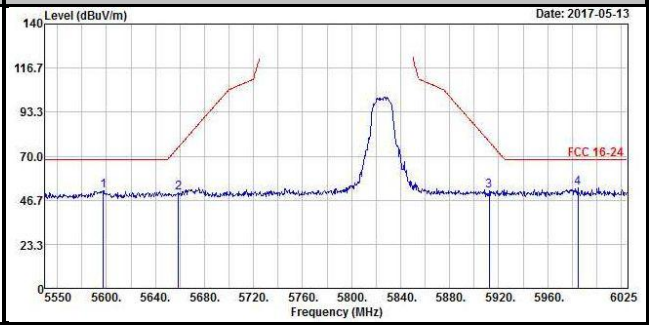


Ch 165

Horizontal

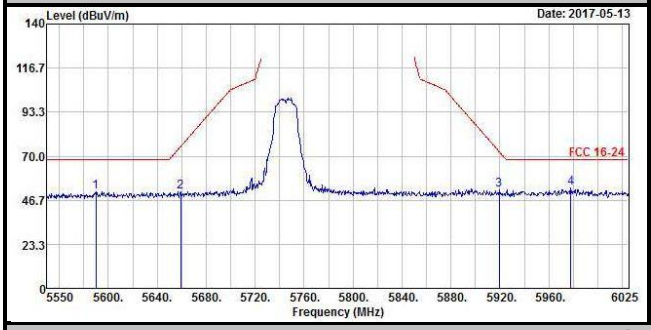
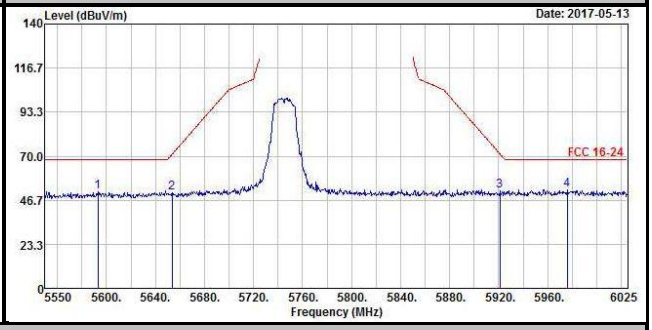
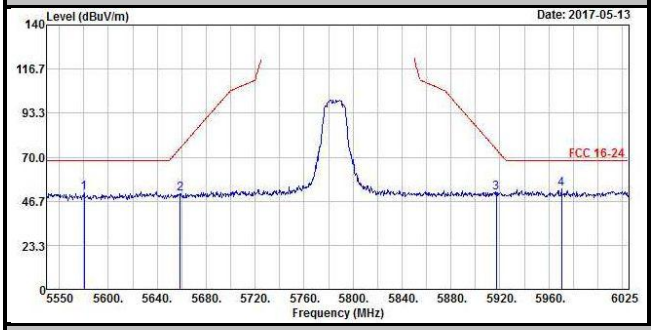
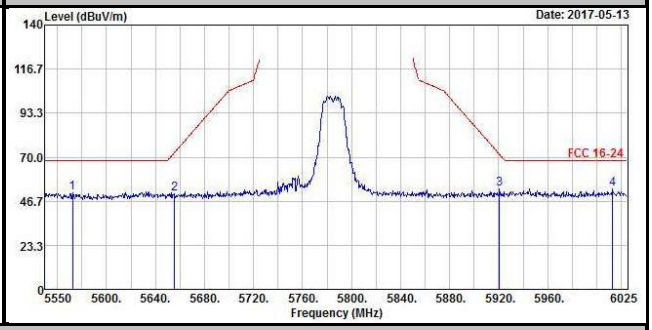
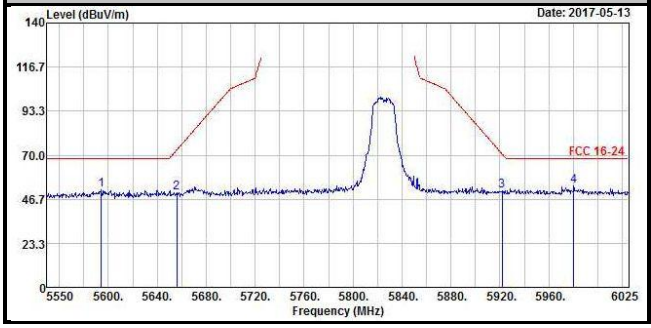
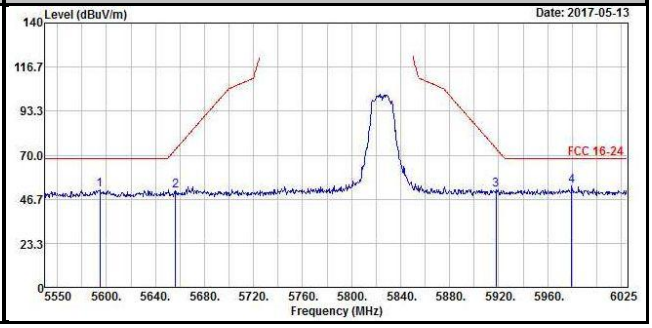


Vertical

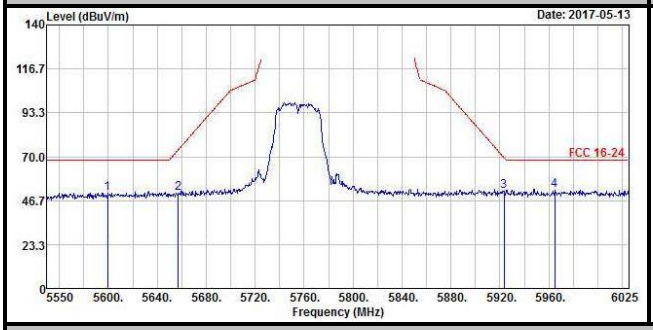
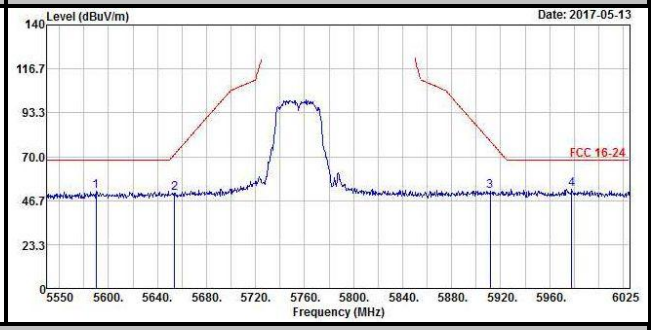
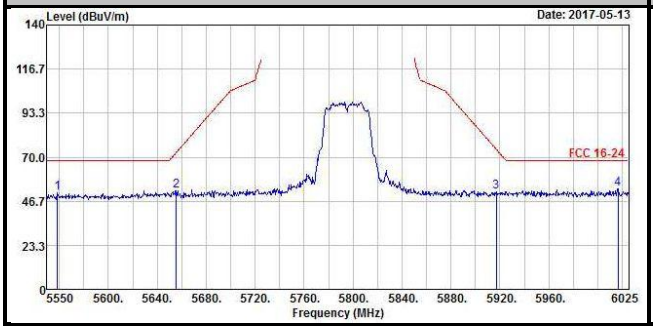
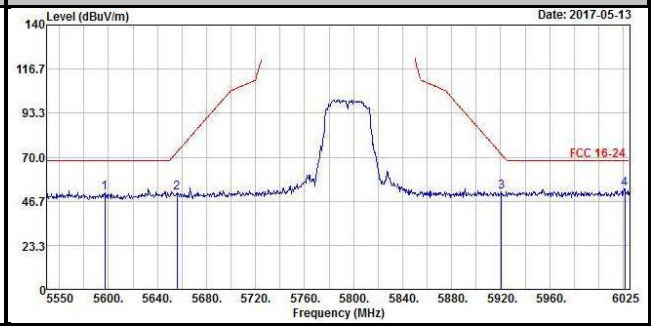


Mode B

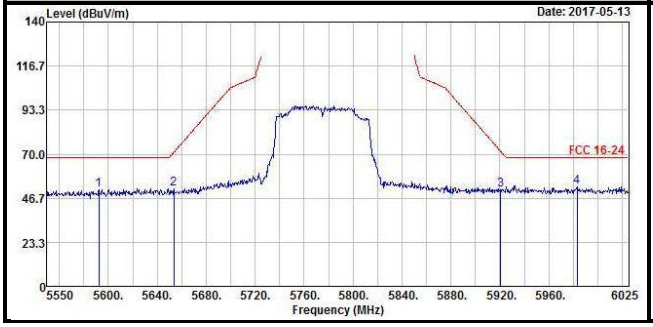
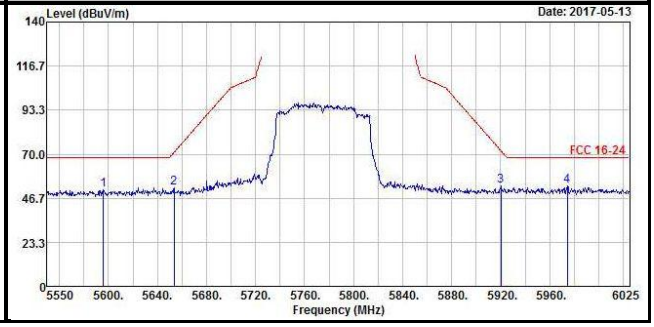
802.11n (HT20)

Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

802.11n (HT40)

Ch 151	
Horizontal	**Vertical**
	
Ch 159	
Horizontal	**Vertical**
	

802.11ac (VHT80)

Ch 155	
Horizontal	**Vertical**
	

Appendix – Information on the Testing Laboratories

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

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

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

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