FCC Test Report

Report No.:	RF170220C11E-4
FCC ID:	NM8HTV33
Test Model:	HTV33
Received Date:	Feb. 20, 2017
Test Date:	Mar. 14, 2017 ~ Mar. 24, 2017
Issued Date:	May 08, 2017
Applicant:	HTC Corporation
Address:	1F, 6-3 Baoqiang Road, Xindian District, New Taipei City, Taiwan 231
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 Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF170220C11E-4	Original Release	May 08, 2017

1 Certificate of Conformity

Product:	Smartphone
Brand:	HTC
Test Model:	HTV33
Sample Status:	Production Unit
Applicant:	HTC Corporation
Test Date:	Mar. 14, 2017 ~ Mar. 24, 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 : Gina Liu , **Date:** May 08, 2017

Gina Liu / Specialist

Approved by : David Huang , **Date:** May 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 -5.77 dB at 1.50677 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 -6.53 dB at 11490 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	Smartphone
Brand	HTC
Test Model	HTV33
Status of EUT	Production Unit
Power Supply Rating	3.85 Vdc (Battery) 5 or 9 or 12 Vdc (Adapter or host equipment) 5 Vdc (Host equipment)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to V9
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 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	43.318 mW for 5180 ~ 5240 MHz 43.328 mW for 5260 ~ 5320 MHz 43.291 mW for 5500 ~ 5700 MHz 42.639 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 0.5 dBi gain (5180 ~ 5240 MHz) PIFA antenna with -2.0 dBi gain (5260 ~ 5320 MHz) PIFA antenna with -2.0 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -1.5 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's accessories list refers to Ext. Pho.
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	√	-	-	√	1TX
B	√	√	√	√	2TX

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

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for Mode A in 5180~5320MHz and Mode B in 5260~5825MHz, **X-plane** for Mode B in 5180~5240MHz, **Y-plane** for Mode A in 5500~5825MHz.
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
B		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
B		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	802.11n (HT20)	100 to 140	140	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)
B	5745-5825	802.11n (HT20)	149 to 165	149	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
B		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
B		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
B		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
B		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, Getaz Yang, Gavin Wu
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	3.85 Vdc	Wayne Lin

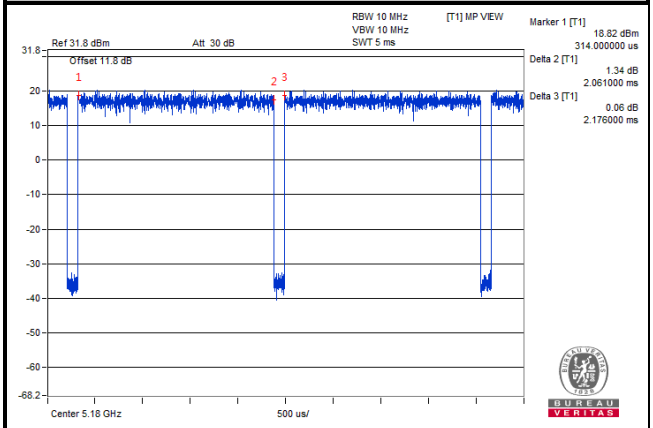
3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

Mode A

802.11a: Duty cycle = 2.061/2.176 = 0.947, Duty factor = 10 * log(1/0.947) = 0.24

802.11a



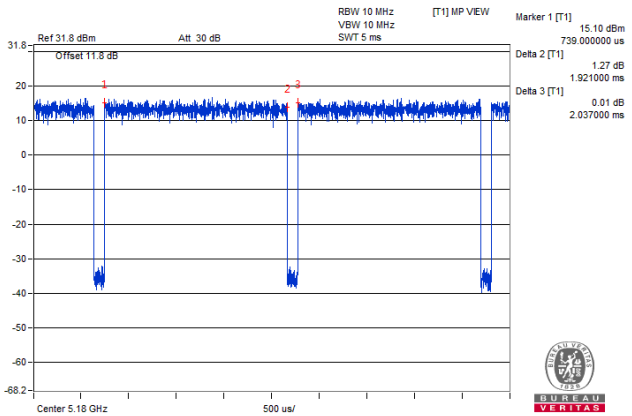
Mode B

802.11n (HT20): Duty cycle = 1.921/2.037 = 0.943, Duty factor = 10 * log(1/0.943) = 0.25

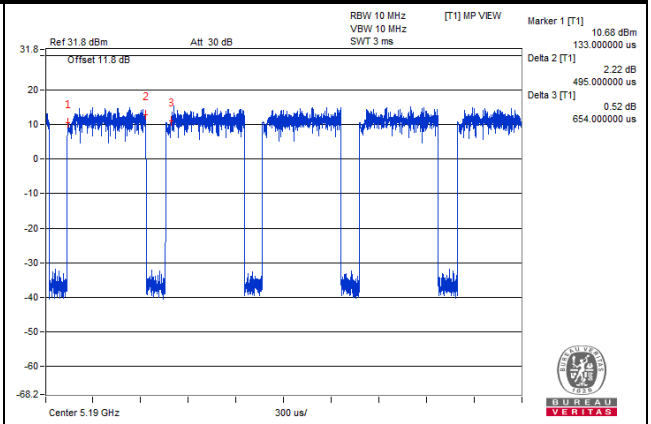
802.11n (HT40): Duty cycle = 0.495/0.654 = 0.757, Duty factor = 10 * log(1/0.757) = 1.21

802.11ac (VHT80): Duty cycle = 0.462/0.587 = 0.787, Duty factor = 10 * log(1/0.787) = 1.04

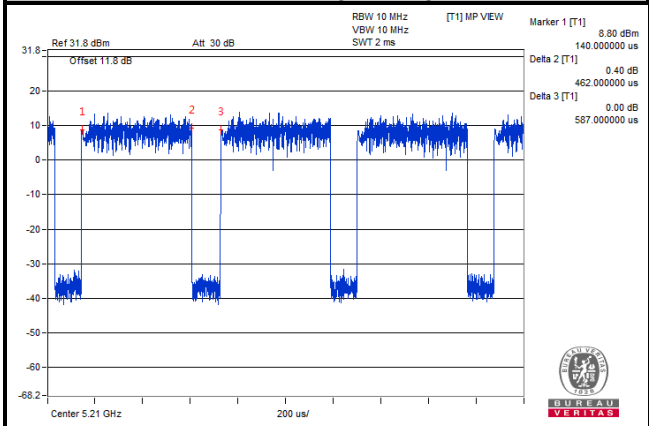
802.11n (HT20)



802.11n (HT40)



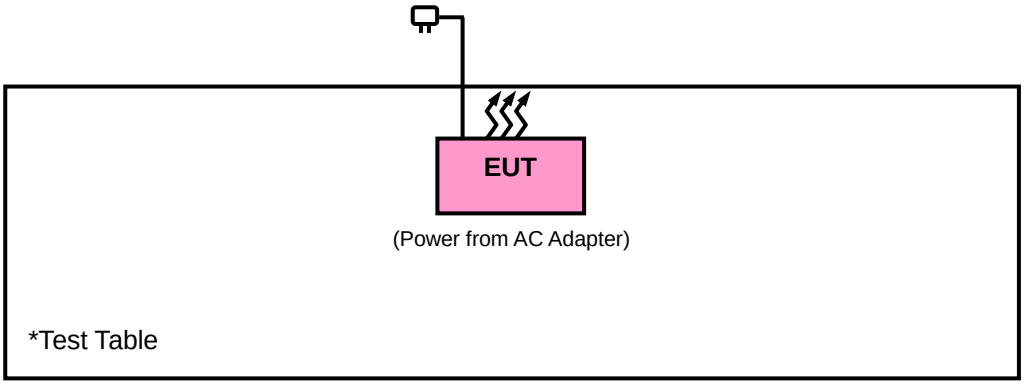
802.11ac (VHT80)



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 v01r03
644545 D01 Guidance for IEEE 802 11ac v01r02
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 v01r03		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

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

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

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

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

Note:

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

$$E = \frac{1000000\sqrt{30P}}{3}$$ 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
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 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:

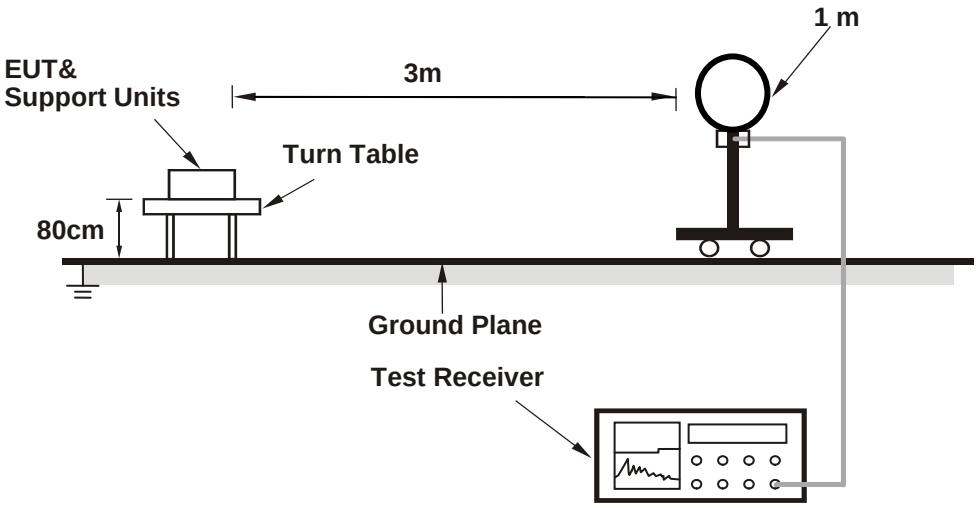
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak 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

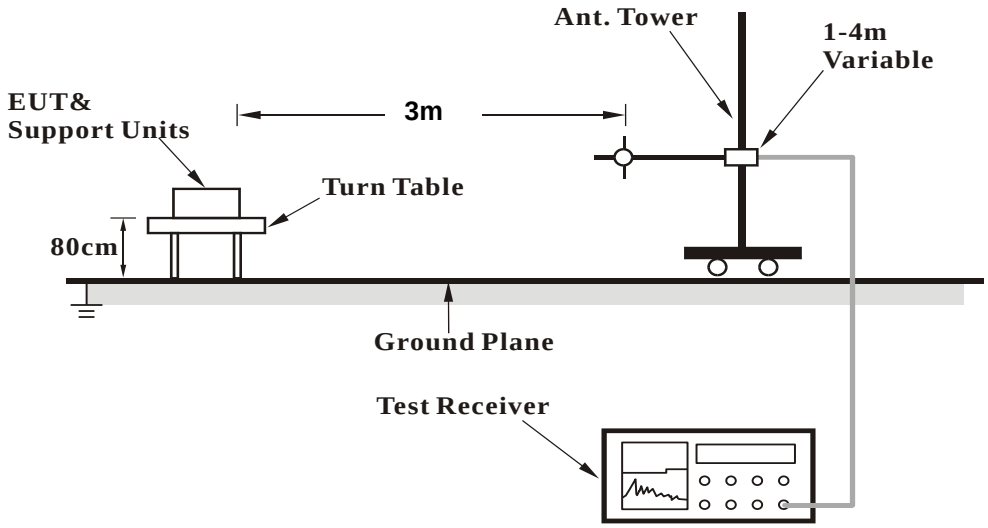
No deviation.

4.1.6 Test Set Up

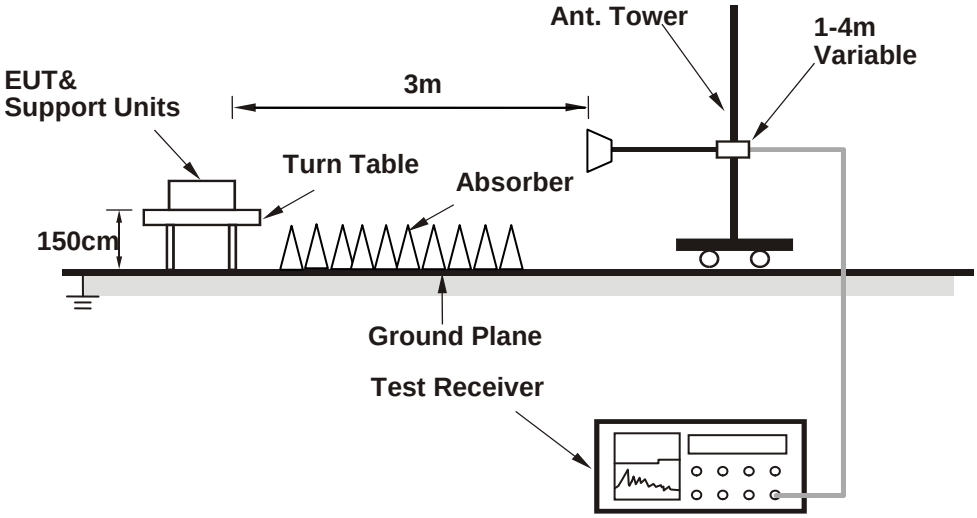
<Radiated emission below 30MHz>



<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**
5059.1	51.14	50.97	74	-22.86	31.25	6.17	37.25	183	231	Peak
5147.3	41.18	40.98	54	-12.82	31.32	6.2	37.32	183	231	Average
5180	89.64	89.41			31.35	6.22	37.34	183	231	Average
5180	97.09	96.86			31.35	6.22	37.34	183	231	Peak
10360	53.32	57.22	68.2	-14.88	39.19	9.05	52.14	182	24	Peak
*5059.1	51.14	50.97	74	-22.86	31.25	6.17	37.25	183	231	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**
5093.45	50.59	50.4	74	-23.41	31.28	6.19	37.28	220	85	Peak
5138.45	40.9	40.69	54	-13.1	31.31	6.2	37.3	220	85	Average
5180	88.21	87.98			31.35	6.22	37.34	220	85	Average
5180	95.37	95.14			31.35	6.22	37.34	220	85	Peak
10360	53.14	57.04	68.2	-15.06	39.19	9.05	52.14	152	241	Peak
*5093.45	50.59	50.4	74	-23.41	31.28	6.19	37.28	220	85	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**
5073.5	50.92	50.75	74	-23.08	31.27	6.17	37.27	183	232	Peak
5128.1	40.76	40.55	54	-13.24	31.31	6.2	37.3	183	232	Average
5220	89.9	89.65			31.37	6.24	37.36	183	232	Average
5220	97.14	96.89			31.37	6.24	37.36	183	232	Peak
5414.13	51.33	50.66	74	-22.67	31.53	6.32	37.18	183	232	Peak
5452.74	41.2	40.38	54	-12.8	31.56	6.34	37.08	183	232	Average
*10440	53.23	57.33	68.2	-14.97	39.29	9.09	52.48	187	18	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5100.8	40.79	40.6	54	-13.21	31.28	6.19	37.28	217	83	Average
5138.3	51	50.79	74	-23	31.31	6.2	37.3	217	83	Peak
5220	88.24	87.99			31.37	6.24	37.36	217	83	Average
5220	95.44	95.19			31.37	6.24	37.36	217	83	Peak
5362.98	51.05	50.43	74	-22.95	31.49	6.31	37.18	217	83	Peak
5447.46	41.05	40.28	54	-12.95	31.56	6.34	37.13	217	83	Average
*10440	54.46	58.56	68.2	-13.74	39.29	9.09	52.48	159	245	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**
5043.8	52.41	52.27	74	-21.59	31.24	6.15	37.25	184	228	Peak
5145.5	40.77	40.57	54	-13.23	31.32	6.2	37.32	184	228	Average
5240	90.01	89.69			31.39	6.25	37.32	184	228	Average
5240	97.12	96.8			31.39	6.25	37.32	184	228	Peak
*10480	55.65	59.9	68.2	-12.55	39.37	9.09	52.71	179	32	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5043.35	40.66	40.52	54	-13.34	31.24	6.15	37.25	217	84	Average
5109.05	50.72	50.52	74	-23.28	31.29	6.19	37.28	217	84	Peak
5240	87.91	87.59			31.39	6.25	37.32	217	84	Average
5240	95.45	95.13			31.39	6.25	37.32	217	84	Peak
*10480	55.14	59.39	68.2	-13.06	39.37	9.09	52.71	154	237	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**
5260	89.08	88.69			31.41	6.25	37.27	201	178	Average
5260	97.1	96.71			31.41	6.25	37.27	201	178	Peak
5404.45	41.1	40.44	54	-12.9	31.52	6.32	37.18	201	178	Average
5423.04	52.12	51.45	74	-21.88	31.53	6.32	37.18	201	178	Peak
*10520	53.96	58.24	68.2	-14.24	39.43	9.12	52.83	119	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**
5260	86.77	86.38			31.41	6.25	37.27	192	113	Average
5260	93.81	93.42			31.41	6.25	37.27	192	113	Peak
5401.15	51.24	50.58	74	-22.76	31.52	6.32	37.18	192	113	Peak
5439.98	41.03	40.27	54	-12.97	31.55	6.34	37.13	192	113	Average
*10520	53.44	57.72	68.2	-14.76	39.43	9.12	52.83	108	284	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**
5300	89.08	88.56			31.44	6.27	37.19	200	177	Average
5300	97.26	96.74			31.44	6.27	37.19	200	177	Peak
5351.54	41.12	40.53	54	-12.88	31.48	6.29	37.18	200	177	Average
5388.28	51	50.36	74	-23	31.51	6.31	37.18	200	177	Peak
10600	47.55	51.23	54	-6.45	39.57	9.16	52.41	115	74	Average
10600	55.74	59.42	74	-18.26	39.57	9.16	52.41	115	74	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**
5300	86.96	86.44			31.44	6.27	37.19	192	111	Average
5300	94	93.48			31.44	6.27	37.19	192	111	Peak
5439.76	51.15	50.39	74	-22.85	31.55	6.34	37.13	192	111	Peak
5443.28	41.07	40.31	54	-12.93	31.55	6.34	37.13	192	111	Average
10600	47.18	50.86	54	-6.82	39.57	9.16	52.41	109	282	Average
10600	55.29	58.97	74	-18.71	39.57	9.16	52.41	109	282	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	88.45			31.45	6.29	37.19	200	176	Average
5320	97.27	96.72			31.45	6.29	37.19	200	176	Peak
5389.38	41.38	40.74	54	-12.62	31.51	6.31	37.18	200	176	Average
5436.79	51.42	50.68	74	-22.58	31.55	6.32	37.13	200	176	Peak
10640	47.89	51.34	54	-6.11	39.62	9.2	52.27	113	79	Average
10640	58.06	61.51	74	-15.94	39.62	9.2	52.27	113	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**
5320	86.94	86.39			31.45	6.29	37.19	199	112	Average
5320	94.18	93.63			31.45	6.29	37.19	199	112	Peak
5421.06	41.14	40.47	54	-12.86	31.53	6.32	37.18	199	112	Average
5438.77	51.28	50.52	74	-22.72	31.55	6.34	37.13	199	112	Peak
10640	47.66	51.11	54	-6.34	39.62	9.2	52.27	101	287	Average
10640	57.43	60.88	74	-16.57	39.62	9.2	52.27	101	287	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**	Getaz Yang

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**
5428.08	41.2	40.48	54	-12.8	31.53	6.32	37.13	200	230	Average
5448.24	50.42	49.65	74	-23.58	31.56	6.34	37.13	200	230	Peak
*5469.36	49.47	48.64	68.2	-18.73	31.57	6.34	37.08	200	230	Peak
5500	88.22	87.29			31.6	6.36	37.03	200	230	Average
5500	95.76	94.83			31.6	6.36	37.03	200	230	Peak
11000	44.75	48.65	54	-9.25	40.2	9.35	53.45	121	150	Average
11000	55.96	59.86	74	-18.04	40.2	9.35	53.45	121	150	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5443.12	52.23	51.47	74	-21.77	31.55	6.34	37.13	185	4	Peak
5452.72	41.41	40.59	54	-12.59	31.56	6.34	37.08	185	4	Average
*5469.36	49.57	48.74	68.2	-18.63	31.57	6.34	37.08	185	4	Peak
5500	93.18	92.25			31.6	6.36	37.03	185	4	Average
5500	100.28	99.35			31.6	6.36	37.03	185	4	Peak
11000	44.73	48.63	54	-9.27	40.2	9.35	53.45	102	88	Average
11000	56.74	60.64	74	-17.26	40.2	9.35	53.45	102	88	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**	Getaz Yang

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**
5394.64	51.2	50.55	74	-22.8	31.52	6.31	37.18	199	225	Peak
5459.76	41.12	40.3	54	-12.88	31.56	6.34	37.08	199	225	Average
*5469.04	49.42	48.59	68.2	-18.78	31.57	6.34	37.08	199	225	Peak
5580	88.51	87.47			31.71	6.49	37.16	199	225	Average
5580	95.46	94.42			31.71	6.49	37.16	199	225	Peak
*5725.08	50.78	49.5	68.2	-17.42	31.96	6.75	37.43	199	225	Peak
11600	45.38	48.99	54	-8.62	39.71	10.09	53.41	121	154	Average
11600	53.87	57.48	74	-20.13	39.71	10.09	53.41	121	154	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**
5417.84	50.95	50.28	74	-23.05	31.53	6.32	37.18	181	4	Peak
5440.4	41.15	40.39	54	-12.85	31.55	6.34	37.13	181	4	Average
*5469.68	49.71	48.88	68.2	-18.49	31.57	6.34	37.08	181	4	Peak
5580	92.57	91.53			31.71	6.49	37.16	181	4	Average
5580	100.4	99.36			31.71	6.49	37.16	181	4	Peak
*5724.68	50.49	49.27	68.2	-17.71	31.96	6.69	37.43	181	4	Peak
11600	44.74	48.35	54	-9.26	39.71	10.09	53.41	103	87	Average
11600	55.09	58.7	74	-18.91	39.71	10.09	53.41	103	87	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**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	87.89	86.7			31.9	6.69	37.4	200	222	Average
5700	95.53	94.34			31.9	6.69	37.4	200	222	Peak
*5725.4	51.51	50.23	68.2	-16.69	31.96	6.75	37.43	200	222	Peak
11400	46.5	48.76	54	-7.5	39.96	9.91	52.13	122	144	Average
11400	56.43	58.69	74	-17.57	39.96	9.91	52.13	122	144	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	92.87	91.68			31.9	6.69	37.4	183	3	Average
5700	99.72	98.53			31.9	6.69	37.4	183	3	Peak
*5725.4	52.93	51.65	68.2	-15.27	31.96	6.75	37.43	183	3	Peak
11400	46.1	48.36	54	-7.9	39.96	9.91	52.13	101	85	Average
11400	56.32	58.58	74	-17.68	39.96	9.91	52.13	101	85	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**	Getaz Yang

<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	88.02	86.75			31.99	6.75	37.47	209	284	Average
5745	96.18	94.91			31.99	6.75	37.47	209	284	Peak
11490	47.14	50.03	54	-6.86	39.91	10.03	52.83	128	79	Average
11490	55.02	57.91	74	-18.98	39.91	10.03	52.83	128	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**
5745	91.4	90.13			31.99	6.75	37.47	197	185	Average
5745	99.22	97.95			31.99	6.75	37.47	197	185	Peak
11490	47.29	50.18	54	-6.71	39.91	10.03	52.83	118	211	Average
11490	56.46	59.35	74	-17.54	39.91	10.03	52.83	118	211	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**
5557.6	51.38	50.4	68.2	-16.82	31.68	6.42	37.12	209	284	Peak
5658.3	51.46	50.33	74.36	-22.9	31.85	6.62	37.34	209	284	Peak
5915.75	51.36	49.59	75.02	-23.66	32.26	7.01	37.5	209	284	Peak
5983.675	52.14	50.2	68.2	-16.06	32.37	7.08	37.51	209	284	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**
5605.1	51.69	50.58	68.2	-16.51	31.77	6.56	37.22	197	185	Peak
5654.5	50.59	49.46	71.54	-20.95	31.85	6.62	37.34	197	185	Peak
5917.175	50.88	49.11	73.97	-23.09	32.26	7.01	37.5	197	185	Peak
5984.15	52.99	50.99	68.2	-15.21	32.37	7.14	37.51	197	185	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**	Getaz Yang

<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	89.2	87.88			32.04	6.82	37.54	208	286	Average
5785	96.51	95.19			32.04	6.82	37.54	208	286	Peak
11570	46.6	50.06	54	-7.4	39.78	10.09	53.33	127	72	Average
11570	57.35	60.81	74	-16.65	39.78	10.09	53.33	127	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**
5785	91.78	90.46			32.04	6.82	37.54	196	186	Average
5785	99.85	98.53			32.04	6.82	37.54	196	186	Peak
11570	47.17	50.63	54	-6.83	39.78	10.09	53.33	116	215	Average
11570	56.82	60.28	74	-17.18	39.78	10.09	53.33	116	215	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**
5604.15	50.82	49.71	68.2	-17.38	31.77	6.56	37.22	208	286	Peak
5661.15	50.31	49.18	76.48	-26.17	31.85	6.62	37.34	208	286	Peak
5917.175	50.56	48.79	73.97	-23.41	32.26	7.01	37.5	208	286	Peak
5961.825	52.24	50.33	68.2	-15.96	32.34	7.08	37.51	208	286	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**
5613.65	50.84	49.73	68.2	-17.36	31.77	6.56	37.22	196	186	Peak
5663.05	50.6	49.47	77.89	-27.29	31.85	6.62	37.34	196	186	Peak
5917.175	51.83	50.06	73.97	-22.14	32.26	7.01	37.5	196	186	Peak
5958.975	53.53	51.61	68.2	-14.67	32.34	7.08	37.5	196	186	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**	Getaz Yang

<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	89.15	87.68			32.12	6.88	37.53	206	280	Average
5825	96.42	94.95			32.12	6.88	37.53	206	280	Peak
11650	46.52	50.07	54	-7.48	39.65	10.15	53.35	131	81	Average
11650	54.8	58.35	74	-19.2	39.65	10.15	53.35	131	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**
5825	92.06	90.59			32.12	6.88	37.53	195	183	Average
5825	99.84	98.37			32.12	6.88	37.53	195	183	Peak
11650	46.85	50.4	54	-7.15	39.65	10.15	53.35	114	217	Average
11650	54.68	58.23	74	-19.32	39.65	10.15	53.35	114	217	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**
5573.275	51.45	50.37	68.2	-16.75	31.71	6.49	37.12	206	280	Peak
5657.35	50.23	49.1	73.66	-23.43	31.85	6.62	37.34	206	280	Peak
5915.75	50.61	48.84	75.02	-24.41	32.26	7.01	37.5	206	280	Peak
6001.725	52.11	50.08	68.2	-16.09	32.4	7.14	37.51	206	280	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**
5595.125	51.24	50.17	68.2	-16.96	31.74	6.49	37.16	195	183	Peak
5656.4	50.63	49.5	72.95	-22.32	31.85	6.62	37.34	195	183	Peak
5915.75	51.63	49.86	75.02	-23.39	32.26	7.01	37.5	195	183	Peak
6014.55	51.83	49.74	68.2	-16.37	32.45	7.14	37.5	195	183	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**
5120.75	50.07	49.89	74	-23.93	31.29	6.19	37.3	183	34	Peak
5122.1	40.5	40.32	54	-13.5	31.29	6.19	37.3	183	34	Average
5180	87.3	87.07			31.35	6.22	37.34	183	34	Average
5180	94.63	94.4			31.35	6.22	37.34	183	34	Peak
*10360	54.47	58.37	68.2	-13.73	39.19	9.05	52.14	186	39	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**
5104.4	50.44	50.25	74	-23.56	31.28	6.19	37.28	100	248	Peak
5145.2	40.53	40.33	54	-13.47	31.32	6.2	37.32	100	248	Average
5180	89.7	89.47			31.35	6.22	37.34	100	248	Average
5180	97.69	97.46			31.35	6.22	37.34	100	248	Peak
*10360	54.29	58.19	68.2	-13.91	39.19	9.05	52.14	162	258	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**
5010.5	40.51	40.4	54	-13.49	31.21	6.13	37.23	182	35	Average
5074.4	50.21	50.04	74	-23.79	31.27	6.17	37.27	182	35	Peak
5220	87.16	86.91			31.37	6.24	37.36	182	35	Average
5220	94.52	94.27			31.37	6.24	37.36	182	35	Peak
5382.67	50.66	50.02	74	-23.34	31.51	6.31	37.18	182	35	Peak
5406.98	40.72	40.06	54	-13.28	31.52	6.32	37.18	182	35	Average
*10440	53.6	57.7	68.2	-14.6	39.29	9.09	52.48	185	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**
5016.65	40.42	40.3	54	-13.58	31.21	6.15	37.24	100	247	Average
5129.3	50.69	50.48	74	-23.31	31.31	6.2	37.3	100	247	Peak
5220	89.95	89.7			31.37	6.24	37.36	100	247	Average
5220	97.72	97.47			31.37	6.24	37.36	100	247	Peak
5408.85	50.56	49.9	74	-23.44	31.52	6.32	37.18	100	247	Peak
5421.39	40.69	40.02	54	-13.31	31.53	6.32	37.18	100	247	Average
*10440	53.82	57.92	68.2	-14.38	39.29	9.09	52.48	168	249	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**
5065.25	49.84	49.67	74	-24.16	31.25	6.17	37.25	184	33	Peak
5120.75	40.41	40.23	54	-13.59	31.29	6.19	37.3	184	33	Average
5240	87.29	86.97			31.39	6.25	37.32	184	33	Average
5240	94.51	94.19			31.39	6.25	37.32	184	33	Peak
*10480	52.66	56.91	68.2	-15.54	39.37	9.09	52.71	194	23	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**
5032.4	51.19	51.05	74	-22.81	31.23	6.15	37.24	100	249	Peak
5071.7	40.4	40.23	54	-13.6	31.27	6.17	37.27	100	249	Average
5240	89.81	89.49			31.39	6.25	37.32	100	249	Average
5240	97.66	97.34			31.39	6.25	37.32	100	249	Peak
*10480	52.45	56.7	68.2	-15.75	39.37	9.09	52.71	151	253	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**	Getaz Yang

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**
5023.1	50.46	50.32	74	-23.54	31.23	6.15	37.24	186	238	Peak
5139.95	40.72	40.5	54	-13.28	31.32	6.2	37.3	186	238	Average
5260	94.74	94.35			31.41	6.25	37.27	186	238	Average
5260	101.89	101.5			31.41	6.25	37.27	186	238	Peak
5370.9	50.92	50.3	74	-23.08	31.49	6.31	37.18	186	238	Peak
5440.2	41.33	40.57	54	-12.67	31.55	6.34	37.13	186	238	Average
*10520	54.49	58.77	68.2	-13.71	39.43	9.12	52.83	114	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**
5073.2	40.64	40.47	54	-13.36	31.27	6.17	37.27	154	167	Average
5148.8	51.39	51.19	74	-22.61	31.32	6.2	37.32	154	167	Peak
5260	91.01	90.62			31.41	6.25	37.27	154	167	Average
5260	98.91	98.52			31.41	6.25	37.27	154	167	Peak
5412.15	50.7	50.03	74	-23.3	31.53	6.32	37.18	154	167	Peak
5452.52	41.03	40.21	54	-12.97	31.56	6.34	37.08	154	167	Average
*10520	53.62	57.9	68.2	-14.58	39.43	9.12	52.83	100	290	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**	Getaz Yang

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**
5131.85	40.79	40.58	54	-13.21	31.31	6.2	37.3	186	242	Average
5144.15	51.09	50.89	74	-22.91	31.32	6.2	37.32	186	242	Peak
5300	93.88	93.36			31.44	6.27	37.19	186	242	Average
5300	101.36	100.84			31.44	6.27	37.19	186	242	Peak
5356.6	41.44	40.85	54	-12.56	31.48	6.29	37.18	186	242	Average
5375.3	51.11	50.49	74	-22.89	31.49	6.31	37.18	186	242	Peak
10600	45.97	49.65	54	-8.03	39.57	9.16	52.41	115	88	Average
10600	56.24	59.92	74	-17.76	39.57	9.16	52.41	115	88	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5076.2	50.6	50.43	74	-23.4	31.27	6.17	37.27	153	162	Peak
5104.4	40.74	40.55	54	-13.26	31.28	6.19	37.28	153	162	Average
5300	91.25	90.73			31.44	6.27	37.19	153	162	Average
5300	98.6	98.08			31.44	6.27	37.19	153	162	Peak
5436.35	41.21	40.47	54	-12.79	31.55	6.32	37.13	153	162	Average
5460	50.81	49.99	74	-23.19	31.56	6.34	37.08	153	162	Peak
10600	45.17	48.85	54	-8.83	39.57	9.16	52.41	102	288	Average
10600	55.97	59.65	74	-18.03	39.57	9.16	52.41	102	288	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**	Getaz Yang

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	92.59	92.04			31.45	6.29	37.19	187	241	Average
5320	101.49	100.94			31.45	6.29	37.19	187	241	Peak
5353.63	41.35	40.76	54	-12.65	31.48	6.29	37.18	187	241	Average
5384.54	51.1	50.46	74	-22.9	31.51	6.31	37.18	187	241	Peak
10640	45.71	49.16	54	-8.29	39.62	9.2	52.27	113	81	Average
10640	57.65	61.1	74	-16.35	39.62	9.2	52.27	113	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**
5320	91.19	90.64			31.45	6.29	37.19	146	168	Average
5320	98.19	97.64			31.45	6.29	37.19	146	168	Peak
5367.93	52.22	51.6	74	-21.78	31.49	6.31	37.18	146	168	Peak
5378.49	41.42	40.78	54	-12.58	31.51	6.31	37.18	146	168	Average
10640	45.41	48.86	54	-8.59	39.62	9.2	52.27	102	300	Average
10640	56.93	60.38	74	-17.07	39.62	9.2	52.27	102	300	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**	Gavin Wu

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**
5436.72	52.11	51.37	74	-21.89	31.55	6.32	37.13	182	224	Peak
5441.2	39.02	38.26	54	-14.98	31.55	6.34	37.13	182	224	Average
*5469.68	49.94	49.11	68.2	-18.26	31.57	6.34	37.08	182	224	Peak
5500	92.17	91.24			31.6	6.36	37.03	182	224	Average
5500	100.24	99.31			31.6	6.36	37.03	182	224	Peak
*5725.48	50.36	49.08	68.2	-17.84	31.96	6.75	37.43	182	224	Peak
11000	46.59	50.49	54	-7.41	40.2	9.35	53.45	159	9	Average
11000	55.65	59.55	74	-18.35	40.2	9.35	53.45	159	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**
5451.76	51.15	50.33	74	-22.85	31.56	6.34	37.08	188	169	Peak
5455.76	41.48	40.66	54	-12.52	31.56	6.34	37.08	188	169	Average
*5468.88	49.39	48.56	68.2	-18.81	31.57	6.34	37.08	188	169	Peak
5500	91.66	90.73			31.6	6.36	37.03	188	169	Average
5500	99.7	98.77			31.6	6.36	37.03	188	169	Peak
*5725.8	50.83	49.55	68.2	-17.37	31.96	6.75	37.43	188	169	Peak
11000	46.47	50.37	54	-7.53	40.2	9.35	53.45	142	181	Average
11000	55.62	59.52	74	-18.38	40.2	9.35	53.45	142	181	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5434.64	51.19	50.45	74	-22.81	31.55	6.32	37.13	181	226	Peak
5450.32	41.16	40.34	54	-12.84	31.56	6.34	37.08	181	226	Average
*5470	50.03	49.2	68.2	-18.17	31.57	6.34	37.08	181	226	Peak
5580	91.84	90.8			31.71	6.49	37.16	181	226	Average
5580	100.13	99.09			31.71	6.49	37.16	181	226	Peak
*5726.04	50.94	49.66	68.2	-17.26	31.96	6.75	37.43	181	226	Peak
11160	47	50.72	54	-7	40.1	9.57	53.39	164	13	Average
11160	57	60.72	74	-17	40.1	9.57	53.39	164	13	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5405.04	41.13	40.47	54	-12.87	31.52	6.32	37.18	189	171	Average
5442.96	50.29	49.53	74	-23.71	31.55	6.34	37.13	189	171	Peak
*5468.24	50.27	49.44	68.2	-17.93	31.57	6.34	37.08	189	171	Peak
5580	91.26	90.22			31.71	6.49	37.16	189	171	Average
5580	99.53	98.49			31.71	6.49	37.16	189	171	Peak
*5725.72	50.61	49.33	68.2	-17.59	31.96	6.75	37.43	189	171	Peak
11160	46.58	50.3	54	-7.42	40.1	9.57	53.39	141	172	Average
11160	56.55	60.27	74	-17.45	40.1	9.57	53.39	141	172	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**	Gavin Wu

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**
5433.68	41.06	40.32	54	-12.94	31.55	6.32	37.13	181	228	Average
5455.92	50.9	50.08	74	-23.1	31.56	6.34	37.08	181	228	Peak
*5469.04	49.35	48.52	68.2	-18.85	31.57	6.34	37.08	181	228	Peak
5700	91.65	90.46			31.9	6.69	37.4	181	228	Average
5700	100.08	98.89			31.9	6.69	37.4	181	228	Peak
*5724.04	51.35	50.13	68.2	-16.85	31.96	6.69	37.43	181	228	Peak
11400	47.36	49.62	54	-6.64	39.96	9.91	52.13	173	12	Average
11400	58.74	61	74	-15.26	39.96	9.91	52.13	173	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**
5444.88	41.08	40.32	54	-12.92	31.55	6.34	37.13	189	166	Average
5450.64	51.21	50.39	74	-22.79	31.56	6.34	37.08	189	166	Peak
*5470.16	50.84	50.01	68.2	-17.36	31.57	6.34	37.08	189	166	Peak
5700	91.21	90.02			31.9	6.69	37.4	189	166	Average
5700	99.49	98.3			31.9	6.69	37.4	189	166	Peak
*5726.04	50.81	49.53	68.2	-17.39	31.96	6.75	37.43	189	166	Peak
11400	46.97	49.23	54	-7.03	39.96	9.91	52.13	145	170	Average
11400	58.31	60.57	74	-15.69	39.96	9.91	52.13	145	170	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**	Getaz Yang

<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	91.08	89.81			31.99	6.75	37.47	169	174	Average
5745	98.43	97.16			31.99	6.75	37.47	169	174	Peak
11490	47.16	50.05	54	-6.84	39.91	10.03	52.83	151	101	Average
11490	56.3	59.19	74	-17.7	39.91	10.03	52.83	151	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	88.89	87.62			31.99	6.75	37.47	168	163	Average
5745	97.03	95.76			31.99	6.75	37.47	168	163	Peak
11490	47.47	50.36	54	-6.53	39.91	10.03	52.83	134	273	Average
11490	55.73	58.62	74	-18.27	39.91	10.03	52.83	134	273	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**
5617.45	51.8	50.67	68.2	-16.4	31.79	6.56	37.22	169	174	Peak
5652.6	51.52	50.33	70.13	-18.61	31.85	6.62	37.28	169	174	Peak
5920.975	50.6	48.83	71.17	-20.57	32.26	7.01	37.5	169	174	Peak
5992.225	52.23	50.2	68.2	-15.97	32.4	7.14	37.51	169	174	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**
5595.125	50.76	49.69	68.2	-17.44	31.74	6.49	37.16	168	163	Peak
5655.45	51.18	50.05	72.25	-21.07	31.85	6.62	37.34	168	163	Peak
5913.375	51.06	49.29	76.77	-25.71	32.26	7.01	37.5	168	163	Peak
5946.625	51.75	49.85	68.2	-16.45	32.32	7.08	37.5	168	163	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**	Getaz Yang

<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	91.69	90.37			32.04	6.82	37.54	170	175	Average
5785	99.29	97.97			32.04	6.82	37.54	170	175	Peak
11570	47.16	50.62	54	-6.84	39.78	10.09	53.33	149	112	Average
11570	55.75	59.21	74	-18.25	39.78	10.09	53.33	149	112	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	90.16	88.84			32.04	6.82	37.54	168	162	Average
5785	98.33	97.01			32.04	6.82	37.54	168	162	Peak
11570	46.84	50.3	54	-7.16	39.78	10.09	53.33	129	281	Average
11570	55.25	58.71	74	-18.75	39.78	10.09	53.33	129	281	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**
5610.8	51.7	50.59	68.2	-16.5	31.77	6.56	37.22	170	175	Peak
5655.45	49.73	48.6	72.25	-22.52	31.85	6.62	37.34	170	175	Peak
5916.225	51	49.23	74.67	-23.67	32.26	7.01	37.5	170	175	Peak
5971.325	52.09	50.18	68.2	-16.11	32.34	7.08	37.51	170	175	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	50.43	49.36	68.2	-17.77	31.74	6.49	37.16	168	162	Peak
5659.725	49.84	48.71	75.42	-25.58	31.85	6.62	37.34	168	162	Peak
5916.225	50.53	48.76	74.67	-24.14	32.26	7.01	37.5	168	162	Peak
5984.15	52	50	68.2	-16.2	32.37	7.14	37.51	168	162	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**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	90.67	89.2			32.12	6.88	37.53	171	169	Average
5825	98.43	96.96			32.12	6.88	37.53	171	169	Peak
11650	46.88	50.43	54	-7.12	39.65	10.15	53.35	157	117	Average
11650	54.88	58.43	74	-19.12	39.65	10.15	53.35	157	117	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	89.2	87.73			32.12	6.88	37.53	169	163	Average
5825	97.23	95.76			32.12	6.88	37.53	169	163	Peak
11650	46.74	50.29	54	-7.26	39.65	10.15	53.35	128	279	Average
11650	55.52	59.07	74	-18.48	39.65	10.15	53.35	128	279	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**
5628.85	51.46	50.39	68.2	-16.74	31.79	6.56	37.28	171	169	Peak
5660.2	49.91	48.78	75.77	-25.86	31.85	6.62	37.34	171	169	Peak
5918.125	51.22	49.45	73.27	-22.05	32.26	7.01	37.5	171	169	Peak
5974.65	52.14	50.2	68.2	-16.06	32.37	7.08	37.51	171	169	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**
5601.3	50.92	49.75	68.2	-17.28	31.77	6.56	37.16	169	163	Peak
5663.525	50.4	49.27	78.24	-27.84	31.85	6.62	37.34	169	163	Peak
5918.6	51.07	49.3	72.92	-21.85	32.26	7.01	37.5	169	163	Peak
5980.825	51.84	49.9	68.2	-16.36	32.37	7.08	37.51	169	163	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**
5118.2	50.24	50.04	74	-23.76	31.29	6.19	37.28	186	30	Peak
5148.8	41.35	41.15	54	-12.65	31.32	6.2	37.32	186	30	Average
5190	83.62	83.39			31.35	6.22	37.34	186	30	Average
5190	91.29	91.06			31.35	6.22	37.34	186	30	Peak
5434.92	50.24	49.5	74	-23.76	31.55	6.32	37.13	186	30	Peak
5444.05	40.7	39.94	54	-13.3	31.55	6.34	37.13	186	30	Average
*10380	54	57.99	68.2	-14.2	39.21	9.05	52.25	181	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**
5147.75	51.45	51.25	74	-22.55	31.32	6.2	37.32	100	250	Peak
5150	42.06	41.86	54	-11.94	31.32	6.2	37.32	100	250	Average
5190	86.92	86.69			31.35	6.22	37.34	100	250	Average
5190	94.73	94.5			31.35	6.22	37.34	100	250	Peak
5385.64	50.53	49.89	74	-23.47	31.51	6.31	37.18	100	250	Peak
5446.47	40.65	39.88	54	-13.35	31.56	6.34	37.13	100	250	Average
*10380	53.13	57.12	68.2	-15.07	39.21	9.05	52.25	156	244	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**
5098.55	50.86	50.67	74	-23.14	31.28	6.19	37.28	187	32	Peak
5126.6	40.43	40.22	54	-13.57	31.31	6.2	37.3	187	32	Average
5230	84.46	84.15			31.39	6.24	37.32	187	32	Average
5230	91.98	91.67			31.39	6.24	37.32	187	32	Peak
5441.63	50.51	49.75	74	-23.49	31.55	6.34	37.13	187	32	Peak
5446.25	40.71	39.94	54	-13.29	31.56	6.34	37.13	187	32	Average
*10460	52.28	56.47	68.2	-15.92	39.32	9.09	52.6	183	30	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5129.15	50.3	50.09	74	-23.7	31.31	6.2	37.3	100	252	Peak
5148.95	40.51	40.31	54	-13.49	31.32	6.2	37.32	100	252	Average
5230	87.13	86.82			31.39	6.24	37.32	100	252	Average
5230	94.8	94.49			31.39	6.24	37.32	100	252	Peak
5405.66	40.69	40.03	54	-13.31	31.52	6.32	37.18	100	252	Average
5451.09	51.28	50.46	74	-22.72	31.56	6.34	37.08	100	252	Peak
*10460	53.05	57.24	68.2	-15.15	39.32	9.09	52.6	161	247	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**	Getaz Yang

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**
5043.35	50.93	50.79	74	-23.07	31.24	6.15	37.25	186	241	Peak
5146.25	41.17	40.97	54	-12.83	31.32	6.2	37.32	186	241	Average
5270	91.48	91.09			31.41	6.25	37.27	186	241	Average
5270	98.27	97.88			31.41	6.25	37.27	186	241	Peak
5352.42	41.34	40.75	54	-12.66	31.48	6.29	37.18	186	241	Average
5385.64	51.21	50.57	74	-22.79	31.51	6.31	37.18	186	241	Peak
*10540	55.03	59.14	68.2	-13.17	39.46	9.12	52.69	114	84	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**
5125.1	41.18	40.98	54	-12.82	31.31	6.19	37.3	154	167	Average
5146.4	50.93	50.73	74	-23.07	31.32	6.2	37.32	154	167	Peak
5270	88.44	88.05			31.41	6.25	37.27	154	167	Average
5270	96.16	95.77			31.41	6.25	37.27	154	167	Peak
5350.66	41.19	40.6	54	-12.81	31.48	6.29	37.18	154	167	Average
5448.67	52.06	51.29	74	-21.94	31.56	6.34	37.13	154	167	Peak
*10540	55.27	59.38	68.2	-12.93	39.46	9.12	52.69	102	288	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**	Getaz Yang

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**
5060.6	50.39	50.22	74	-23.61	31.25	6.17	37.25	186	241	Peak
5143.1	41.19	40.97	54	-12.81	31.32	6.2	37.3	186	241	Average
5310	91.25	90.72			31.45	6.27	37.19	186	241	Average
5310	98.79	98.26			31.45	6.27	37.19	186	241	Peak
5350.55	43.19	42.6	54	-10.81	31.48	6.29	37.18	186	241	Average
5352.64	51.84	51.25	74	-22.16	31.48	6.29	37.18	186	241	Peak
10620	46.27	49.86	54	-7.73	39.59	9.16	52.34	112	83	Average
10620	54.55	58.14	74	-19.45	39.59	9.16	52.34	112	83	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5127.8	41	40.79	54	-13	31.31	6.2	37.3	152	166	Average
5147.6	50.56	50.36	74	-23.44	31.32	6.2	37.32	152	166	Peak
5310	89.06	88.53			31.45	6.27	37.19	152	166	Average
5310	96.74	96.21			31.45	6.27	37.19	152	166	Peak
5350.11	42.11	41.52	54	-11.89	31.48	6.29	37.18	152	166	Average
5406.1	52.19	51.53	74	-21.81	31.52	6.32	37.18	152	166	Peak
10620	45.16	48.75	54	-8.84	39.59	9.16	52.34	102	284	Average
10620	56.02	59.61	74	-17.98	39.59	9.16	52.34	102	284	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5446.48	51.72	50.95	74	-22.28	31.56	6.34	37.13	182	230	Peak
5459.92	41.78	40.96	54	-12.22	31.56	6.34	37.08	182	230	Average
*5468.4	54.69	53.86	68.2	-13.51	31.57	6.34	37.08	182	230	Peak
5510	90.84	89.94			31.6	6.36	37.06	182	230	Average
5510	99.3	98.4			31.6	6.36	37.06	182	230	Peak
*5725.8	50.44	49.16	68.2	-17.76	31.96	6.75	37.43	182	230	Peak
11020	46.52	50.47	54	-7.48	40.19	9.35	53.49	167	16	Average
11020	55.71	59.66	74	-18.29	40.19	9.35	53.49	167	16	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5456.72	52.02	51.2	74	-21.98	31.56	6.34	37.08	189	170	Peak
5457.04	41.63	40.81	54	-12.37	31.56	6.34	37.08	189	170	Average
*5470.8	51.53	50.7	68.2	-16.67	31.57	6.34	37.08	189	170	Peak
5510	90.23	89.33			31.6	6.36	37.06	189	170	Average
5510	98.59	97.69			31.6	6.36	37.06	189	170	Peak
*5725.64	50.3	49.02	68.2	-17.9	31.96	6.75	37.43	189	170	Peak
11020	46.54	50.49	54	-7.46	40.19	9.35	53.49	147	177	Average
11020	56.46	60.41	74	-17.54	40.19	9.35	53.49	147	177	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**	Gavin Wu

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**
5365.2	51.01	50.39	74	-22.99	31.49	6.31	37.18	182	231	Peak
5459.92	41.4	40.58	54	-12.6	31.56	6.34	37.08	182	231	Average
*5470.64	51.86	51.03	68.2	-16.34	31.57	6.34	37.08	182	231	Peak
5550	91.21	90.2			31.68	6.42	37.09	182	231	Average
5550	99.58	98.57			31.68	6.42	37.09	182	231	Peak
*5724.84	50.07	48.85	68.2	-18.13	31.96	6.69	37.43	182	231	Peak
11100	46.38	50.39	54	-7.62	40.14	9.46	53.61	169	6	Average
11100	56.21	60.22	74	-17.79	40.14	9.46	53.61	169	6	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5395.28	50.88	50.23	74	-23.12	31.52	6.31	37.18	188	168	Peak
5454.8	41.26	40.44	54	-12.74	31.56	6.34	37.08	188	168	Average
*5470.64	49.1	48.27	68.2	-19.1	31.57	6.34	37.08	188	168	Peak
5550	90.56	89.55			31.68	6.42	37.09	188	168	Average
5550	98.76	97.75			31.68	6.42	37.09	188	168	Peak
*5725.88	50.44	49.16	68.2	-17.76	31.96	6.75	37.43	188	168	Peak
11100	46.48	50.49	54	-7.52	40.14	9.46	53.61	133	185	Average
11100	56.43	60.44	74	-17.57	40.14	9.46	53.61	133	185	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**	Gavin Wu

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**
5397.68	50.64	49.98	74	-23.36	31.52	6.32	37.18	181	239	Peak
5422.96	40.99	40.32	54	-13.01	31.53	6.32	37.18	181	239	Average
*5468.56	49.67	48.84	68.2	-18.53	31.57	6.34	37.08	181	239	Peak
5670	90.49	89.33			31.88	6.62	37.34	181	239	Average
5670	99.33	98.17			31.88	6.62	37.34	181	239	Peak
*5724.76	50.35	49.13	68.2	-17.85	31.96	6.69	37.43	181	239	Peak
11340	46.64	49.35	54	-7.36	40	9.8	52.51	112	14	Average
11340	57.61	60.32	74	-16.39	40	9.8	52.51	112	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**
5372.08	50.51	49.89	74	-23.49	31.49	6.31	37.18	188	166	Peak
5454.64	41.09	40.27	54	-12.91	31.56	6.34	37.08	188	166	Average
*5469.84	49.99	49.16	68.2	-18.21	31.57	6.34	37.08	188	166	Peak
5670	90.6	89.44			31.88	6.62	37.34	188	166	Average
5670	98.62	97.46			31.88	6.62	37.34	188	166	Peak
*5724.28	51.46	50.24	68.2	-16.74	31.96	6.69	37.43	188	166	Peak
11340	46.71	49.42	54	-7.29	40	9.8	52.51	131	164	Average
11340	57.17	59.88	74	-16.83	40	9.8	52.51	131	164	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**	Getaz Yang

<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	88.67	87.38			32.01	6.75	37.47	169	173	Average
5755	96.6	95.31			32.01	6.75	37.47	169	173	Peak
11510	47.25	50.39	54	-6.75	39.9	10.03	53.07	144	107	Average
11510	55.13	58.27	74	-18.87	39.9	10.03	53.07	144	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**
5755	87.53	86.24			32.01	6.75	37.47	170	155	Average
5755	95.7	94.41			32.01	6.75	37.47	170	155	Peak
11510	46.98	50.12	54	-7.02	39.9	10.03	53.07	122	270	Average
11510	55.32	58.46	74	-18.68	39.9	10.03	53.07	129	270	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**
5603.2	50.81	49.7	68.2	-17.39	31.77	6.56	37.22	169	173	Peak
5654.975	50.89	49.76	71.9	-21.01	31.85	6.62	37.34	169	173	Peak
5919.075	50.68	48.91	72.57	-21.89	32.26	7.01	37.5	169	173	Peak
5981.775	51.59	49.65	68.2	-16.61	32.37	7.08	37.51	169	173	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**
5625.525	51.93	50.8	68.2	-16.27	31.79	6.56	37.22	170	155	Peak
5657.825	51.33	50.2	74.01	-22.68	31.85	6.62	37.34	170	155	Peak
5922.4	50.65	48.85	70.12	-19.47	32.29	7.01	37.5	170	155	Peak
5953.275	52.49	50.59	68.2	-15.71	32.32	7.08	37.5	170	155	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**	Getaz Yang

<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	88.87	87.52			32.07	6.82	37.54	170	168	Average
5795	96.84	95.49			32.07	6.82	37.54	170	168	Peak
11590	46.63	50.13	54	-7.37	39.74	10.09	53.33	158	106	Average
11590	54.33	57.83	74	-19.67	39.74	10.09	53.33	158	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**
5795	87.15	85.8			32.07	6.82	37.54	172	157	Average
5795	95.48	94.13			32.07	6.82	37.54	172	157	Peak
11590	46.52	50.02	54	-7.48	39.74	10.09	53.33	136	275	Average
11590	53.95	57.45	74	-20.05	39.74	10.09	53.33	136	275	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**
5576.6	51.54	50.46	68.2	-16.66	31.71	6.49	37.12	170	168	Peak
5650.7	50.23	49.04	68.72	-18.49	31.85	6.62	37.28	170	168	Peak
5921.45	50.38	48.61	70.82	-20.44	32.26	7.01	37.5	170	168	Peak
6006	53.04	51.01	68.2	-15.16	32.4	7.14	37.51	170	168	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**
5601.775	50.83	49.66	68.2	-17.37	31.77	6.56	37.16	172	157	Peak
5663.05	51.35	50.22	77.89	-26.54	31.85	6.62	37.34	172	157	Peak
5920.5	52.23	50.46	71.52	-19.29	32.26	7.01	37.5	172	157	Peak
5949.475	52.42	50.52	68.2	-15.78	32.32	7.08	37.5	172	157	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**
5145.05	43.68	43.48	54	-10.32	31.32	6.2	37.32	188	29	Average
5145.35	52.19	51.99	74	-21.81	31.32	6.2	37.32	188	29	Peak
5210	81.76	81.51			31.37	6.24	37.36	188	29	Average
5210	89.74	89.49			31.37	6.24	37.36	188	29	Peak
5430.41	50.59	49.85	74	-23.41	31.55	6.32	37.13	188	29	Peak
5447.79	40.77	40	54	-13.23	31.56	6.34	37.13	188	29	Average
*10420	54.01	58.01	68.2	-14.19	39.27	9.09	52.36	192	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**
5145.2	55.78	55.58	74	-18.22	31.32	6.2	37.32	100	259	Peak
5149.85	46.69	46.49	54	-7.31	31.32	6.2	37.32	100	259	Average
5210	85.62	85.37			31.37	6.24	37.36	100	259	Average
5210	93.15	92.9			31.37	6.24	37.36	100	259	Peak
5408.74	51.44	50.78	74	-22.56	31.52	6.32	37.18	100	259	Peak
5434.48	40.77	40.03	54	-13.23	31.55	6.32	37.13	100	259	Average
*10420	53.82	57.82	68.2	-14.38	39.27	9.09	52.36	157	251	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**	Getaz Yang

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**
5111.9	50.58	50.38	74	-23.42	31.29	6.19	37.28	186	237	Peak
5126	41.57	41.36	54	-12.43	31.31	6.2	37.3	186	237	Average
5290	89.53	89.06			31.43	6.27	37.23	186	237	Average
5290	97.18	96.71			31.43	6.27	37.23	186	237	Peak
5356.93	47.06	46.47	54	-6.94	31.48	6.29	37.18	186	237	Average
5368.37	55.5	54.88	74	-18.5	31.49	6.31	37.18	186	237	Peak
*10580	55.46	59.17	68.2	-12.74	39.54	9.16	52.41	114	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**
5000.75	50.77	50.67	74	-23.23	31.2	6.13	37.23	154	165	Peak
5094.95	41.41	41.22	54	-12.59	31.28	6.19	37.28	154	165	Average
5290	89.06	88.59			31.43	6.27	37.23	154	165	Average
5290	94.7	94.23			31.43	6.27	37.23	154	165	Peak
5352.09	45.26	44.67	54	-8.74	31.48	6.29	37.18	154	165	Average
5352.97	53.43	52.84	74	-20.57	31.48	6.29	37.18	154	165	Peak
*10580	55.94	59.65	68.2	-12.26	39.54	9.16	52.41	101	289	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**	Gavin Wu

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**
5448.08	44.53	43.76	54	-9.47	31.56	6.34	37.13	182	232	Average
5454.16	54.05	53.23	74	-19.95	31.56	6.34	37.08	182	232	Peak
*5470.96	54.85	54.02	68.2	-13.35	31.57	6.34	37.08	182	232	Peak
5530	88.9	87.94			31.63	6.42	37.09	182	232	Average
5530	97.37	96.41			31.63	6.42	37.09	182	232	Peak
*5725.56	50.83	49.55	68.2	-17.37	31.96	6.75	37.43	182	232	Peak
11060	46.4	50.35	54	-7.6	40.16	9.46	53.57	168	11	Average
11060	55.79	59.74	74	-18.21	40.16	9.46	53.57	168	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**
5455.76	52.71	51.89	74	-21.29	31.56	6.34	37.08	188	171	Peak
5460.08	42.81	41.99	54	-11.19	31.56	6.34	37.08	188	171	Average
*5468.88	52.35	51.52	68.2	-15.85	31.57	6.34	37.08	188	171	Peak
5530	88.04	87.08			31.63	6.42	37.09	188	171	Average
5530	96.49	95.53			31.63	6.42	37.09	188	171	Peak
*5725.88	51.08	49.8	68.2	-17.12	31.96	6.75	37.43	188	171	Peak
11060	46.46	50.41	54	-7.54	40.16	9.46	53.57	139	186	Average
11060	56.47	60.42	74	-17.53	40.16	9.46	53.57	139	186	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**	Gavin Wu

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**
5418.64	41.12	40.45	54	-12.88	31.53	6.32	37.18	181	238	Average
5458.64	50.64	49.82	74	-23.36	31.56	6.34	37.08	181	238	Peak
*5469.68	49.32	48.49	68.2	-18.88	31.57	6.34	37.08	181	238	Peak
5610	89.21	88.1			31.77	6.56	37.22	181	238	Average
5610	97.55	96.44			31.77	6.56	37.22	181	238	Peak
*5725.24	50.69	49.41	68.2	-17.51	31.96	6.75	37.43	181	238	Peak
11220	47.14	50.41	54	-6.86	40.07	9.69	53.03	162	15	Average
11220	57.03	60.3	74	-16.97	40.07	9.69	53.03	162	15	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5433.52	51.35	50.61	74	-22.65	31.55	6.32	37.13	185	163	Peak
5440.72	41.03	40.27	54	-12.97	31.55	6.34	37.13	185	163	Average
*5468.08	49.14	48.31	68.2	-19.06	31.57	6.34	37.08	185	163	Peak
5610	87.94	86.83			31.77	6.56	37.22	185	163	Average
5610	97.2	96.09			31.77	6.56	37.22	185	163	Peak
*5725.32	51.9	50.62	68.2	-16.3	31.96	6.75	37.43	185	163	Peak
11220	47.07	50.34	54	-6.93	40.07	9.69	53.03	137	183	Average
11220	57.26	60.53	74	-16.74	40.07	9.69	53.03	137	183	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**	Getaz Yang

<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	86.73	85.37			32.04	6.82	37.5	170	175	Average
5775	94.49	93.13			32.04	6.82	37.5	170	175	Peak
11550	46.67	50.01	54	-7.33	39.81	10.09	53.24	152	108	Average
11550	56.63	59.97	74	-17.37	39.81	10.09	53.24	152	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**
5775	85.16	83.8			32.04	6.82	37.5	172	159	Average
5775	93.39	92.03			32.04	6.82	37.5	172	159	Peak
11550	46.72	50.06	54	-7.28	39.81	10.09	53.24	135	276	Average
11550	56.19	59.53	74	-17.81	39.81	10.09	53.24	135	276	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**
5606.05	51.52	50.41	68.2	-16.68	31.77	6.56	37.22	170	175	Peak
5658.3	51.33	50.2	74.36	-23.03	31.85	6.62	37.34	170	175	Peak
5917.65	51.06	49.29	73.62	-22.56	32.26	7.01	37.5	170	175	Peak
5953.75	51.65	49.75	68.2	-16.55	32.32	7.08	37.5	170	175	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	50.78	49.71	68.2	-17.42	31.74	6.49	37.16	172	159	Peak
5653.55	51.9	50.71	70.84	-18.94	31.85	6.62	37.28	172	159	Peak
5917.65	51.47	49.7	73.62	-22.15	32.26	7.01	37.5	172	159	Peak
5955.65	51.81	49.89	68.2	-16.39	32.34	7.08	37.5	172	159	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**	Getaz Yang

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**
30	21.1	39.68	40	-18.9	11.98	0.58	31.14	120	96	Peak
87.23	18.1	40.72	40	-21.9	8.25	0.95	31.82	112	118	Peak
261.83	23.04	41.59	46	-22.96	11.82	1.52	31.89	100	106	Peak
541.19	21.66	32.99	46	-24.34	18.26	2.16	31.75	124	330	Peak
722.58	25.01	33.03	46	-20.99	21.13	2.49	31.64	121	169	Peak
940.83	28.77	34.13	46	-17.23	23.74	2.82	31.92	126	231	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**
46.49	26.27	43.39	40	-13.73	13.39	0.68	31.19	123	139	Peak
80.44	23.6	46.09	40	-16.4	8.13	0.89	31.51	104	166	Peak
152.22	16.84	34.67	43.5	-26.66	12.71	1.12	31.66	134	35	Peak
461.65	19.97	33.37	46	-26.03	16.56	2.01	31.97	136	322	Peak
692.51	24.46	33.12	46	-21.54	20.73	2.44	31.83	136	198	Peak
886.51	28.45	34.37	46	-17.55	23.34	2.73	31.99	125	340	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**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
43.58	21.33	38.18	40	-18.67	13.59	0.67	31.11	118	86	Peak
169.68	18.49	37.29	43.5	-25.01	11.76	1.17	31.73	103	308	Peak
256.98	23.42	42.11	46	-22.58	11.68	1.51	31.88	139	124	Peak
507.24	21.12	33.13	46	-24.88	17.48	2.11	31.6	108	283	Peak
676.99	24.85	33.73	46	-21.15	20.54	2.41	31.83	108	291	Peak
825.4	26.5	32.97	46	-19.5	22.55	2.65	31.67	125	179	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
46.49	26.22	43.34	40	-13.78	13.39	0.68	31.19	117	317	Peak
76.56	20.82	42.48	40	-19.18	9.09	0.87	31.62	140	172	Peak
189.08	14.08	34.4	43.5	-29.42	10.12	1.25	31.69	115	354	Peak
584.84	23.27	33.91	46	-22.73	19.26	2.23	32.13	137	129	Peak
679.9	26.08	34.93	46	-19.92	20.57	2.42	31.84	138	45	Peak
898.15	27.48	33.26	46	-18.52	23.49	2.74	32.01	136	198	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 140	**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**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
43.58	23.09	39.94	40	-16.91	13.59	0.67	31.11	129	342	Peak
86.26	18.69	41.3	40	-21.31	8.23	0.94	31.78	127	207	Peak
253.1	23.57	42.41	46	-22.43	11.57	1.5	31.91	113	277	Peak
510.15	21.77	33.7	46	-24.23	17.55	2.11	31.59	136	164	Peak
702.21	24.92	33.4	46	-21.08	20.85	2.45	31.78	103	184	Peak
864.2	27.11	33.3	46	-18.89	23.05	2.7	31.94	135	250	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**
46.49	26.01	43.13	40	-13.99	13.39	0.68	31.19	127	74	Peak
79.47	22.38	44.66	40	-17.62	8.37	0.89	31.54	103	124	Peak
161.92	15.58	33.75	43.5	-27.92	12.54	1.14	31.85	130	208	Peak
482.02	19.89	32.71	46	-26.11	16.96	2.05	31.83	104	264	Peak
762.35	26.27	33.44	46	-19.73	21.7	2.55	31.42	128	266	Peak
942.77	27.8	33.13	46	-18.2	23.75	2.82	31.9	117	353	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**
66.86	17.35	37.06	40	-22.65	11.12	0.85	31.68	116	260	Peak
174.53	17.93	37.27	43.5	-25.57	11.28	1.16	31.78	102	192	Peak
253.1	21.79	40.63	46	-24.21	11.57	1.5	31.91	136	301	Peak
469.41	20.27	33.44	46	-25.73	16.71	2.02	31.9	128	345	Peak
776.9	25.74	32.65	46	-20.26	21.9	2.58	31.39	134	236	Peak
903	27.61	33.35	46	-18.39	23.53	2.75	32.02	137	140	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**
46.49	25.72	42.84	40	-14.28	13.39	0.68	31.19	108	319	Peak
62.01	25.15	44.06	40	-14.85	11.71	0.83	31.45	130	16	Peak
80.44	21.14	43.63	40	-18.86	8.13	0.89	31.51	111	284	Peak
423.82	20.46	34.73	46	-25.54	15.81	1.95	32.03	120	98	Peak
605.21	23.1	33.33	46	-22.9	19.67	2.27	32.17	125	346	Peak
838.01	26.86	33.26	46	-19.14	22.71	2.67	31.78	129	22	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	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

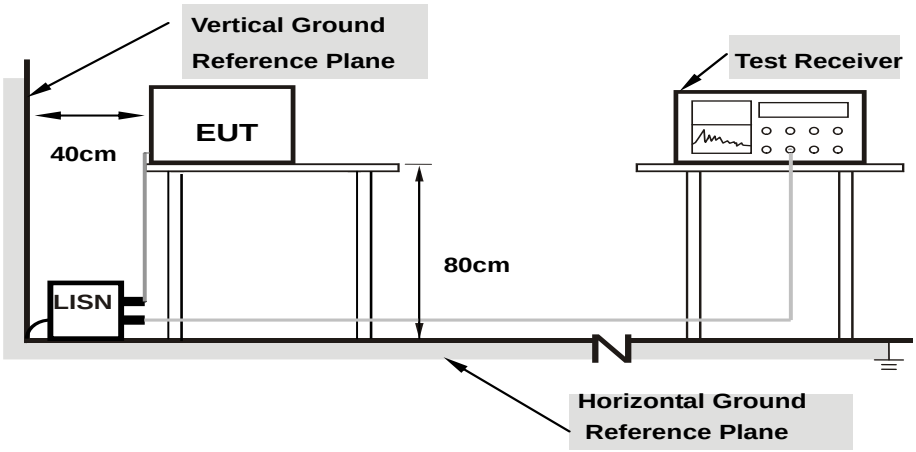
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

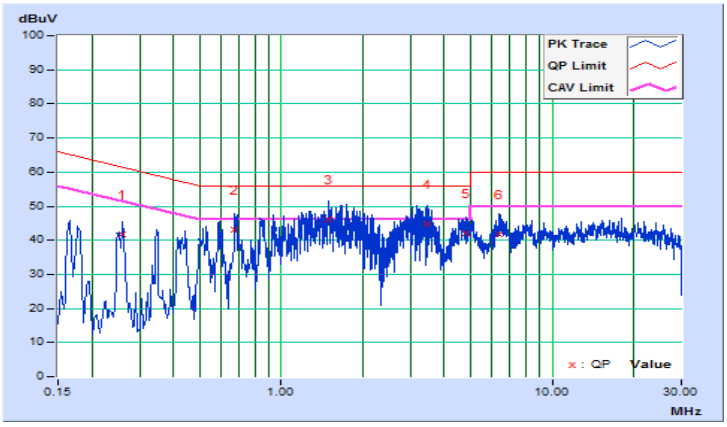
4.2.7 Test Results

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	2017/3/21

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	0.25948	10.38	31.25	21.14	41.63	31.52	61.45	51.45	-19.82	-19.93
2	0.67003	10.40	32.62	20.04	43.02	30.44	56.00	46.00	-12.98	-15.56
3	1.49113	10.43	35.70	21.43	46.13	31.86	56.00	46.00	-9.87	-14.14
4	3.44222	10.54	34.36	21.42	44.90	31.96	56.00	46.00	-11.10	-14.04
5	4.78726	10.60	31.36	23.14	41.96	33.74	56.00	46.00	-14.04	-12.26
6	6.37081	10.67	31.01	22.36	41.68	33.03	60.00	50.00	-18.32	-16.97

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

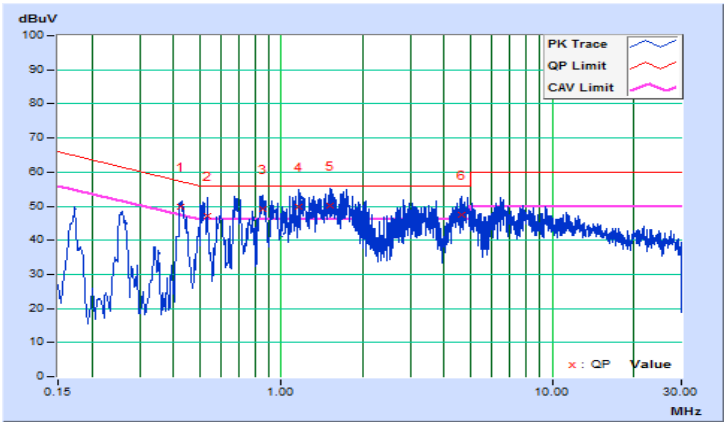


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/3/21

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	0.42334	10.16	39.69	28.98	49.85	39.14	57.38	47.38	-7.53	-8.24
2	0.53318	10.16	37.10	21.06	47.26	31.22	56.00	46.00	-8.74	-14.78
3	0.85380	10.17	39.02	29.21	49.19	39.38	56.00	46.00	-6.81	-6.62
4	1.16269	10.18	39.53	23.79	49.71	33.97	56.00	46.00	-6.29	-12.03
5	**1.50677**	**10.20**	**40.03**	**28.23**	**50.23**	**38.43**	**56.00**	**46.00**	**-5.77**	**-7.57**
6	4.62304	10.36	36.99	28.17	47.35	38.53	56.00	46.00	-8.65	-7.47

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 $N_{ANT} \leq 4$;

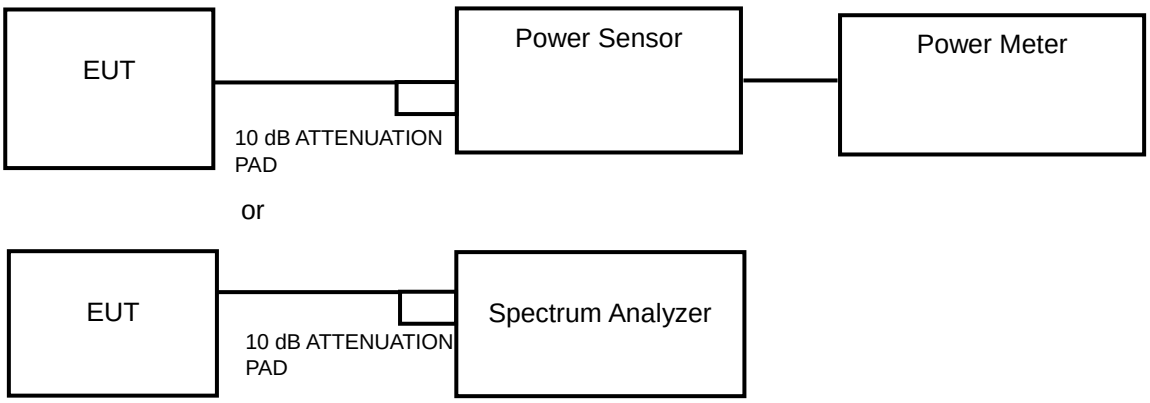
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

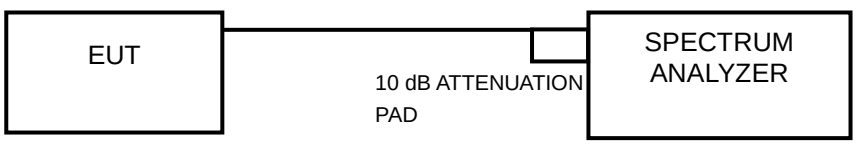
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

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	41.02	16.13	24	Pass
44	5220	41.783	16.21	24	Pass
48	5240	42.17	16.25	24	Pass
52	5260	41.976	16.23	24	Pass
60	5300	40.458	16.07	24	Pass
64	5320	40.272	16.05	24	Pass
100	5500	42.855	16.32	24	Pass
116	5580	42.073	16.24	24	Pass
140	5700	41.591	16.19	24	Pass
149	5745	40.738	16.10	30	Pass
157	5785	42.17	16.25	30	Pass
165	5825	41.591	16.19	30	Pass

Note:

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

1. 11 dBm + 10log (23.55) = 24.72 dBm > 24 dBm.
2. 11 dBm + 10log (23.63) = 24.73 dBm > 24 dBm.
3. 11 dBm + 10log (23.33) = 24.68 dBm > 24 dBm.
4. 11 dBm + 10log (22.84) = 24.59 dBm > 24 dBm.
5. 11 dBm + 10log (22.38) = 24.50 dBm > 24 dBm.
6. 11 dBm + 10log (22.30) = 24.48 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	13.54	13.02	42.639	16.30	24	Pass
44	5220	13.53	12.63	40.865	16.11	24	Pass
48	5240	13.58	12.65	41.211	16.15	24	Pass
52	5260	13.48	13.00	42.237	16.26	24	Pass
60	5300	13.25	12.89	40.589	16.08	24	Pass
64	5320	13.29	12.89	40.784	16.10	24	Pass
100	5500	13.47	13.14	42.839	16.32	24	Pass
116	5580	13.15	13.25	41.789	16.21	24	Pass
140	5700	13.49	12.54	40.283	16.05	24	Pass
149	5745	13.51	12.74	41.232	16.15	30	Pass
157	5785	13.55	13.29	43.976	16.43	30	Pass
165	5825	12.69	13.40	40.456	16.07	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (24.23) = 24.84 dBm > 24 dBm.
2. 11 dBm + 10log (24.29) = 24.85 dBm > 24 dBm.
3. 11 dBm + 10log (24.20) = 24.84 dBm > 24 dBm.
4. 11 dBm + 10log (24.19) = 24.84 dBm > 24 dBm.
5. 11 dBm + 10log (23.22) = 24.66 dBm > 24 dBm.
6. 11 dBm + 10log (23.60) = 24.73 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (23.50) = 24.71 dBm > 24 dBm.
2. 11 dBm + 10log (23.66) = 24.74 dBm > 24 dBm.
3. 11 dBm + 10log (23.75) = 24.76 dBm > 24 dBm.
4. 11 dBm + 10log (23.13) = 24.64 dBm > 24 dBm.
5. 11 dBm + 10log (23.47) = 24.71 dBm > 24 dBm.
6. 11 dBm + 10log (23.35) = 24.68 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	13.46	13.13	42.741	16.31	24	Pass
46	5230	13.66	13.03	43.318	16.37	24	Pass
54	5270	13.50	13.24	43.473	16.38	24	Pass
62	5310	13.31	12.87	40.793	16.11	24	Pass
102	5510	13.22	13.14	41.595	16.19	24	Pass
110	5550	13.57	13.07	43.028	16.34	24	Pass
134	5670	13.62	13.07	43.291	16.36	24	Pass
151	5755	13.68	12.69	41.913	16.22	30	Pass
159	5795	13.12	13.25	41.647	16.20	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (41.88) = 27.22 dBm > 24 dBm.
2. 11 dBm + 10log (41.90) = 27.22 dBm > 24 dBm.
3. 11 dBm + 10log (41.91) = 27.22 dBm > 24 dBm.
4. 11 dBm + 10log (42.21) = 27.25 dBm > 24 dBm.
5. 11 dBm + 10log (42.02) = 27.23 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (42.60) = 27.29 dBm > 24 dBm.
2. 11 dBm + 10log (42.38) = 27.27 dBm > 24 dBm.
3. 11 dBm + 10log (42.55) = 27.29 dBm > 24 dBm.
4. 11 dBm + 10log (42.57) = 27.29 dBm > 24 dBm.
5. 11 dBm + 10log (42.50) = 27.28 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	13.72	12.73	42.3	16.26	24	Pass
58	5290	13.50	13.21	43.328	16.37	24	Pass
106	5530	13.44	13.17	42.829	16.32	24	Pass
122	5610	13.17	12.99	40.656	16.09	24	Pass
155	5775	13.44	13.13	42.639	16.30	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (83.95) = 83.95 dBm > 24 dBm.
2. 11 dBm + 10log (84.18) = 84.18 dBm > 24 dBm.
3. 11 dBm + 10log (84.18) = 84.18 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (83.77) = 30.23 dBm > 24 dBm.
2. 11 dBm + 10log (83.09) = 30.20 dBm > 24 dBm.
3. 11 dBm + 10log (83.78) = 30.23 dBm > 24 dBm.

26 dB Bandwidth:

Mode A

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.63
44	5220	23.39
48	5240	23.35
52	5260	23.55
60	5300	23.63
64	5320	23.33
100	5500	22.84
116	5580	22.38
140	5700	22.30

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	24.00	23.41
44	5220	24.24	24.17
48	5240	25.51	24.10
52	5260	24.23	23.50
60	5300	24.29	23.66
64	5320	24.20	23.75
100	5500	24.19	23.13
116	5580	23.22	23.47
140	5700	23.60	23.35

802.11n (HT40)

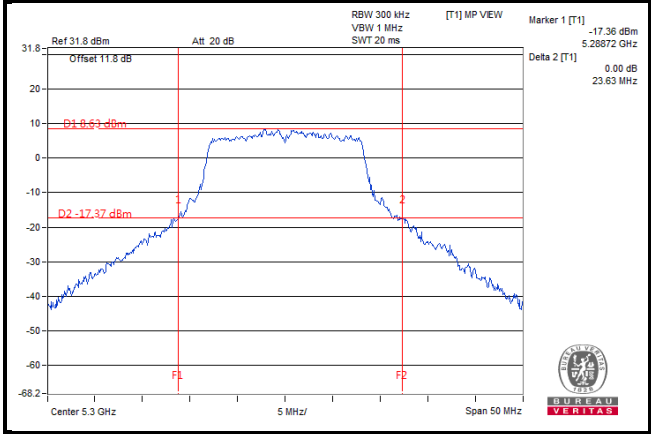
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	41.82	42.48
46	5230	42.08	42.68
54	5270	41.88	42.60
62	5310	41.90	42.38
102	5510	41.91	42.55
110	5550	42.21	42.57
134	5670	42.02	42.50

802.11ac (VHT80)

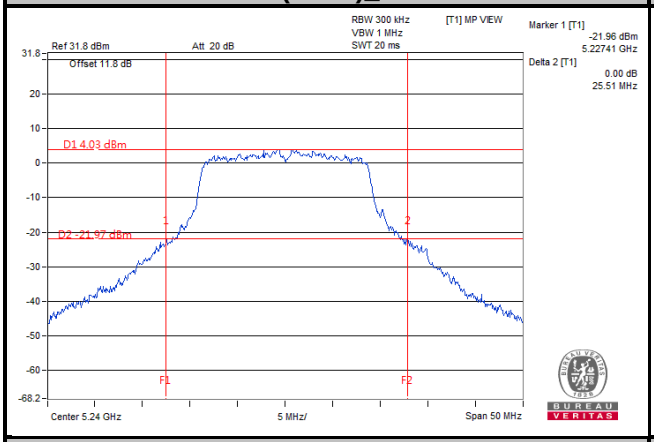
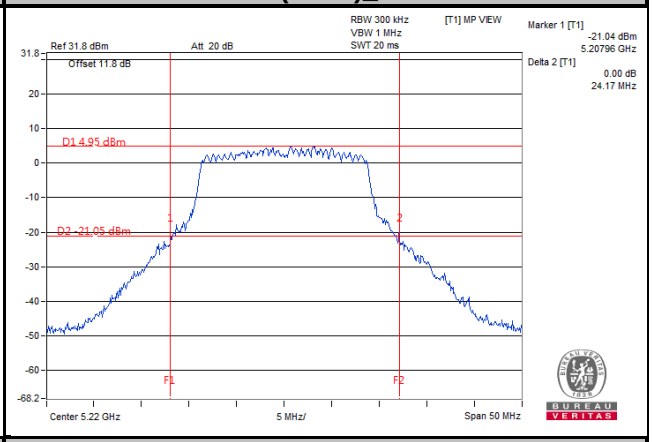
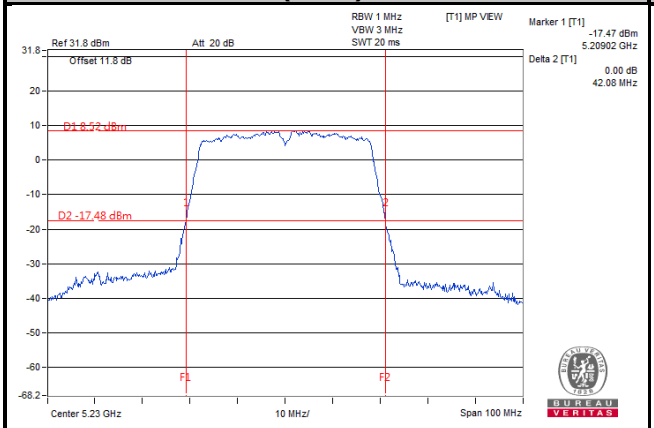
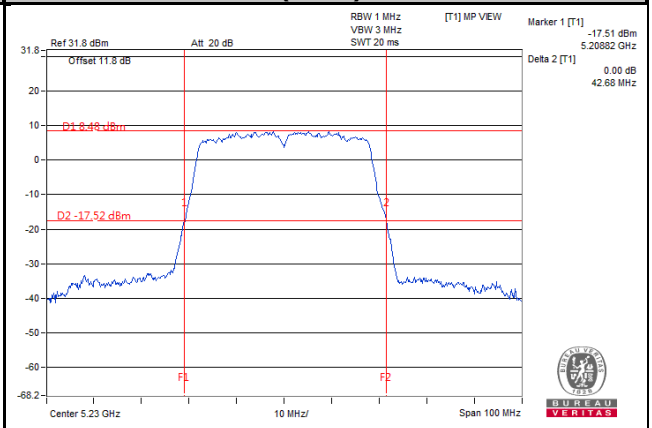
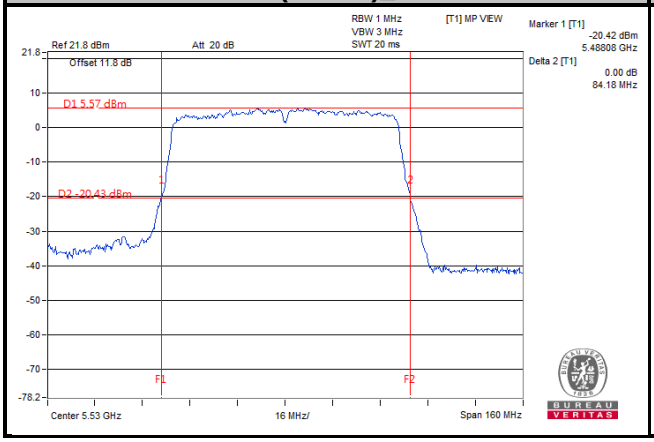
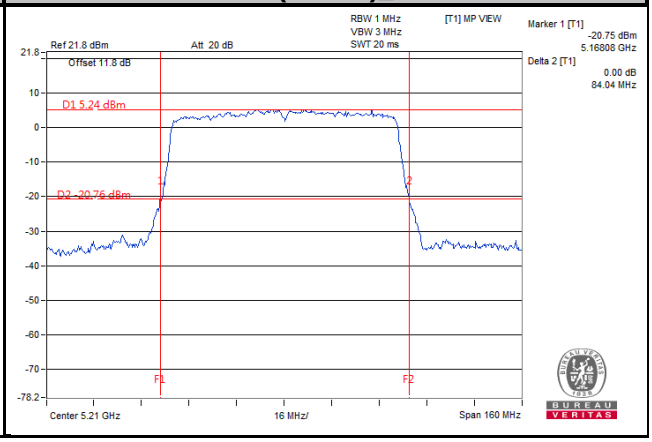
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	83.99	84.04
58	5290	83.95	83.77
106	5530	84.18	83.09
122	5610	84.18	83.78

Mode A

Spectrum Plot of Worst Value
802.11a



Mode B

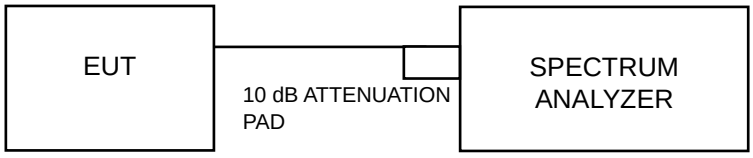
Spectrum Plot of Worst Value	
802.11n (HT20)_Chain 0	802.11n (HT20)_Chain 1
	
802.11n (HT40)_Chain 0	802.11n (HT40)_Chain 1
	
802.11ac (VHT80)_Chian 0	802.11ac (VHT80)_Chian 1
	

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:

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

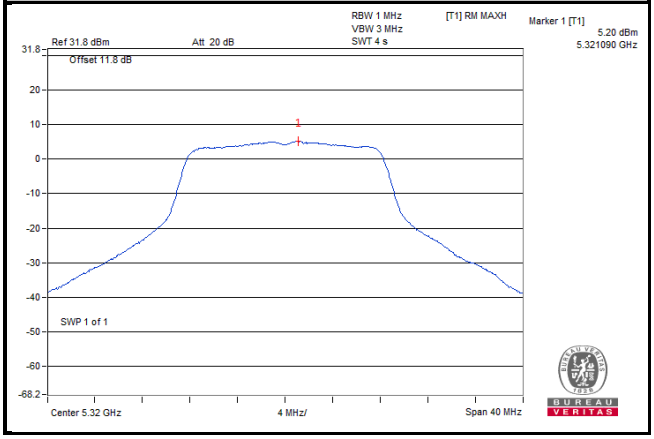
Mode A

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	4.38	0.24	4.62	11	Pass
44	5220	4.39	0.24	4.63	11	Pass
48	5240	4.52	0.24	4.76	11	Pass
52	5260	4.46	0.24	4.70	11	Pass
60	5300	4.86	0.24	5.10	11	Pass
64	5320	5.20	0.24	5.44	11	Pass
100	5500	4.92	0.24	5.16	11	Pass
116	5580	4.82	0.24	5.06	11	Pass
140	5700	4.91	0.24	5.15	11	Pass

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

Spectrum Plot of Worst Value
802.11a



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	0.90	0.91	0.25	4.17	11	Pass
44	5220	1.05	1.15	0.25	4.37	11	Pass
48	5240	1.25	1.05	0.25	4.42	11	Pass
52	5260	1.22	1.27	0.25	4.51	11	Pass
60	5300	0.92	1.30	0.25	4.38	11	Pass
64	5320	1.21	1.18	0.25	4.46	11	Pass
100	5500	1.02	1.19	0.25	4.37	11	Pass
116	5580	1.23	1.64	0.25	4.70	11	Pass
140	5700	1.51	1.25	0.25	4.65	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 = 0.5 dBi + 10log(2) = 3.51 dBi < 6 dBi, so the limit no need to reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -2.0 dBi + 10log(2) = 1.01 dBi < 6 dBi, so the limit no need to 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	-0.82	-0.78	1.21	3.42	11	Pass
46	5230	-0.61	-0.90	1.21	3.47	11	Pass
54	5270	-1.11	-0.70	1.21	3.32	11	Pass
62	5310	-1.04	-0.84	1.21	3.28	11	Pass
102	5510	-0.50	-0.52	1.21	3.69	11	Pass
110	5550	-0.84	-0.77	1.21	3.41	11	Pass
134	5670	-0.93	-0.86	1.21	3.32	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 = 0.5 dBi + 10log(2) = 3.51 dBi < 6 dBi, so the limit no need to reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -2.0 dBi + 10log(2) = 1.01 dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

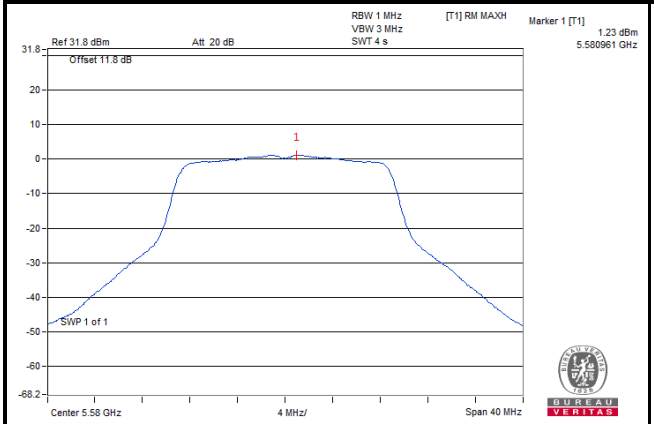
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-5.03	-5.36	1.04	-1.14	11	Pass
58	5290	-4.48	-4.63	1.04	-0.50	11	Pass
106	5530	-4.80	-5.20	1.04	-0.95	11	Pass
122	5610	-5.26	-4.98	1.04	-1.07	11	Pass

Note:

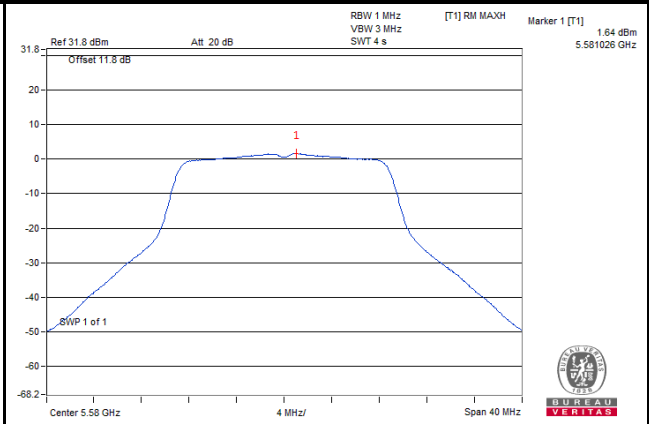
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 0.5 dBi + 10log(2) = 3.51 dBi < 6 dBi, so the limit no need to reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -2.0 dBi + 10log(2) = 1.01 dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

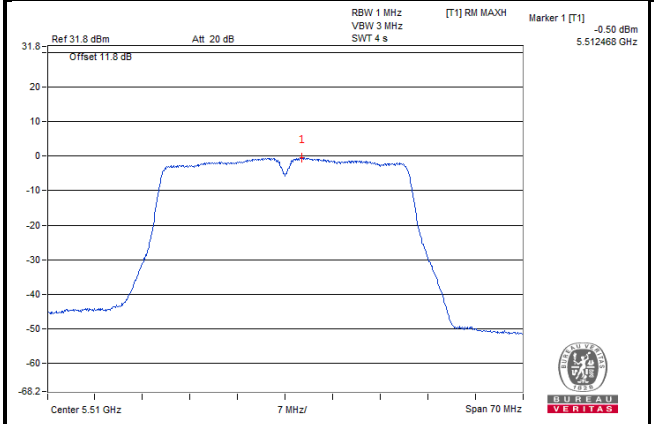
802.11n (HT20)_Chain 0



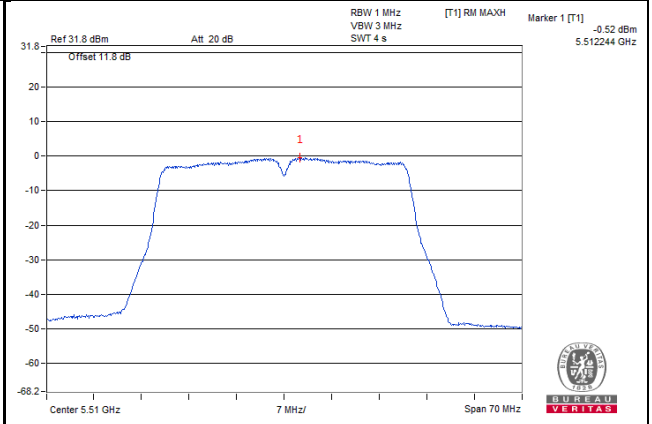
802.11n (HT20)_Chain 1



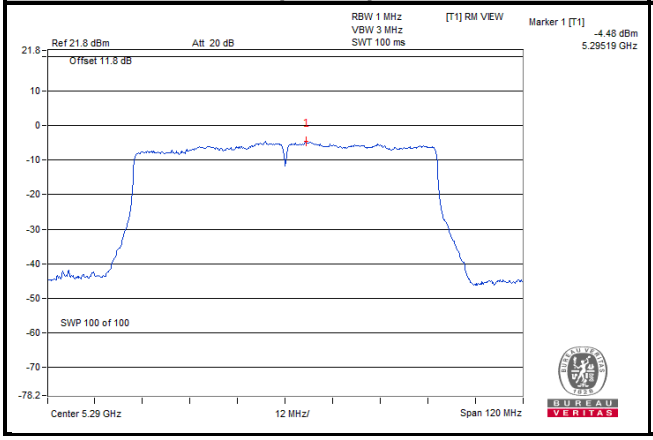
802.11n (HT40) _Chain 0



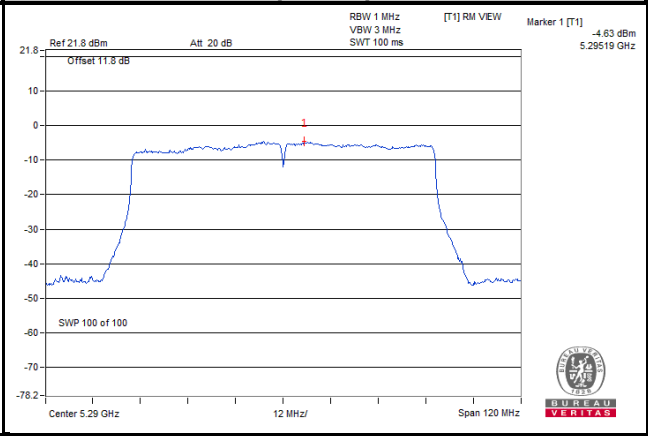
802.11n (HT40) _Chain 1



802.11ac (VHT80) _Chain 0



802.11ac (VHT80) _Chain 1



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	1.76	0.24	2.00	30	Pass
157	5785	2.31	0.24	2.55	30	Pass
165	5825	2.25	0.24	2.49	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	-4.86	3.01	0.25	-1.60	30	Pass
	157	5785	-4.27	3.01	0.25	-1.01	30	Pass
	165	5825	-5.01	3.01	0.25	-1.75	30	Pass
1	149	5745	-2.15	3.01	0.25	1.11	30	Pass
	157	5785	-1.91	3.01	0.25	1.35	30	Pass
	165	5825	-1.35	3.01	0.25	1.91	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 = -1.5 dBi + 10log(2) = 1.51 dBi < 6 dBi, so the limit no need to 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	-5.36	3.01	1.21	-1.14	30	Pass
	159	5795	-5.32	3.01	1.21	-1.10	30	Pass
1	151	5755	-5.78	3.01	1.21	-1.56	30	Pass
	159	5795	-4.95	3.01	1.21	-0.73	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 =-1.5 dBi + 10log(2) = 1.51 dBi < 6 dBi, so the limit no need to 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	-8.02	3.01	1.04	-3.97	30	Pass
1	155	5775	-8.00	3.01	1.04	-3.95	30	Pass

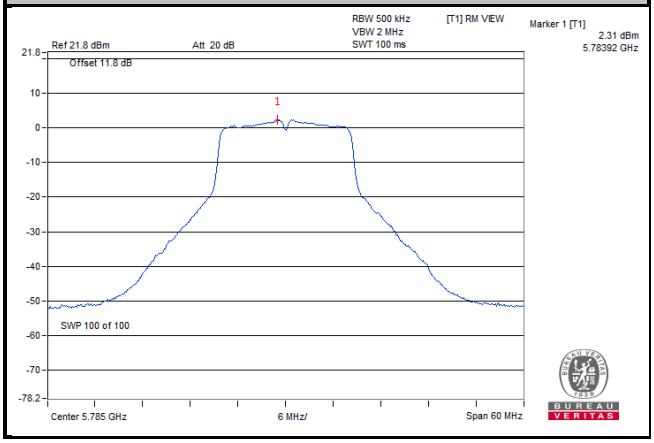
Note:

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 =-1.5 dBi + 10log(2) = 1.51 dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

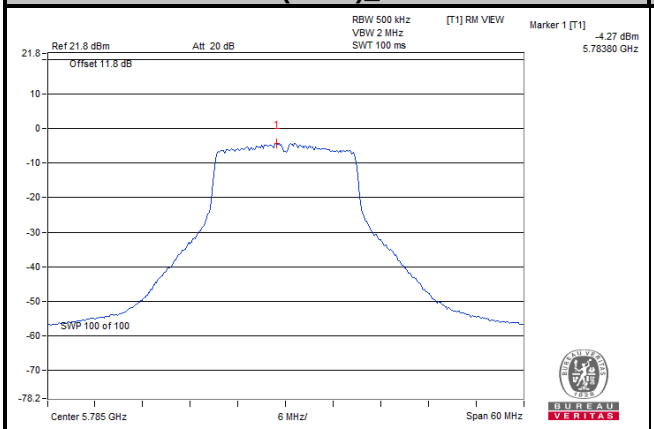
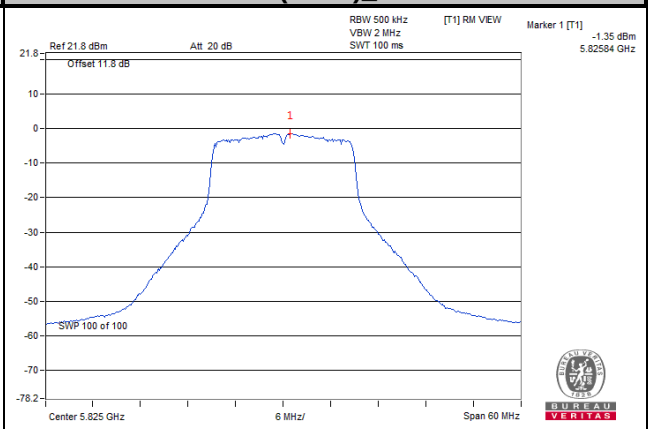
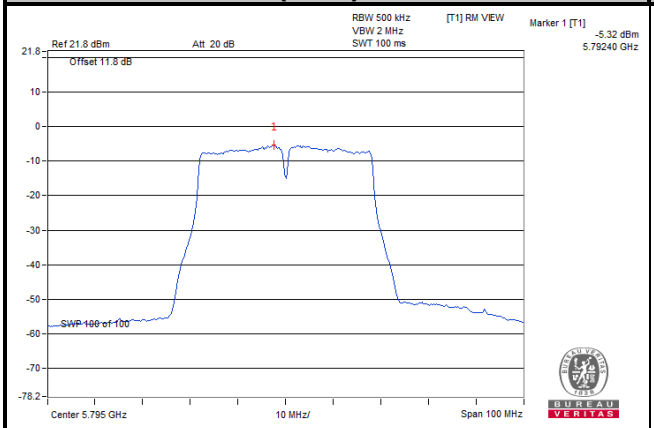
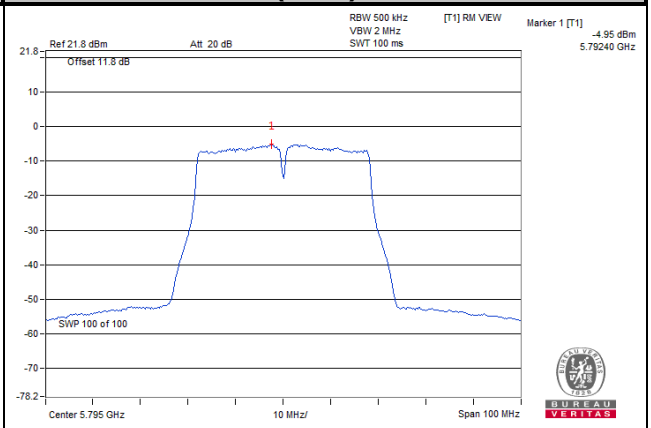
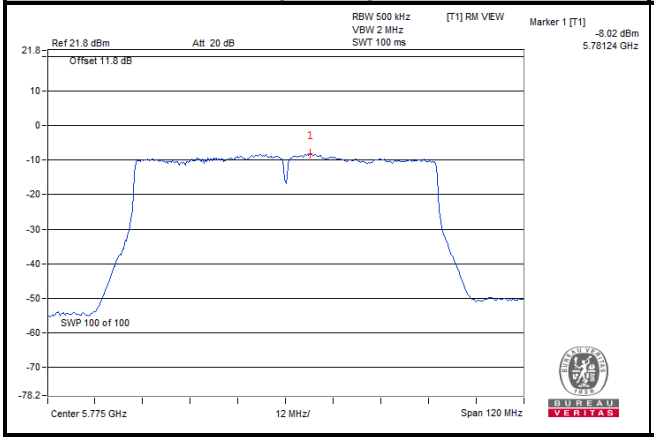
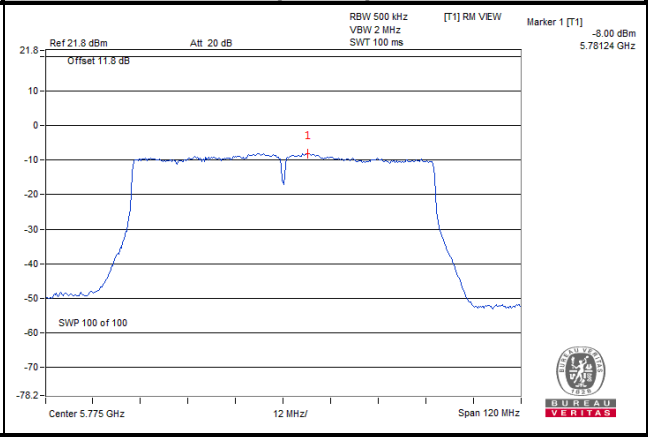
Mode A

Spectrum Plot of Worst Value

802.11a



Mode B

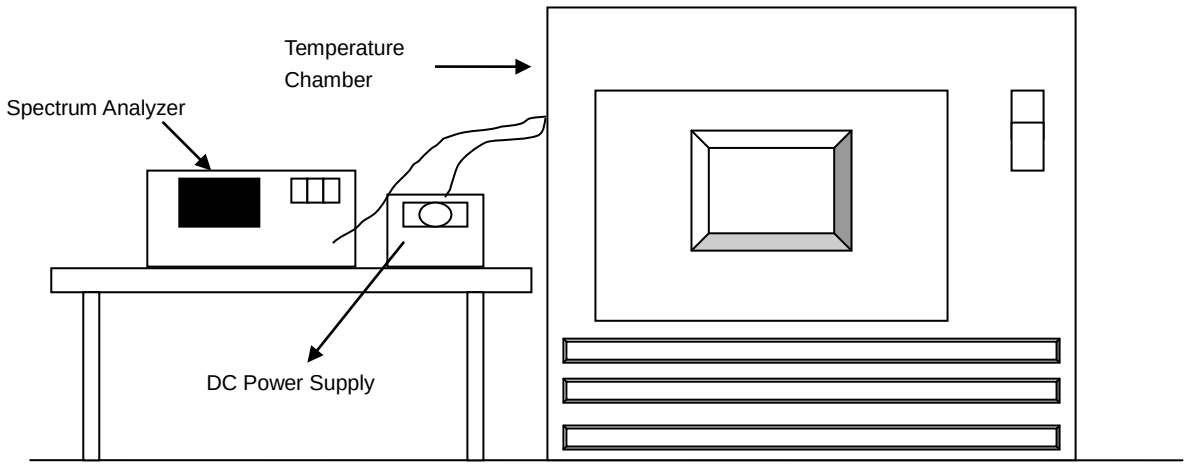
Spectrum Plot of Worst Value	
802.11n (HT20)_Chain 0	802.11n (HT20)_Chain 1
	
802.11n (HT40) _Chain 0	802.11n (HT40) _Chain 1
	
802.11ac (VHT80) _Chain 0	802.11ac (VHT80) _Chain 1
	

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: 5320 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)
55	3.85	5179.9909	-0.00018	5179.9903	-0.00019	5179.9926	-0.00014	5179.9928	-0.00014
50	3.85	5179.9899	-0.00019	5179.9889	-0.00021	5179.9896	-0.00020	5179.9892	-0.00021
40	3.85	5180.01	0.00019	5180.0081	0.00016	5180.0113	0.00022	5180.0102	0.00020
30	3.85	5180.0236	0.00046	5180.0254	0.00049	5180.0237	0.00046	5180.0253	0.00049
20	3.85	5179.9891	-0.00021	5179.9902	-0.00019	5179.9902	-0.00019	5179.989	-0.00021
10	3.85	5179.9926	-0.00014	5179.9944	-0.00011	5179.9938	-0.00012	5179.991	-0.00017
0	3.85	5179.9973	-0.00005	5179.9996	-0.00001	5179.9974	-0.00005	5180.0008	0.00002
-10	3.85	5179.9772	-0.00044	5179.9771	-0.00044	5179.974	-0.00050	5179.9747	-0.00049
-20	3.85	5180.0006	0.00001	5179.9994	-0.00001	5180.001	0.00002	5180.0005	0.00001
-30	3.85	5179.985	-0.00029	5179.9856	-0.00028	5179.983	-0.00033	5179.9828	-0.00033

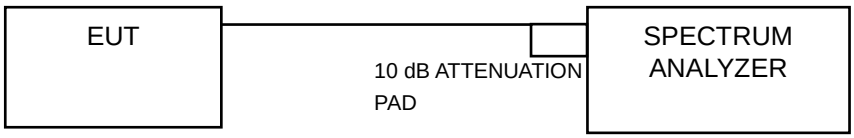
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.428	5179.9887	-0.00022	5179.9896	-0.00020	5179.9896	-0.00020	5179.9886	-0.00022
	3.85	5179.9891	-0.00021	5179.9902	-0.00019	5179.9902	-0.00019	5179.989	-0.00021
	3.273	5179.9892	-0.00021	5179.9909	-0.00018	5179.991	-0.00017	5179.9895	-0.00020

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	15.40	0.5	Pass
157	5785	15.55	0.5	Pass
165	5825	15.59	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	16.00	16.36	0.5	Pass
157	5785	15.19	16.36	0.5	Pass
165	5825	15.16	16.33	0.5	Pass

802.11n (HT40)

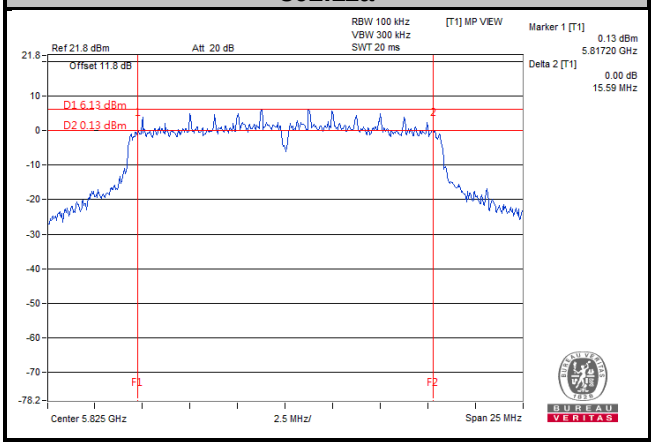
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.41	35.79	0.5	Pass
159	5795	35.29	36.34	0.5	Pass

802.11ac (VHT80)

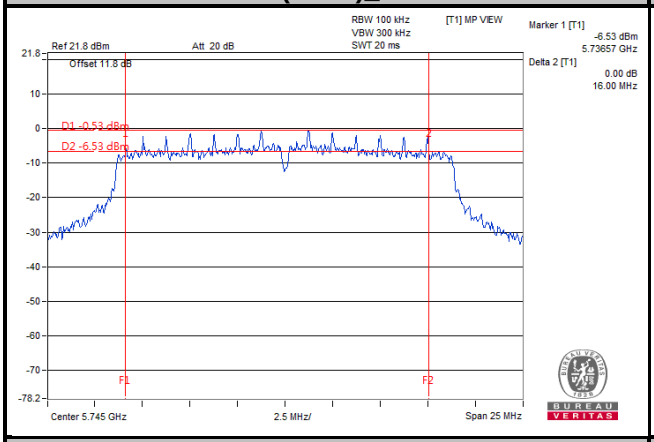
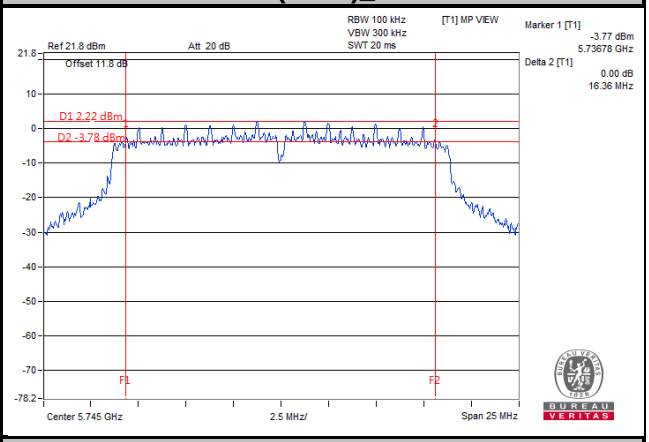
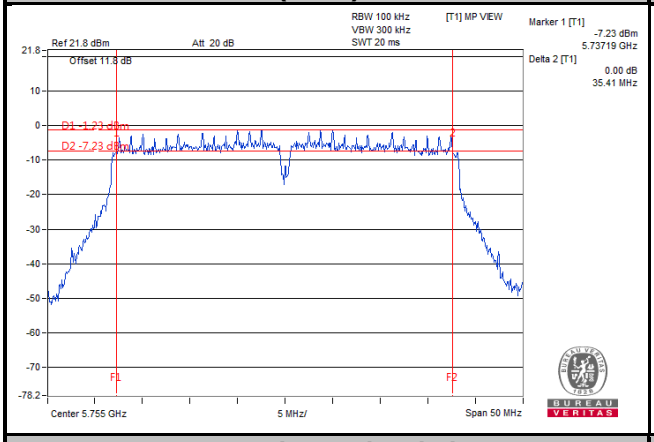
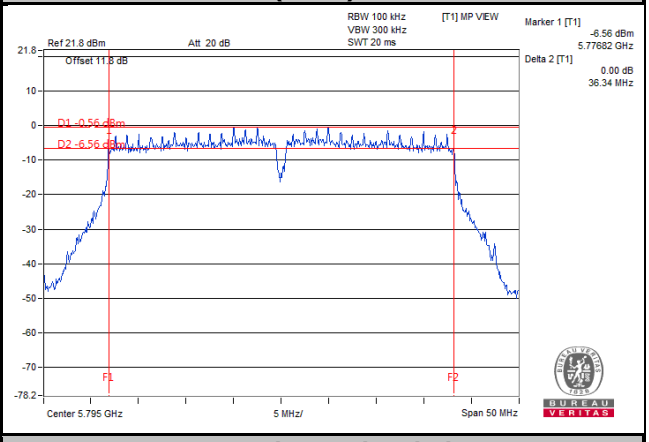
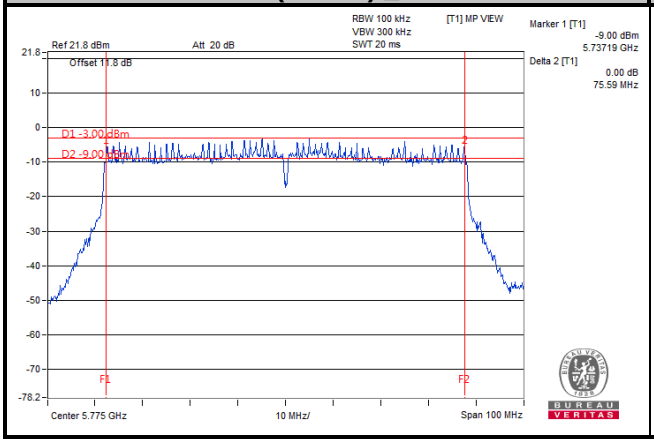
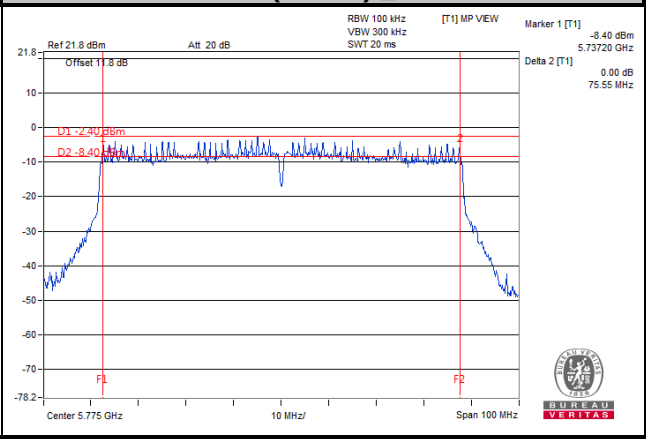
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.59	75.55	0.5	Pass

Mode A

Spectrum Plot of Worst Value
802.11a



Mode B

Spectrum Plot of Worst Value	
802.11n (HT20)_Chain 0	802.11n (HT20)_Chain 1
	
802.11n (HT40) _Chain 0	802.11n (HT40) _Chain 1
	
802.11ac (VHT80) _Chain 0	802.11ac (VHT80) _Chain 1
	

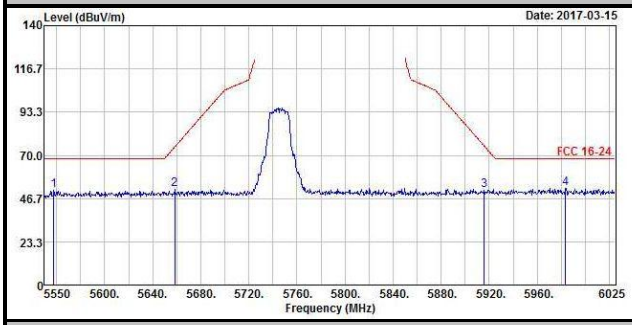
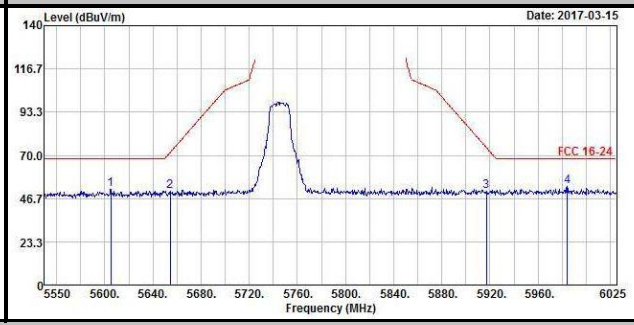
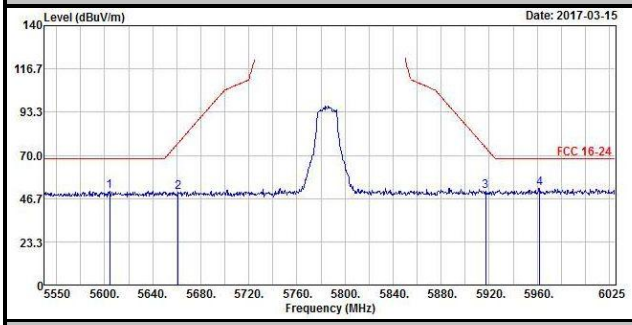
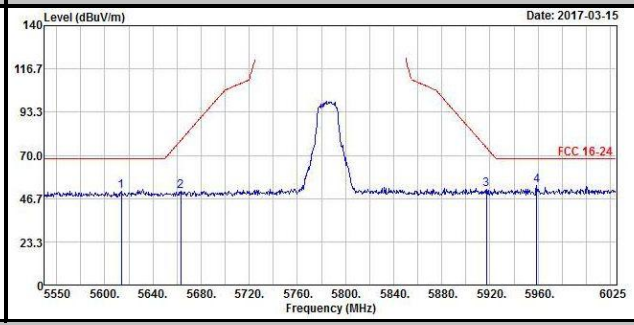
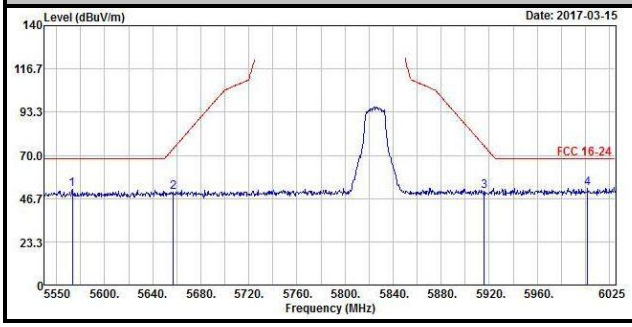
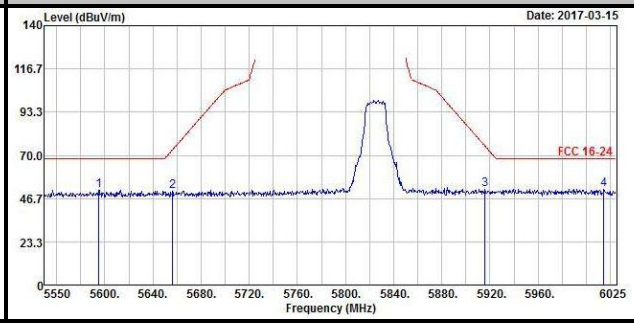
5 Pictures of Test Arrangements

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

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

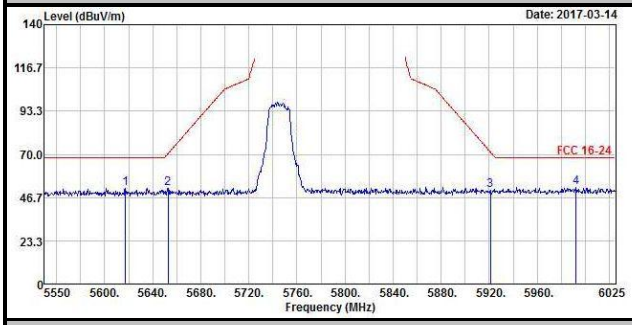
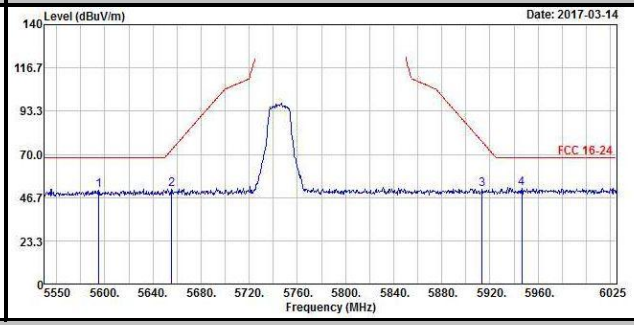
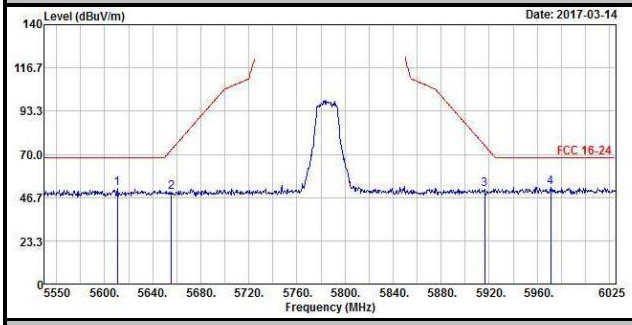
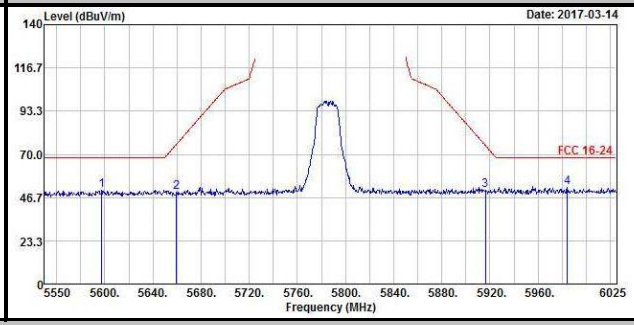
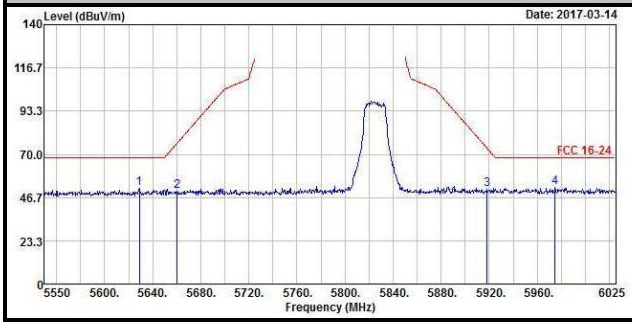
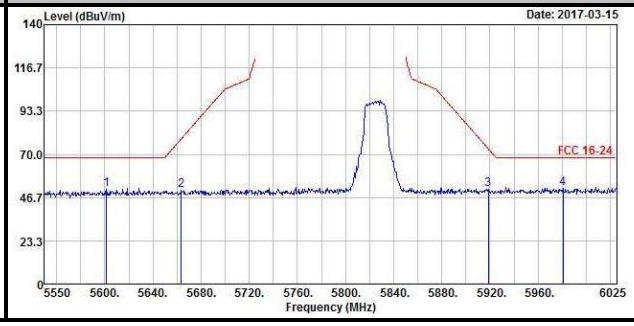
Mode A

802.11a

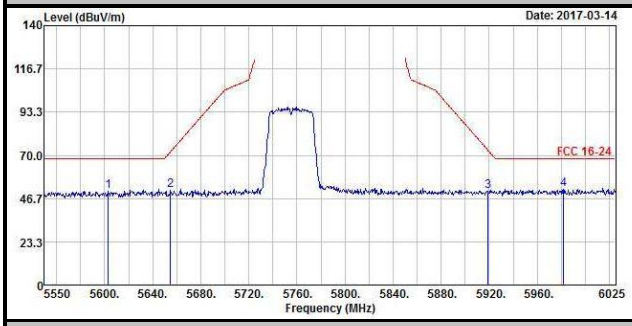
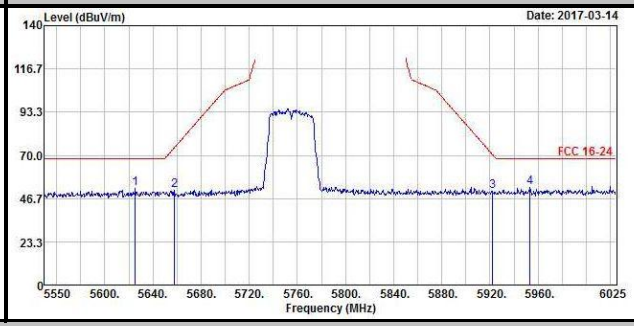
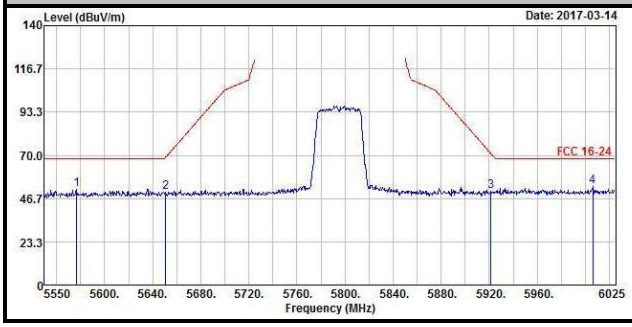
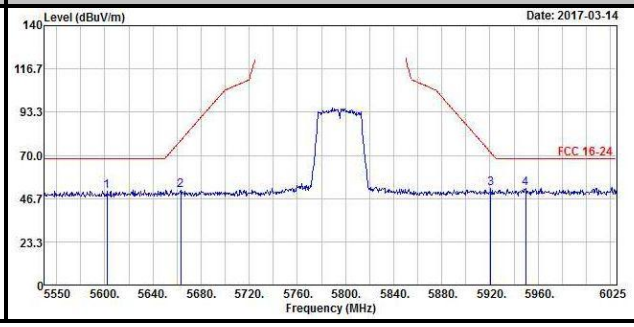
Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

Mode B

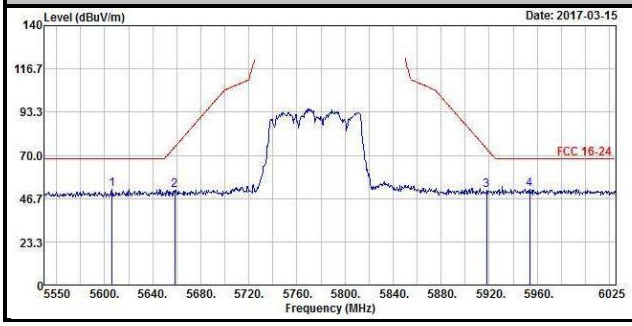
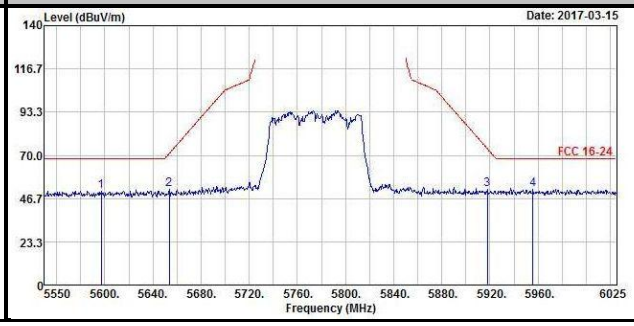
802.11n (HT20)

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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Web Site: www.bureauveritas-adt.com

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

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