FCC Test Report

Report No.:	RF170428C35-1
FCC ID:	QYL8260GAINF110
Test Model:	F110
Received Date:	Apr. 28, 2017
Test Date:	May 13, 2017 ~ May 19, 2017
Issued Date:	Jun. 09, 2017
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF170428C35-1	Original Release	Jun. 09, 2017

1 Certificate of Conformity

Product:	Industrial Tablet
Brand:	Getac
Test Model:	F110
Sample Status:	Production Unit
Applicant:	Getac Technology Corporation.
Test Date:	May 13, 2017 ~ May 19, 2017
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Evonne Liu , **Date:** Jun. 09, 2017

Evonne Liu / Specialist

Approved by : David Huang , **Date:** Jun. 09, 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 -15.83 dB at 0.16172 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.08 dB at 5458.8 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Industrial Tablet	
Brand	Getac	
Test Model	F110	
Status of EUT	Production Unit	
Power Supply Rating	19 Vdc (Adapter)	
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 MCS15 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	58.162 mW for 5180 ~ 5240 MHz 85.964 mW for 5260 ~ 5320 MHz 42.356 mW for 5500 ~ 5700 MHz 88.407 mW for 5745 ~ 5825 MHz	
Antenna Type	PIFA antenna with	Main: 2.03 dBi / Aux.: 3.97 dBi gain (5180 ~ 5240 MHz)
		Main: 4.39 dBi / Aux.: 3.65 dBi gain (5260 ~ 5320 MHz)
		Main: 4.62 dBi / Aux.: 3.51 dBi gain (5500 ~ 5700 MHz)
		Main: 4.57 dBi / Aux.: 1.37 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

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

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

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Chicony	A12-065N2A	I/P: 100-240Vac, 50/60Hz, 1.7A O/P: 19Vdc, 3.42A 1.45 m shielded cable with core
Adapter 2	DELTA ELECTRONICS, INC	SADP-65KB B	I/P: 100-240Vac, 50/60Hz, 1.5A O/P: 19Vdc, 3.42A 1.8 m shielded cable with core

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	SISO
B	√	√	√	√	MIMO

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

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for Mode A and **X-plane** (5180-5320), **Y-plane** (5500-5700), **Z-plane** (5745-5825) for Mode B.

NOTE: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

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

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	5180-5240	802.11n (HT40)	38 to 46	46	OFDM	BPSK	MCS0
	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	MCS0
	5500-5700	802.11ac (VHT80)	106 to 122	106	OFDM	BPSK	MCS0
	5745-5825	802.11n (HT20)	149 to 165	149	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

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

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

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

Antenna Port Conducted Measurement:

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

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

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

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

Test Condition:

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

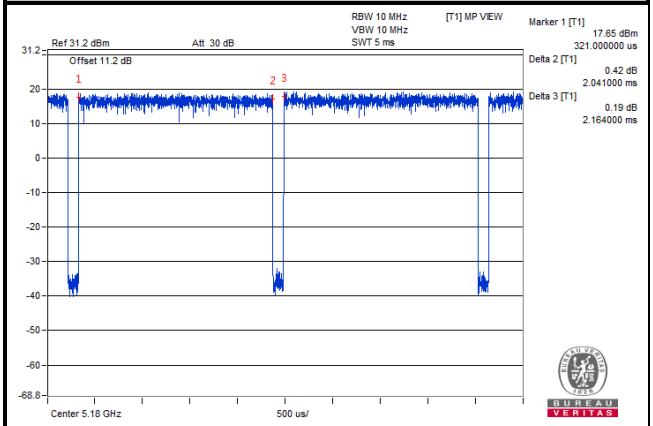
3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

Mode A

802.11a: Duty cycle = 2.041/2.164 = 0.943, Duty factor = 10 * log(1/0.943) = 0.25

802.11a



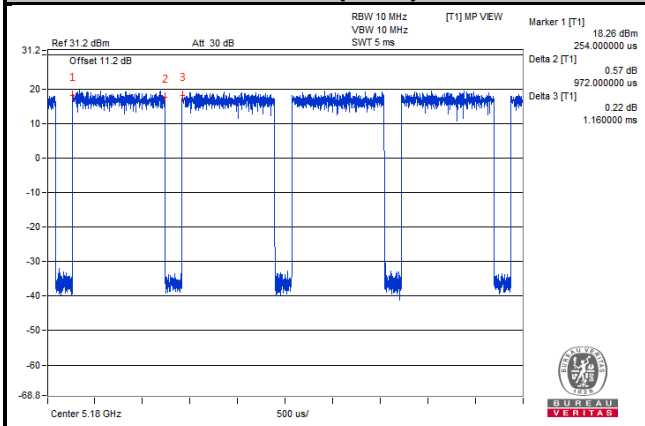
Mode B

802.11n (HT20): Duty cycle = 0.972/1.16 = 0.838, Duty factor = 10 * log(1/0.838) = 0.76

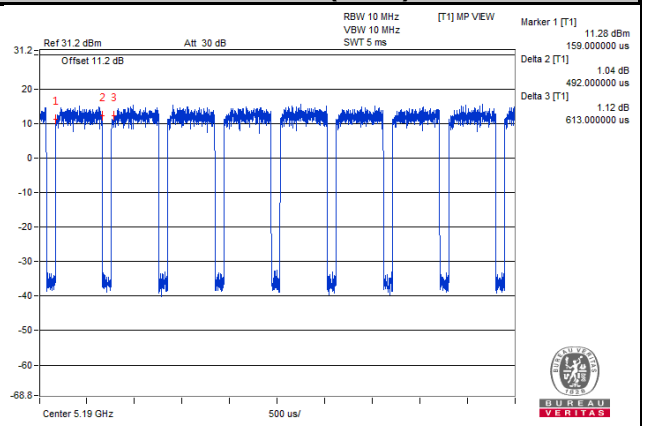
802.11n (HT40): Duty cycle = 0.492/0.613 = 0.803, Duty factor = 10 * log(1/0.803) = 0.95

802.11ac (VHT80): Duty cycle = 0.251/0.328 = 0.765, Duty factor = 10 * log(1/0.765) = 1.16

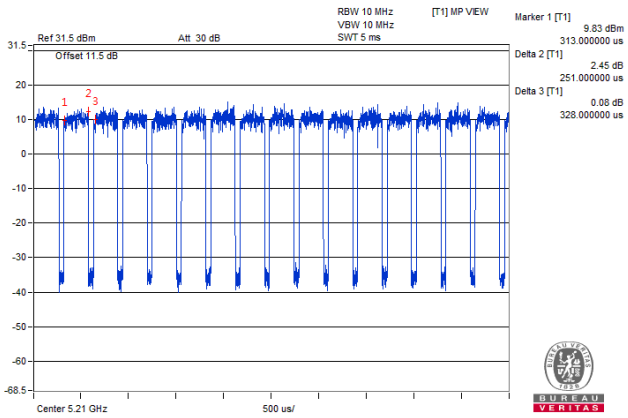
802.11n (HT20)



802.11n (HT40)



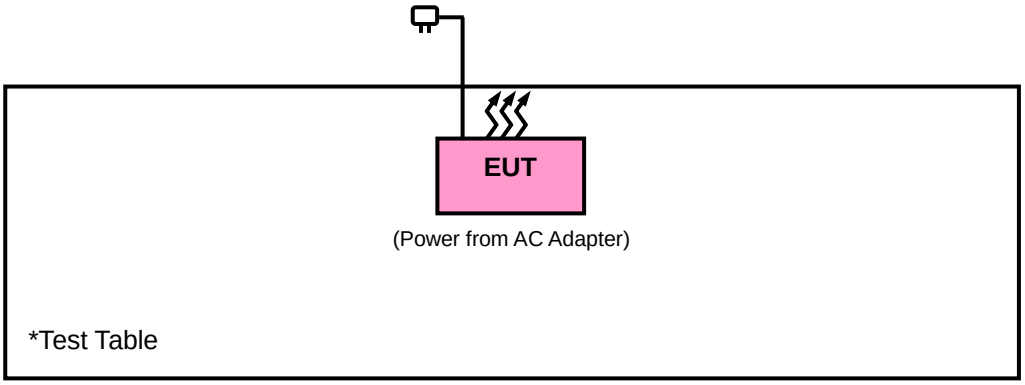
802.11ac (VHT80)



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

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

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

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

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

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

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

4.1.4 Test Procedures

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

Note:

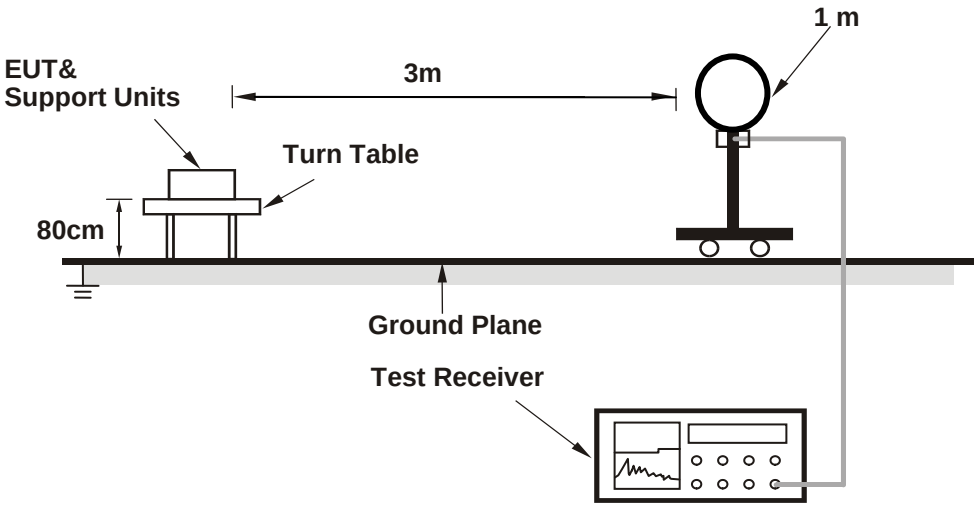
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency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



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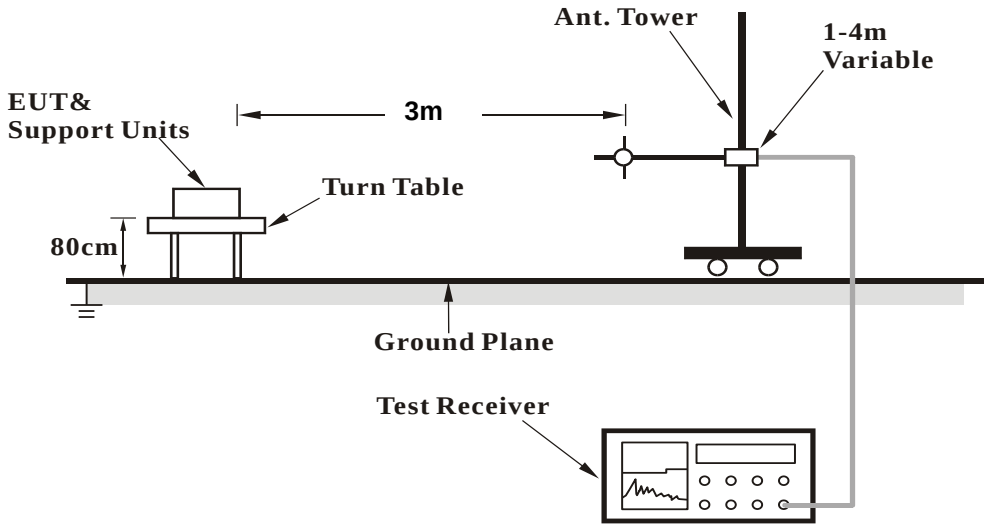
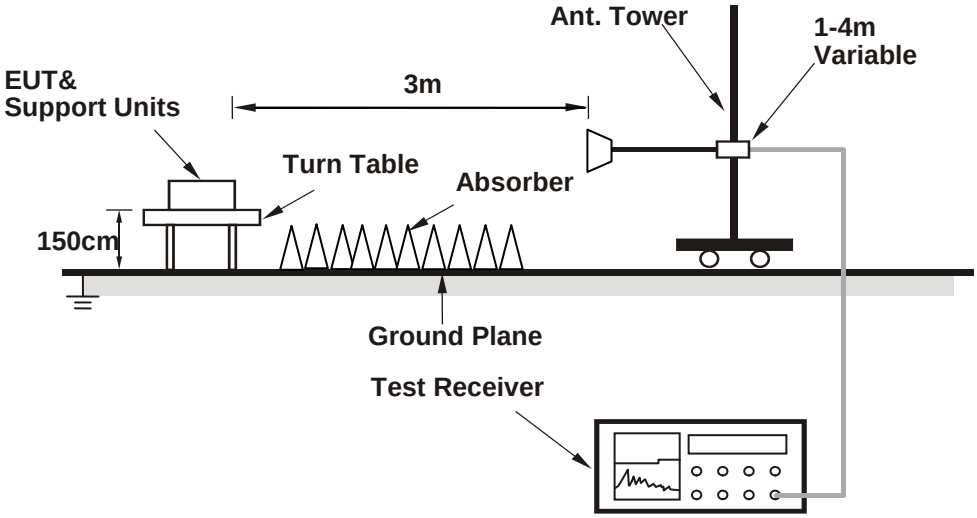


<Frequency Range above 1 GHz>



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**	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**
5125.25	51.62	51.41	74	-22.38	31.31	6.2	37.3	203	358	Peak
5149.85	40.32	40.12	54	-13.68	31.32	6.2	37.32	203	358	Average
5180	89.66	89.43			31.35	6.22	37.34	203	358	Average
5180	98.69	98.46			31.35	6.22	37.34	203	358	Peak
*10360	57.81	61.71	68.2	-10.39	39.19	9.05	52.14	122	77	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.85	54.81	54.61	74	-19.19	31.32	6.2	37.32	109	239	Peak
5150	41.7	41.5	54	-12.3	31.32	6.2	37.32	109	239	Average
5180	92.38	92.15			31.35	6.22	37.34	109	239	Average
5180	101.73	101.5			31.35	6.22	37.34	109	239	Peak
*10360	55.64	59.54	68.2	-12.56	39.19	9.05	52.14	100	250	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**	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**
5141.6	50.88	50.66	74	-23.12	31.32	6.2	37.3	199	360	Peak
5147.15	38.66	38.46	54	-15.34	31.32	6.2	37.32	199	360	Average
5220	89.62	89.37			31.37	6.24	37.36	199	360	Average
5220	98.85	98.6			31.37	6.24	37.36	199	360	Peak
5375.63	51.1	50.48	74	-22.9	31.49	6.31	37.18	199	360	Peak
5453.95	39.32	38.5	54	-14.68	31.56	6.34	37.08	199	360	Average
*10440	56.08	60.18	68.2	-12.12	39.29	9.09	52.48	121	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**
5135.75	50.38	50.17	74	-23.62	31.31	6.2	37.3	108	239	Peak
5149.4	38.6	38.4	54	-15.4	31.32	6.2	37.32	108	239	Average
5220	93.01	92.76			31.37	6.24	37.36	108	239	Average
5220	101.44	101.19			31.37	6.24	37.36	108	239	Peak
5454.28	39.33	38.51	54	-14.67	31.56	6.34	37.08	108	239	Average
5458.68	51.06	50.24	74	-22.94	31.56	6.34	37.08	108	239	Peak
*10440	56.01	60.11	68.2	-12.19	39.29	9.09	52.48	100	251	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**	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**
5015.3	50.51	50.38	74	-23.49	31.21	6.15	37.23	195	359	Peak
5129.3	38.51	38.3	54	-15.49	31.31	6.2	37.3	195	359	Average
5240	89.42	89.1			31.39	6.25	37.32	195	359	Average
5240	98.33	98.01			31.39	6.25	37.32	195	359	Peak
5387.07	50.78	50.14	74	-23.22	31.51	6.31	37.18	195	359	Peak
5397.85	38.89	38.23	54	-15.11	31.52	6.32	37.18	195	359	Average
*10480	56.81	61.06	68.2	-11.39	39.37	9.09	52.71	125	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5006.3	38.47	38.36	54	-15.53	31.21	6.13	37.23	107	240	Average
5053.25	50.08	49.92	74	-23.92	31.24	6.17	37.25	107	240	Peak
5240	92.87	92.55			31.39	6.25	37.32	107	240	Average
5240	101.57	101.25			31.39	6.25	37.32	107	240	Peak
5392.02	39.07	38.43	54	-14.93	31.51	6.31	37.18	107	240	Average
5440.31	51.43	50.67	74	-22.57	31.55	6.34	37.13	107	240	Peak
*10480	54.45	58.7	68.2	-13.75	39.37	9.09	52.71	101	249	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**
5110.7	38.61	38.41	54	-15.39	31.29	6.19	37.28	198	360	Average
5113.7	50.46	50.26	74	-23.54	31.29	6.19	37.28	198	360	Peak
5260	90	89.61			31.41	6.25	37.27	198	360	Average
5260	98.16	97.77			31.41	6.25	37.27	198	360	Peak
5417.87	38.96	38.29	54	-15.04	31.53	6.32	37.18	198	360	Average
5458.24	50.99	50.17	74	-23.01	31.56	6.34	37.08	198	360	Peak
*10520	58.43	62.71	68.2	-9.77	39.43	9.12	52.83	100	209	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**
5076.5	50.76	50.59	74	-23.24	31.27	6.17	37.27	114	239	Peak
5149.25	38.56	38.36	54	-15.44	31.32	6.2	37.32	114	239	Average
5260	95.4	95.01			31.41	6.25	37.27	114	239	Average
5260	104.16	103.77			31.41	6.25	37.27	114	239	Peak
5411.71	39.23	38.56	54	-14.77	31.53	6.32	37.18	114	239	Average
5454.94	51.31	50.49	74	-22.69	31.56	6.34	37.08	114	239	Peak
*10520	57.79	62.07	68.2	-10.41	39.43	9.12	52.83	117	245	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**
5082.05	50.58	50.41	74	-23.42	31.27	6.17	37.27	196	360	Peak
5149.7	38.82	38.62	54	-15.18	31.32	6.2	37.32	196	360	Average
5300	88.32	87.8			31.44	6.27	37.19	196	360	Average
5300	97.69	97.17			31.44	6.27	37.19	196	360	Peak
5369.91	51.32	50.7	74	-22.68	31.49	6.31	37.18	196	360	Peak
5449.88	39.01	38.19	54	-14.99	31.56	6.34	37.08	196	360	Average
10600	47.06	50.74	54	-6.94	39.57	9.16	52.41	100	210	Average
10600	58.07	61.75	74	-15.93	39.57	9.16	52.41	100	210	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5003.75	51.42	51.31	74	-22.58	31.21	6.13	37.23	114	239	Peak
5148.8	39.17	38.97	54	-14.83	31.32	6.2	37.32	114	239	Average
5300	94.06	93.54			31.44	6.27	37.19	114	239	Average
5300	103.01	102.49			31.44	6.27	37.19	114	239	Peak
5455.93	51.87	51.05	74	-22.13	31.56	6.34	37.08	114	239	Peak
5456.04	39.75	38.93	54	-14.25	31.56	6.34	37.08	114	239	Average
10600	46.66	50.34	54	-7.34	39.57	9.16	52.41	117	241	Average
10600	57.44	61.12	74	-16.56	39.57	9.16	52.41	117	241	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	88.74	88.19			31.45	6.29	37.19	196	360	Average
5320	97.77	97.22			31.45	6.29	37.19	196	360	Peak
5350.66	39.64	39.05	54	-14.36	31.48	6.29	37.18	196	360	Average
5451.31	52.44	51.62	74	-21.56	31.56	6.34	37.08	196	360	Peak
10640	47.36	50.81	54	-6.64	39.62	9.2	52.27	100	211	Average
10640	58.1	61.55	74	-15.9	39.62	9.2	52.27	100	211	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	94.09	93.54			31.45	6.29	37.19	100	240	Average
5320	103.48	102.93			31.45	6.29	37.19	100	240	Peak
5350.11	41.52	40.93	54	-12.48	31.48	6.29	37.18	100	240	Average
5351.65	58.71	58.12	74	-15.29	31.48	6.29	37.18	100	240	Peak
10640	46.94	50.39	54	-7.06	39.62	9.2	52.27	117	234	Average
10640	57.07	60.52	74	-16.93	39.62	9.2	52.27	117	234	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**
5350.48	40.96	40.37	54	-13.04	31.48	6.29	37.18	198	189	Average
5453.2	53.18	52.36	74	-20.82	31.56	6.34	37.08	198	189	Peak
*5469.52	60.83	60	68.2	-7.37	31.57	6.34	37.08	198	189	Peak
5500	93.43	92.5			31.6	6.36	37.03	198	189	Average
5500	101.78	100.85			31.6	6.36	37.03	198	189	Peak
*5725.96	53.18	51.9	68.2	-15.02	31.96	6.75	37.43	198	189	Peak
11000	45.98	49.88	54	-8.02	40.2	9.35	53.45	100	201	Average
11000	56.43	60.33	74	-17.57	40.2	9.35	53.45	100	201	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5350.32	40.63	40.04	54	-13.37	31.48	6.29	37.18	190	14	Average
5457.52	52.12	51.3	74	-21.88	31.56	6.34	37.08	190	14	Peak
*5470.64	54.78	53.95	68.2	-13.42	31.57	6.34	37.08	190	14	Peak
5500	88.16	87.23			31.6	6.36	37.03	190	14	Average
5500	98.71	97.78			31.6	6.36	37.03	190	14	Peak
*5725.32	52.39	51.11	68.2	-15.81	31.96	6.75	37.43	190	14	Peak
11000	44.88	48.78	54	-9.12	40.2	9.35	53.45	100	122	Average
11000	55.53	59.43	74	-18.47	40.2	9.35	53.45	100	122	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**
5350.48	40.86	40.27	54	-13.14	31.48	6.29	37.18	202	190	Average
5351.44	52.57	51.98	74	-21.43	31.48	6.29	37.18	202	190	Peak
*5468.08	49.55	48.72	68.2	-18.65	31.57	6.34	37.08	202	190	Peak
5580	92.56	91.52			31.71	6.49	37.16	202	190	Average
5580	102.76	101.72			31.71	6.49	37.16	202	190	Peak
*5725.72	51.63	50.35	68.2	-16.57	31.96	6.75	37.43	202	190	Peak
11160	46.51	50.23	54	-7.49	40.1	9.57	53.39	100	187	Average
11160	56.87	60.59	74	-17.13	40.1	9.57	53.39	100	187	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5350.8	40.72	40.13	54	-13.28	31.48	6.29	37.18	189	13	Average
5351.92	52.32	51.73	74	-21.68	31.48	6.29	37.18	189	13	Peak
*5469.2	49.32	48.49	68.2	-18.88	31.57	6.34	37.08	189	13	Peak
5580	90.27	89.23			31.71	6.49	37.16	189	13	Average
5580	100.15	99.11			31.71	6.49	37.16	189	13	Peak
*5725	50.64	49.36	68.2	-17.56	31.96	6.75	37.43	189	13	Peak
11160	45.81	49.53	54	-8.19	40.1	9.57	53.39	100	136	Average
11160	56.1	59.82	74	-17.9	40.1	9.57	53.39	100	136	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**
5393.52	40.09	39.45	54	-13.91	31.51	6.31	37.18	203	186	Average
5409.68	51.48	50.82	74	-22.52	31.52	6.32	37.18	203	186	Peak
*5470.96	51.59	50.76	68.2	-16.61	31.57	6.34	37.08	203	186	Peak
5700	93.01	91.82			31.9	6.69	37.4	203	186	Average
5700	102.11	100.92			31.9	6.69	37.4	203	186	Peak
*5725.08	55.21	53.93	68.2	-12.99	31.96	6.75	37.43	203	186	Peak
11400	46.55	48.81	54	-7.45	39.96	9.91	52.13	100	144	Average
11400	57.7	59.96	74	-16.3	39.96	9.91	52.13	100	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**
5388.4	39.61	38.97	54	-14.39	31.51	6.31	37.18	204	20	Average
5392.08	51.67	51.03	74	-22.33	31.51	6.31	37.18	204	20	Peak
*5470.16	50.44	49.61	68.2	-17.76	31.57	6.34	37.08	204	20	Peak
5700	91.1	89.91			31.9	6.69	37.4	204	20	Average
5700	100.58	99.39			31.9	6.69	37.4	204	20	Peak
*5725.48	54.98	53.7	68.2	-13.22	31.96	6.75	37.43	204	20	Peak
11400	46.22	48.48	54	-7.78	39.96	9.91	52.13	101	111	Average
11400	57.47	59.73	74	-16.53	39.96	9.91	52.13	101	111	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	92.65	91.38			31.99	6.75	37.47	226	318	Average
5745	102.44	101.17			31.99	6.75	37.47	226	318	Peak
11490	47.45	50.34	54	-6.55	39.91	10.03	52.83	173	121	Average
11490	55.43	58.32	74	-18.57	39.91	10.03	52.83	173	121	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	94.8	93.53			31.99	6.75	37.47	197	296	Average
5745	104.34	103.07			31.99	6.75	37.47	197	296	Peak
11490	46.38	49.27	54	-7.62	39.91	10.03	52.83	162	242	Average
11490	54.84	57.73	74	-19.16	39.91	10.03	52.83	162	242	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**
5588.95	52.01	50.94	68.2	-16.19	31.74	6.49	37.16	226	318	Peak
5654.5	50.93	49.8	71.54	-20.61	31.85	6.62	37.34	226	318	Peak
5920.975	51.56	49.79	71.17	-19.61	32.26	7.01	37.5	226	318	Peak
5977.025	53.82	51.88	68.2	-14.38	32.37	7.08	37.51	226	318	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**
5588	53.77	52.7	68.2	-14.43	31.74	6.49	37.16	197	296	Peak
5654.025	52.14	51.01	71.19	-19.05	31.85	6.62	37.34	197	296	Peak
5911.95	51.96	50.19	77.83	-25.87	32.26	7.01	37.5	197	296	Peak
5977.025	54.26	52.32	68.2	-13.94	32.37	7.08	37.51	197	296	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	92.87	91.55			32.04	6.82	37.54	225	320	Average
5785	102.3	100.98			32.04	6.82	37.54	225	320	Peak
11570	46.92	50.38	54	-7.08	39.78	10.09	53.33	176	126	Average
11570	54.13	57.59	74	-19.87	39.78	10.09	53.33	176	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	94.8	93.48			32.04	6.82	37.54	196	294	Average
5785	104.21	102.89			32.04	6.82	37.54	196	294	Peak
11570	46.23	49.69	54	-7.77	39.78	10.09	53.33	168	251	Average
11570	53.25	56.71	74	-20.75	39.78	10.09	53.33	168	251	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**
5630.275	53.71	52.64	68.2	-14.49	31.79	6.56	37.28	225	320	Peak
5654.5	50.6	49.47	71.54	-20.94	31.85	6.62	37.34	225	320	Peak
5920.5	50.77	49	71.52	-20.75	32.26	7.01	37.5	225	320	Peak
6016.45	53.85	51.76	68.2	-14.35	32.45	7.14	37.5	225	320	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**
5635.025	56.21	55.11	68.2	-11.99	31.82	6.56	37.28	196	294	Peak
5656.875	51.48	50.35	73.31	-21.83	31.85	6.62	37.34	196	294	Peak
5920.975	50.8	49.03	71.17	-20.37	32.26	7.01	37.5	196	294	Peak
6011.225	54.1	52.01	68.2	-14.1	32.45	7.14	37.5	196	294	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	92.99	91.52			32.12	6.88	37.53	228	316	Average
5825	102.22	100.75			32.12	6.88	37.53	228	316	Peak
11650	47.16	50.71	54	-6.84	39.65	10.15	53.35	178	124	Average
11650	53.68	57.23	74	-20.32	39.65	10.15	53.35	178	124	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	94.77	93.3			32.12	6.88	37.53	193	298	Average
5825	104.18	102.71			32.12	6.88	37.53	193	298	Peak
11650	46.27	49.82	54	-7.73	39.65	10.15	53.35	171	244	Average
11650	54.28	57.83	74	-19.72	39.65	10.15	53.35	171	244	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**
5590.375	54.55	53.48	68.2	-13.65	31.74	6.49	37.16	228	316	Peak
5653.075	49.84	48.65	70.49	-20.65	31.85	6.62	37.28	228	316	Peak
5921.925	51.22	49.42	70.47	-19.25	32.29	7.01	37.5	228	316	Peak
5975.125	53.26	51.32	68.2	-14.94	32.37	7.08	37.51	228	316	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**
5592.275	56.37	55.3	68.2	-11.83	31.74	6.49	37.16	193	298	Peak
5653.55	51.21	50.02	70.84	-19.63	31.85	6.62	37.28	193	298	Peak
5915.275	51.98	50.21	75.37	-23.39	32.26	7.01	37.5	193	298	Peak
5974.175	54.64	52.7	68.2	-13.56	32.37	7.08	37.51	193	298	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**	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**
5148.8	53.91	53.71	74	-20.09	31.32	6.2	37.32	200	277	Peak
5150	42.52	42.32	54	-11.48	31.32	6.2	37.32	200	277	Average
5180	91.36	91.13			31.35	6.22	37.34	200	277	Average
5180	100.19	99.96			31.35	6.22	37.34	200	277	Peak
*10360	54.67	58.57	68.2	-13.53	39.19	9.05	52.14	117	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.85	40.26	40.06	54	-13.74	31.32	6.2	37.32	116	89	Average
5149.85	51.2	51	74	-22.8	31.32	6.2	37.32	116	89	Peak
5180	86.23	86			31.35	6.22	37.34	116	89	Average
5180	95.25	95.02			31.35	6.22	37.34	116	89	Peak
*10360	55.17	59.07	68.2	-13.03	39.19	9.05	52.14	100	95	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**	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**
5071.4	51.17	51.02	74	-22.83	31.25	6.17	37.27	196	274	Peak
5147.15	39.3	39.1	54	-14.7	31.32	6.2	37.32	196	274	Average
5220	91.13	90.88			31.37	6.24	37.36	196	274	Average
5220	100.85	100.6			31.37	6.24	37.36	196	274	Peak
5356.16	50.8	50.21	74	-23.2	31.48	6.29	37.18	196	274	Peak
5451.75	40.09	39.27	54	-13.91	31.56	6.34	37.08	196	274	Average
*10440	54.46	58.56	68.2	-13.74	39.29	9.09	52.48	118	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**
5082.65	50.57	50.4	74	-23.43	31.27	6.17	37.27	114	88	Peak
5140.55	38.47	38.25	54	-15.53	31.32	6.2	37.3	114	88	Average
5220	86.4	86.15			31.37	6.24	37.36	114	88	Average
5220	95.11	94.86			31.37	6.24	37.36	114	88	Peak
5424.03	51.42	50.75	74	-22.58	31.53	6.32	37.18	114	88	Peak
5449	38.8	38.03	54	-15.2	31.56	6.34	37.13	114	88	Average
*10440	55.2	59.3	68.2	-13	39.29	9.09	52.48	100	96	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**	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**
5044.85	51.91	51.77	74	-22.09	31.24	6.15	37.25	212	275	Peak
5082.35	38.91	38.74	54	-15.09	31.27	6.17	37.27	212	275	Average
5240	92.28	91.96			31.39	6.25	37.32	212	275	Average
5240	100.61	100.29			31.39	6.25	37.32	212	275	Peak
5390.81	39.78	39.14	54	-14.22	31.51	6.31	37.18	212	275	Average
5447.24	51.42	50.65	74	-22.58	31.56	6.34	37.13	212	275	Peak
*10480	54.29	58.54	68.2	-13.91	39.37	9.09	52.71	116	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5125.4	51.47	51.26	74	-22.53	31.31	6.2	37.3	114	89	Peak
5146.7	38.52	38.32	54	-15.48	31.32	6.2	37.32	114	89	Average
5240	86.5	86.18			31.39	6.25	37.32	114	89	Average
5240	95.67	95.35			31.39	6.25	37.32	114	89	Peak
5449.66	38.64	37.87	54	-15.36	31.56	6.34	37.13	114	89	Average
5455.27	51.27	50.45	74	-22.73	31.56	6.34	37.08	114	89	Peak
*10480	55.54	59.79	68.2	-12.66	39.37	9.09	52.71	100	94	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**
5108.9	38.86	38.66	54	-15.14	31.29	6.19	37.28	203	267	Average
5120.15	50.78	50.6	74	-23.22	31.29	6.19	37.3	203	267	Peak
5260	92.28	91.89			31.41	6.25	37.27	203	267	Average
5260	101.59	101.2			31.41	6.25	37.27	203	267	Peak
5408.19	52.04	51.38	74	-21.96	31.52	6.32	37.18	203	267	Peak
5416.77	39.44	38.77	54	-14.56	31.53	6.32	37.18	203	267	Average
*10520	55.01	59.29	68.2	-13.19	39.43	9.12	52.83	200	325	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5072.9	51.28	51.11	74	-22.72	31.27	6.17	37.27	199	88	Peak
5126.3	38.46	38.25	54	-15.54	31.31	6.2	37.3	199	88	Average
5260	85.75	85.36			31.41	6.25	37.27	199	88	Average
5260	95.12	94.73			31.41	6.25	37.27	199	88	Peak
5446.14	38.73	37.96	54	-15.27	31.56	6.34	37.13	199	88	Average
5450.65	50.41	49.59	74	-23.59	31.56	6.34	37.08	199	88	Peak
*10520	56.08	60.36	68.2	-12.12	39.43	9.12	52.83	110	94	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**
5083.55	51.08	50.91	74	-22.92	31.27	6.17	37.27	201	274	Peak
5142.65	39.26	39.04	54	-14.74	31.32	6.2	37.3	201	274	Average
5300	91.75	91.23			31.44	6.27	37.19	201	274	Average
5300	101.11	100.59			31.44	6.27	37.19	201	274	Peak
5438.99	51.8	51.04	74	-22.2	31.55	6.34	37.13	201	274	Peak
5452.85	39.69	38.87	54	-14.31	31.56	6.34	37.08	201	274	Average
10600	46.48	50.16	54	-7.52	39.57	9.16	52.41	200	322	Average
10600	54.8	58.48	74	-19.2	39.57	9.16	52.41	200	322	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5104.25	50.64	50.45	74	-23.36	31.28	6.19	37.28	198	86	Peak
5141.6	38.39	38.17	54	-15.61	31.32	6.2	37.3	198	86	Average
5300	86.42	85.9			31.44	6.27	37.19	198	86	Average
5300	95.12	94.6			31.44	6.27	37.19	198	86	Peak
5447.79	51	50.23	74	-23	31.56	6.34	37.13	198	86	Peak
5457.91	38.83	38.01	54	-15.17	31.56	6.34	37.08	198	86	Average
10600	48.2	51.88	54	-5.8	39.57	9.16	52.41	110	93	Average
10600	56.18	59.86	74	-17.82	39.57	9.16	52.41	110	93	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	91.63	91.08			31.45	6.29	37.19	203	266	Average
5320	100.26	99.71			31.45	6.29	37.19	203	266	Peak
5350	41.19	40.6	54	-12.81	31.48	6.29	37.18	203	266	Average
5353.63	54.59	54	74	-19.41	31.48	6.29	37.18	203	266	Peak
10640	46.72	50.17	54	-7.28	39.62	9.2	52.27	200	327	Average
10640	55	58.45	74	-19	39.62	9.2	52.27	200	327	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	84.55	84			31.45	6.29	37.19	199	86	Average
5320	93.82	93.27			31.45	6.29	37.19	199	86	Peak
5350	53.03	52.44	74	-20.97	31.48	6.29	37.18	199	86	Peak
5350.33	38.88	38.29	54	-15.12	31.48	6.29	37.18	199	86	Average
10640	48	51.45	54	-6	39.62	9.2	52.27	112	99	Average
10640	55.87	59.32	74	-18.13	39.62	9.2	52.27	112	99	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**
5440.08	51.73	50.97	74	-22.27	31.55	6.34	37.13	202	2	Peak
5459.92	39.31	38.49	54	-14.69	31.56	6.34	37.08	202	2	Average
*5470	59.2	58.37	68.2	-9	31.57	6.34	37.08	202	2	Peak
5500	89.56	88.63			31.6	6.36	37.03	202	2	Average
5500	99.53	98.6			31.6	6.36	37.03	202	2	Peak
*5725.96	52.76	51.48	68.2	-15.44	31.96	6.75	37.43	202	2	Peak
11000	49.82	53.72	54	-4.18	40.2	9.35	53.45	117	240	Average
11000	56.64	60.54	74	-17.36	40.2	9.35	53.45	117	240	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5350.64	42.09	41.5	54	-11.91	31.48	6.29	37.18	203	294	Average
5452.88	52.96	52.14	74	-21.04	31.56	6.34	37.08	203	294	Peak
*5469.04	61.4	60.57	68.2	-6.8	31.57	6.34	37.08	203	294	Peak
5500	92.49	91.56			31.6	6.36	37.03	203	294	Average
5500	102.8	101.87			31.6	6.36	37.03	203	294	Peak
*5725.72	51.87	50.59	68.2	-16.33	31.96	6.75	37.43	203	294	Peak
11000	45.5	49.4	54	-8.5	40.2	9.35	53.45	108	238	Average
11000	55.35	59.25	74	-18.65	40.2	9.35	53.45	108	238	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**
5351.28	39.98	39.39	54	-14.02	31.48	6.29	37.18	203	3	Average
5418.16	51.72	51.05	74	-22.28	31.53	6.32	37.18	203	3	Peak
*5469.52	49.52	48.69	68.2	-18.68	31.57	6.34	37.08	203	3	Peak
5580	91.45	90.41			31.71	6.49	37.16	203	3	Average
5580	100.76	99.72			31.71	6.49	37.16	203	3	Peak
*5724.92	51.91	50.69	68.2	-16.29	31.96	6.69	37.43	203	3	Peak
11160	48.99	52.71	54	-5.01	40.1	9.57	53.39	101	241	Average
11160	56.99	60.71	74	-17.01	40.1	9.57	53.39	101	241	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5350.8	42.7	42.11	54	-11.3	31.48	6.29	37.18	206	292	Average
5421.84	53.49	52.82	74	-20.51	31.53	6.32	37.18	206	292	Peak
*5470.48	49.73	48.9	68.2	-18.47	31.57	6.34	37.08	206	292	Peak
5580	93.44	92.4			31.71	6.49	37.16	206	292	Average
5580	102.96	101.92			31.71	6.49	37.16	206	292	Peak
*5725.08	51.66	50.38	68.2	-16.54	31.96	6.75	37.43	206	292	Peak
11160	45.83	49.55	54	-8.17	40.1	9.57	53.39	115	120	Average
11160	53.95	57.67	74	-20.05	40.1	9.57	53.39	115	120	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**
5388.72	39.36	38.72	54	-14.64	31.51	6.31	37.18	200	6	Average
5397.52	50.58	49.92	74	-23.42	31.52	6.32	37.18	200	6	Peak
*5470.64	50.46	49.63	68.2	-17.74	31.57	6.34	37.08	200	6	Peak
5700	91.19	90			31.9	6.69	37.4	200	6	Average
5700	100.6	99.41			31.9	6.69	37.4	200	6	Peak
*5724.36	62.78	61.56	68.2	-5.42	31.96	6.69	37.43	200	6	Peak
11400	50.11	52.37	54	-3.89	39.96	9.91	52.13	102	238	Average
11400	56.39	58.65	74	-17.61	39.96	9.91	52.13	102	238	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**
5390.16	41.43	40.79	54	-12.57	31.51	6.31	37.18	199	299	Average
5397.04	52.88	52.22	74	-21.12	31.52	6.32	37.18	199	299	Peak
*5468.56	52.02	51.19	68.2	-16.18	31.57	6.34	37.08	199	299	Peak
5700	92.94	91.75			31.9	6.69	37.4	199	299	Average
5700	102.64	101.45			31.9	6.69	37.4	199	299	Peak
*5725.96	56.58	55.3	68.2	-11.62	31.96	6.75	37.43	199	299	Peak
11400	47.8	50.06	54	-6.2	39.96	9.91	52.13	102	120	Average
11400	57.26	59.52	74	-16.74	39.96	9.91	52.13	102	120	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	93.61	92.34			31.99	6.75	37.47	178	334	Average
5745	102.98	101.71			31.99	6.75	37.47	178	334	Peak
11490	47.92	50.81	54	-6.08	39.91	10.03	52.83	149	143	Average
11490	56.37	59.26	74	-17.63	39.91	10.03	52.83	149	143	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	95.49	94.22			31.99	6.75	37.47	199	298	Average
5745	104.65	103.38			31.99	6.75	37.47	199	298	Peak
11490	46.82	49.71	54	-7.18	39.91	10.03	52.83	162	208	Average
11490	56.49	59.38	74	-17.51	39.91	10.03	52.83	162	208	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5589.9	52.59	51.52	68.2	-15.61	31.74	6.49	37.16	178	334	Peak
5657.825	52.01	50.88	74.01	-22	31.85	6.62	37.34	178	334	Peak
5920.975	50.53	48.76	71.17	-20.64	32.26	7.01	37.5	178	334	Peak
5977.975	53.81	51.87	68.2	-14.39	32.37	7.08	37.51	178	334	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**
5592.75	54.09	53.02	68.2	-14.11	31.74	6.49	37.16	199	298	Peak
5654.975	51.45	50.32	71.9	-20.45	31.85	6.62	37.34	199	298	Peak
5918.125	50.62	48.85	73.27	-22.65	32.26	7.01	37.5	199	298	Peak
5977.5	54.1	52.16	68.2	-14.1	32.37	7.08	37.51	199	298	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**
5782	102.41	101.09			32.04	6.82	37.54	179	336	Peak
5785	92.89	91.57			32.04	6.82	37.54	179	336	Average
11570	47.09	50.55	54	-6.91	39.78	10.09	53.33	146	133	Average
11570	54.89	58.35	74	-19.11	39.78	10.09	53.33	146	133	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	94.87	93.55			32.04	6.82	37.54	197	299	Average
5785	104.42	103.1			32.04	6.82	37.54	197	299	Peak
11570	45.92	49.38	54	-8.08	39.78	10.09	53.33	155	216	Average
11570	54.96	58.42	74	-19.04	39.78	10.09	53.33	155	216	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**
5626.95	54.75	53.62	68.2	-13.45	31.79	6.56	37.22	179	336	Peak
5656.875	50.99	49.86	73.31	-22.32	31.85	6.62	37.34	179	336	Peak
5919.075	51.35	49.58	72.57	-21.22	32.26	7.01	37.5	179	336	Peak
6017.4	52.98	50.89	68.2	-15.22	32.45	7.14	37.5	179	336	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**
5556.65	54.06	53.08	68.2	-14.14	31.68	6.42	37.12	197	299	Peak
5657.825	51.63	50.5	74.01	-22.38	31.85	6.62	37.34	197	299	Peak
5921.45	50.95	49.18	70.82	-19.87	32.26	7.01	37.5	197	299	Peak
6013.6	54.26	52.17	68.2	-13.94	32.45	7.14	37.5	197	299	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	92.99	91.52			32.12	6.88	37.53	181	332	Average
5825	102.43	100.96			32.12	6.88	37.53	181	332	Peak
11650	46.71	50.26	54	-7.29	39.65	10.15	53.35	137	132	Average
11650	54.41	57.96	74	-19.59	39.65	10.15	53.35	137	132	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	94.95	93.48			32.12	6.88	37.53	199	295	Average
5825	104.29	102.82			32.12	6.88	37.53	199	295	Peak
11650	45.94	49.49	54	-8.06	39.65	10.15	53.35	152	214	Average
11650	53.74	57.29	74	-20.26	39.65	10.15	53.35	152	214	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5597.025	54.54	53.47	68.2	-13.66	31.74	6.49	37.16	181	332	Peak
5653.55	50.01	48.82	70.84	-20.83	31.85	6.62	37.28	181	332	Peak
5923.35	50.8	49	69.42	-18.62	32.29	7.01	37.5	181	332	Peak
5983.2	54.19	52.25	68.2	-14.01	32.37	7.08	37.51	181	332	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5598.925	55.82	54.72	68.2	-12.38	31.77	6.49	37.16	199	295	Peak
5654.975	51.37	50.24	71.9	-20.53	31.85	6.62	37.34	199	295	Peak
5923.825	51.71	49.91	69.07	-17.36	32.29	7.01	37.5	199	295	Peak
5981.3	54.09	52.15	68.2	-14.11	32.37	7.08	37.51	199	295	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**	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**
5018.45	60.61	60.49	74	-13.39	31.21	6.15	37.24	214	271	Peak
5150	47.27	47.07	54	-6.73	31.32	6.2	37.32	214	271	Average
5190	85.84	85.61			31.35	6.22	37.34	214	271	Average
5190	95.07	94.84			31.35	6.22	37.34	214	271	Peak
5414.24	51.44	50.77	74	-22.56	31.53	6.32	37.18	214	271	Peak
5431.84	39.73	38.99	54	-14.27	31.55	6.32	37.13	214	271	Average
*10380	55.04	59.03	68.2	-13.16	39.21	9.05	52.25	118	279	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**
5145.5	54.31	54.11	74	-19.69	31.32	6.2	37.32	115	89	Peak
5150	44.35	44.15	54	-9.65	31.32	6.2	37.32	115	89	Average
5190	81.06	80.83			31.35	6.22	37.34	115	89	Average
5190	90.4	90.17			31.35	6.22	37.34	115	89	Peak
5428.76	39.06	38.32	54	-14.94	31.55	6.32	37.13	115	89	Average
5448.45	51.22	50.45	74	-22.78	31.56	6.34	37.13	115	89	Peak
*10380	55.54	59.53	68.2	-12.66	39.21	9.05	52.25	100	94	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**	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**
5000.3	57.54	57.44	74	-16.46	31.2	6.13	37.23	208	276	Peak
5125.55	39.53	39.32	54	-14.47	31.31	6.2	37.3	208	276	Average
5230	86.33	86.02			31.39	6.24	37.32	208	276	Average
5230	95.69	95.38			31.39	6.24	37.32	208	276	Peak
5448.01	39.57	38.8	54	-14.43	31.56	6.34	37.13	208	276	Average
5448.56	51.76	50.99	74	-22.24	31.56	6.34	37.13	208	276	Peak
*10460	54.9	59.09	68.2	-13.3	39.32	9.09	52.6	117	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5113.85	50.52	50.32	74	-23.48	31.29	6.19	37.28	115	87	Peak
5134.55	39.41	39.2	54	-14.59	31.31	6.2	37.3	115	87	Average
5230	80.31	80			31.39	6.24	37.32	115	87	Average
5230	90.07	89.76			31.39	6.24	37.32	115	87	Peak
5433.6	51.39	50.65	74	-22.61	31.55	6.32	37.13	115	87	Peak
5446.8	39.66	38.89	54	-14.34	31.56	6.34	37.13	115	87	Average
*10460	55.43	59.62	68.2	-12.77	39.32	9.09	52.6	100	95	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**
5124.95	39.51	39.31	54	-14.49	31.31	6.19	37.3	203	266	Average
5127.05	51.17	50.96	74	-22.83	31.31	6.2	37.3	203	266	Peak
5270	95.48	95.09			31.41	6.25	37.27	203	266	Average
5270	98.45	98.06			31.41	6.25	37.27	203	266	Peak
5364.52	39.82	39.2	54	-14.18	31.49	6.31	37.18	203	266	Average
5421.72	51.03	50.36	74	-22.97	31.53	6.32	37.18	203	266	Peak
*10540	54.45	58.56	68.2	-13.75	39.46	9.12	52.69	200	322	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5114.9	51.1	50.9	74	-22.9	31.29	6.19	37.28	200	88	Peak
5136.05	38.67	38.46	54	-15.33	31.31	6.2	37.3	200	88	Average
5270	82.61	82.22			31.41	6.25	37.27	200	88	Average
5270	92.45	92.06			31.41	6.25	37.27	200	88	Peak
5380.36	51.32	50.68	74	-22.68	31.51	6.31	37.18	200	88	Peak
5427.33	39.01	38.29	54	-14.99	31.53	6.32	37.13	200	88	Average
*10540	55.4	59.51	68.2	-12.8	39.46	9.12	52.69	113	92	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**
5009.75	51.1	50.99	74	-22.9	31.21	6.13	37.23	199	265	Peak
5145.2	39.57	39.37	54	-14.43	31.32	6.2	37.32	199	265	Average
5310	88.8	88.27			31.45	6.27	37.19	199	265	Average
5310	97.91	97.38			31.45	6.27	37.19	199	265	Peak
5350.11	48.79	48.2	54	-5.21	31.48	6.29	37.18	199	265	Average
5350.55	61	60.41	74	-13	31.48	6.29	37.18	199	265	Peak
10620	46.62	50.21	54	-7.38	39.59	9.16	52.34	201	328	Average
10620	54.8	58.39	74	-19.2	39.59	9.16	52.34	201	328	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5004.05	38.85	38.74	54	-15.15	31.21	6.13	37.23	198	86	Average
5056.85	50.34	50.17	74	-23.66	31.25	6.17	37.25	198	86	Peak
5310	82.44	81.91			31.45	6.27	37.19	198	86	Average
5310	91.89	91.36			31.45	6.27	37.19	198	86	Peak
5350.99	43.29	42.7	54	-10.71	31.48	6.29	37.18	198	86	Average
5352.97	54.68	54.09	74	-19.32	31.48	6.29	37.18	198	86	Peak
10620	47.86	51.45	54	-6.14	39.59	9.16	52.34	115	89	Average
10620	55.85	59.44	74	-18.15	39.59	9.16	52.34	115	89	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**	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**
5457.52	58.28	57.46	74	-15.72	31.56	6.34	37.08	197	3	Peak
5460.08	44.37	43.55	54	-9.63	31.56	6.34	37.08	197	3	Average
*5470.48	63.97	63.14	68.2	-4.23	31.57	6.34	37.08	197	3	Peak
5510	88.54	87.64			31.6	6.36	37.06	197	3	Average
5510	98.22	97.32			31.6	6.36	37.06	197	3	Peak
*5725.8	52.09	50.81	68.2	-16.11	31.96	6.75	37.43	197	3	Peak
11020	49.27	53.22	54	-4.73	40.19	9.35	53.49	112	241	Average
11020	57.08	61.03	74	-16.92	40.19	9.35	53.49	112	241	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458.96	61.74	60.92	74	-12.26	31.56	6.34	37.08	206	294	Peak
5459.92	46.93	46.11	54	-7.07	31.56	6.34	37.08	206	294	Average
*5470	66.92	66.09	68.2	-1.28	31.57	6.34	37.08	206	294	Peak
5510	90.36	89.46			31.6	6.36	37.06	206	294	Average
5510	100.88	99.98			31.6	6.36	37.06	206	294	Peak
*5723.96	52.19	50.97	68.2	-16.01	31.96	6.69	37.43	206	294	Peak
11020	45.87	49.82	54	-8.13	40.19	9.35	53.49	100	118	Average
11020	53.31	57.26	74	-20.69	40.19	9.35	53.49	100	118	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**	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**
5458.8	40.22	39.4	54	-13.78	31.56	6.34	37.08	197	2	Average
5459.6	52.05	51.23	74	-21.95	31.56	6.34	37.08	197	2	Peak
*5468.4	51.39	50.56	68.2	-16.81	31.57	6.34	37.08	197	2	Peak
5550	89.08	88.07			31.68	6.42	37.09	197	2	Average
5550	98.23	97.22			31.68	6.42	37.09	197	2	Peak
*5724.92	51.07	49.85	68.2	-17.13	31.96	6.69	37.43	197	2	Peak
11100	48.98	52.99	54	-5.02	40.14	9.46	53.61	108	174	Average
11100	54.16	58.17	74	-19.84	40.14	9.46	53.61	108	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**
5458.64	52.57	51.75	74	-21.43	31.56	6.34	37.08	207	277	Peak
5460.08	40.98	40.16	54	-13.02	31.56	6.34	37.08	207	277	Average
*5470	52.54	51.71	68.2	-15.66	31.57	6.34	37.08	207	277	Peak
5550	90.88	89.87			31.68	6.42	37.09	207	277	Average
5550	100.64	99.63			31.68	6.42	37.09	207	277	Peak
*5723.96	52.34	51.12	68.2	-15.86	31.96	6.69	37.43	207	277	Peak
11100	46.34	50.35	54	-7.66	40.14	9.46	53.61	102	118	Average
11100	53.55	57.56	74	-20.45	40.14	9.46	53.61	102	118	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**	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**
5451.28	51.38	50.56	74	-22.62	31.56	6.34	37.08	193	5	Peak
5451.92	39.17	38.35	54	-14.83	31.56	6.34	37.08	193	5	Average
*5469.52	49.62	48.79	68.2	-18.58	31.57	6.34	37.08	193	5	Peak
5670	89.13	87.97			31.88	6.62	37.34	193	5	Average
5670	99.04	97.88			31.88	6.62	37.34	193	5	Peak
*5724.04	52.13	50.91	68.2	-16.07	31.96	6.69	37.43	193	5	Peak
11340	50.53	53.24	54	-3.47	40	9.8	52.51	102	240	Average
11340	57.26	59.97	74	-16.74	40	9.8	52.51	102	240	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5430.96	40.01	39.27	54	-13.99	31.55	6.32	37.13	208	275	Average
5451.76	51.43	50.61	74	-22.57	31.56	6.34	37.08	208	275	Peak
*5468.08	49.44	48.61	68.2	-18.76	31.57	6.34	37.08	208	275	Peak
5670	90.51	89.35			31.88	6.62	37.34	208	275	Average
5670	101.02	99.86			31.88	6.62	37.34	208	275	Peak
*5725.16	54.3	53.02	68.2	-13.9	31.96	6.75	37.43	208	275	Peak
11340	47.45	50.16	54	-6.55	40	9.8	52.51	100	117	Average
11340	56.67	59.38	74	-17.33	40	9.8	52.51	100	117	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	90.88	89.59			32.01	6.75	37.47	179	334	Average
5755	100.41	99.12			32.01	6.75	37.47	179	334	Peak
11510	46.97	50.11	54	-7.03	39.9	10.03	53.07	142	129	Average
11510	53.91	57.05	74	-20.09	39.9	10.03	53.07	142	129	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	92.78	91.49			32.01	6.75	37.47	196	294	Average
5755	102.32	101.03			32.01	6.75	37.47	196	294	Peak
11510	45.92	49.06	54	-8.08	39.9	10.03	53.07	167	219	Average
11510	54.97	58.11	74	-19.03	39.9	10.03	53.07	167	219	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5594.65	51.83	50.76	68.2	-16.37	31.74	6.49	37.16	179	334	Peak
5655.925	52.4	51.27	72.6	-20.2	31.85	6.62	37.34	179	334	Peak
5913.85	52.03	50.26	76.42	-24.39	32.26	7.01	37.5	179	334	Peak
5984.625	52.74	50.74	68.2	-15.46	32.37	7.14	37.51	179	334	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**
5611.75	52.66	51.55	68.2	-15.54	31.77	6.56	37.22	196	294	Peak
5654.025	52.8	51.67	71.19	-18.39	31.85	6.62	37.34	196	294	Peak
5920.5	51.61	49.84	71.52	-19.91	32.26	7.01	37.5	196	294	Peak
5977.975	53.43	51.49	68.2	-14.77	32.37	7.08	37.51	196	294	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	91.2	89.85			32.07	6.82	37.54	181	337	Average
5795	100.58	99.23			32.07	6.82	37.54	181	337	Peak
11590	46.5	50	54	-7.5	39.74	10.09	53.33	135	127	Average
11590	53.12	56.62	74	-20.88	39.74	10.09	53.33	135	127	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	92.87	91.52			32.07	6.82	37.54	197	296	Average
5795	102.19	100.84			32.07	6.82	37.54	197	296	Peak
11590	45.49	48.99	54	-8.51	39.74	10.09	53.33	148	205	Average
11590	54.19	57.69	74	-19.81	39.74	10.09	53.33	148	205	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**
5557.125	53.08	52.1	68.2	-15.12	31.68	6.42	37.12	181	337	Peak
5653.075	53.04	51.85	70.49	-17.45	31.85	6.62	37.28	181	337	Peak
5920.975	50.84	49.07	71.17	-20.33	32.26	7.01	37.5	181	337	Peak
5995.55	52.39	50.36	68.2	-15.81	32.4	7.14	37.51	181	337	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**
5569.475	52.61	51.53	68.2	-15.59	31.71	6.49	37.12	197	296	Peak
5654.975	54.14	53.01	71.9	-17.76	31.85	6.62	37.34	197	296	Peak
5919.55	52.32	50.55	72.22	-19.9	32.26	7.01	37.5	197	296	Peak
6019.775	53.38	51.29	68.2	-14.82	32.45	7.14	37.5	197	296	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**	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**
5147	61.99	61.79	74	-12.01	31.32	6.2	37.32	205	278	Peak
5148.95	50.91	50.71	54	-3.09	31.32	6.2	37.32	205	278	Average
5210	85.4	85.15			31.37	6.24	37.36	205	278	Average
5210	94.56	94.31			31.37	6.24	37.36	205	278	Peak
5353.19	40.16	39.57	54	-13.84	31.48	6.29	37.18	205	278	Average
5448.01	51.86	51.09	74	-22.14	31.56	6.34	37.13	205	278	Peak
*10420	54.23	58.23	68.2	-13.97	39.27	9.09	52.36	117	281	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.95	56.8	56.6	74	-17.2	31.32	6.2	37.32	115	88	Peak
5149.1	46.4	46.2	54	-7.6	31.32	6.2	37.32	115	88	Average
5210	80.44	80.19			31.37	6.24	37.36	115	88	Average
5210	89.81	89.56			31.37	6.24	37.36	115	88	Peak
5409.18	51.6	50.94	74	-22.4	31.52	6.32	37.18	115	88	Peak
5453.18	39.64	38.82	54	-14.36	31.56	6.34	37.08	115	88	Average
*10420	54.25	58.25	68.2	-13.95	39.27	9.09	52.36	100	96	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**
5136.35	51.68	51.47	74	-22.32	31.31	6.2	37.3	200	263	Peak
5148.05	40.53	40.33	54	-13.47	31.32	6.2	37.32	200	263	Average
5290	83.64	83.17			31.43	6.27	37.23	200	263	Average
5290	97.87	97.4			31.43	6.27	37.23	200	263	Peak
5350.33	64.25	63.66	74	-9.75	31.48	6.29	37.18	200	263	Peak
5354.95	48.68	48.09	54	-5.32	31.48	6.29	37.18	200	263	Average
*10580	54.98	58.69	68.2	-13.22	39.54	9.16	52.41	201	326	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5117.9	39.3	39.1	54	-14.7	31.29	6.19	37.28	200	87	Average
5135.15	50.56	50.35	74	-23.44	31.31	6.2	37.3	200	87	Peak
5290	78.15	77.68			31.43	6.27	37.23	200	87	Average
5290	91.62	91.15			31.43	6.27	37.23	200	87	Peak
5350.44	42.44	41.85	54	-11.56	31.48	6.29	37.18	200	87	Average
5350.55	54.45	53.86	74	-19.55	31.48	6.29	37.18	200	87	Peak
*10580	55.44	59.15	68.2	-12.76	39.54	9.16	52.41	109	89	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**	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**
5453.68	60.84	60.02	74	-13.16	31.56	6.34	37.08	186	4	Peak
5456.72	49.45	48.63	54	-4.55	31.56	6.34	37.08	186	4	Average
*5469.36	61.03	60.2	68.2	-7.17	31.57	6.34	37.08	186	4	Peak
5530	82.48	81.52			31.63	6.42	37.09	186	4	Average
5530	92.26	91.3			31.63	6.42	37.09	186	4	Peak
*5725.8	50.72	49.44	68.2	-17.48	31.96	6.75	37.43	186	4	Peak
11060	48.07	52.02	54	-5.93	40.16	9.46	53.57	102	177	Average
11060	55.11	59.06	74	-18.89	40.16	9.46	53.57	102	177	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458.8	**52.92**	**52.1**	**54**	**-1.08**	**31.56**	**6.34**	**37.08**	**208**	**274**	**Average**
5459.76	65.41	64.59	74	-8.59	31.56	6.34	37.08	208	274	Peak
*5469.36	66.46	65.63	68.2	-1.74	31.57	6.34	37.08	208	274	Peak
5530	86.79	85.83			31.63	6.42	37.09	208	274	Average
5530	95.78	94.82			31.63	6.42	37.09	208	274	Peak
*5725.08	50.63	49.35	68.2	-17.57	31.96	6.75	37.43	208	274	Peak
11060	47.48	51.43	54	-6.52	40.16	9.46	53.57	177	229	Average
11060	54.76	58.71	74	-19.24	40.16	9.46	53.57	177	229	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**	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**
5424.4	51.79	51.07	74	-22.21	31.53	6.32	37.13	185	3	Peak
5447.12	39.99	39.22	54	-14.01	31.56	6.34	37.13	185	3	Average
*5469.68	50.54	49.71	68.2	-17.66	31.57	6.34	37.08	185	3	Peak
5610	87.1	85.99			31.77	6.56	37.22	185	3	Average
5610	95.66	94.55			31.77	6.56	37.22	185	3	Peak
*5725.56	52.72	51.44	68.2	-15.48	31.96	6.75	37.43	185	3	Peak
11220	49.76	53.03	54	-4.24	40.07	9.69	53.03	101	244	Average
11220	57.95	61.22	74	-16.05	40.07	9.69	53.03	101	244	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**
5400.56	40.84	40.18	54	-13.16	31.52	6.32	37.18	211	273	Average
5456.72	52.36	51.54	74	-21.64	31.56	6.34	37.08	211	273	Peak
*5470	51.61	50.78	68.2	-16.59	31.57	6.34	37.08	211	273	Peak
5610	87.97	86.86			31.77	6.56	37.22	211	273	Average
5610	97.29	96.18			31.77	6.56	37.22	211	273	Peak
*5725.8	53.29	52.01	68.2	-14.91	31.96	6.75	37.43	211	273	Peak
11220	47.92	51.19	54	-6.08	40.07	9.69	53.03	100	121	Average
11220	56.86	60.13	74	-17.14	40.07	9.69	53.03	100	121	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	87.85	86.49			32.04	6.82	37.5	183	336	Average
5775	97.24	95.88			32.04	6.82	37.5	183	336	Peak
11550	46.61	49.95	54	-7.39	39.81	10.09	53.24	141	139	Average
11550	53.57	56.91	74	-20.43	39.81	10.09	53.24	141	139	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	89.69	88.33			32.04	6.82	37.5	197	293	Average
5775	99.03	97.67			32.04	6.82	37.5	197	293	Peak
11550	45.86	49.2	54	-8.14	39.81	10.09	53.24	158	211	Average
11550	54.77	58.11	74	-19.23	39.81	10.09	53.24	158	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**
5612.225	51.51	50.4	68.2	-16.69	31.77	6.56	37.22	183	336	Peak
5652.125	51.46	50.27	69.78	-18.32	31.85	6.62	37.28	183	336	Peak
5920.975	51.24	49.47	71.17	-19.93	32.26	7.01	37.5	183	336	Peak
6014.55	51.82	49.73	68.2	-16.38	32.45	7.14	37.5	183	336	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**
5607.475	51.15	50.04	68.2	-17.05	31.77	6.56	37.22	197	293	Peak
5657.35	53.33	52.2	73.66	-20.33	31.85	6.62	37.34	197	293	Peak
5918.6	51.52	49.75	72.92	-21.4	32.26	7.01	37.5	197	293	Peak
5981.3	52.52	50.58	68.2	-15.68	32.37	7.08	37.51	197	293	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

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 46	**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**
176.47	32.94	52.47	43.5	-10.56	11.1	1.17	31.8	131	113	Peak
299.66	33.5	50.77	46	-12.5	12.94	1.63	31.84	124	93	Peak
359.8	28.44	44.24	46	-17.56	14.38	1.79	31.97	122	49	Peak
483.96	31.13	43.89	46	-14.87	17	2.06	31.82	136	80	Peak
515.97	35.94	47.72	46	-10.06	17.68	2.12	31.58	140	156	Peak
580.96	30.42	41.15	46	-15.58	19.17	2.22	32.12	125	325	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
175.5	32.43	51.87	43.5	-11.07	11.19	1.16	31.79	118	132	Peak
238.55	23.88	43.23	46	-22.12	10.99	1.45	31.79	101	199	Peak
361.74	21.96	37.69	46	-24.04	14.43	1.8	31.96	134	289	Peak
483.96	30.56	43.32	46	-15.44	17	2.06	31.82	115	17	Peak
515.97	34.92	46.7	46	-11.08	17.68	2.12	31.58	122	63	Peak
612.97	31.4	41.46	46	-14.6	19.76	2.29	32.11	106	93	Peak

Remarks:

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

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 62	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	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**
176.47	32.6	52.13	43.5	-10.9	11.1	1.17	31.8	140	42	Peak
297.72	33.46	50.76	46	-12.54	12.88	1.63	31.81	108	217	Peak
359.8	28.64	44.44	46	-17.36	14.38	1.79	31.97	121	15	Peak
483.96	30.34	43.1	46	-15.66	17	2.06	31.82	134	34	Peak
515.97	35.79	47.57	46	-10.21	17.68	2.12	31.58	107	39	Peak
580.96	30.74	41.47	46	-15.26	19.17	2.22	32.12	116	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
168.71	32.69	51.41	43.5	-10.81	11.86	1.16	31.74	119	179	Peak
235.64	24.49	43.99	46	-21.51	10.87	1.44	31.81	137	286	Peak
295.78	22.21	39.53	46	-23.79	12.83	1.62	31.77	140	223	Peak
451.95	27.81	41.43	46	-18.19	16.37	1.99	31.98	110	194	Peak
515.97	34.9	46.68	46	-11.1	17.68	2.12	31.58	135	303	Peak
612.97	30.66	40.72	46	-15.34	19.76	2.29	32.11	131	147	Peak

Remarks:

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

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 106	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	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**
176.47	32.73	52.26	43.5	-10.77	11.1	1.17	31.8	110	336	Peak
298.69	33.3	50.58	46	-12.7	12.91	1.63	31.82	122	50	Peak
359.8	28.02	43.82	46	-17.98	14.38	1.79	31.97	117	210	Peak
451.95	27.88	41.5	46	-18.12	16.37	1.99	31.98	114	319	Peak
515.97	37.13	48.91	46	-8.87	17.68	2.12	31.58	134	260	Peak
580.96	30.57	41.3	46	-15.43	19.17	2.22	32.12	105	205	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
175.5	32.49	51.93	43.5	-11.01	11.19	1.16	31.79	118	320	Peak
235.64	23.77	43.27	46	-22.23	10.87	1.44	31.81	109	133	Peak
359.8	23.63	39.43	46	-22.37	14.38	1.79	31.97	134	288	Peak
483.96	29.85	42.61	46	-16.15	17	2.06	31.82	128	1	Peak
515.97	34.27	46.05	46	-11.73	17.68	2.12	31.58	108	115	Peak
580.96	30.01	40.74	46	-15.99	19.17	2.22	32.12	118	2	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**	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**
175.5	32.15	51.59	43.5	-11.35	11.19	1.16	31.79	113	309	Peak
296.75	32.93	50.25	46	-13.07	12.85	1.62	31.79	119	276	Peak
359.8	28.88	44.68	46	-17.12	14.38	1.79	31.97	121	34	Peak
451.95	28.18	41.8	46	-17.82	16.37	1.99	31.98	106	75	Peak
515.97	35.99	47.77	46	-10.01	17.68	2.12	31.58	128	216	Peak
580.96	30.86	41.59	46	-15.14	19.17	2.22	32.12	100	301	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**
175.5	32.3	51.74	43.5	-11.2	11.19	1.16	31.79	129	200	Peak
243.4	22.77	41.96	46	-23.23	11.19	1.46	31.84	106	197	Peak
359.8	22.52	38.32	46	-23.48	14.38	1.79	31.97	108	21	Peak
451.95	28.31	41.93	46	-17.69	16.37	1.99	31.98	121	173	Peak
515.97	34.24	46.02	46	-11.76	17.68	2.12	31.58	100	304	Peak
580.96	29.89	40.62	46	-16.11	19.17	2.22	32.12	107	335	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 & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Aug. 18, 2016	Aug. 17, 2017
RF signal cable Woken	5D-FB	Cable-cond2-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 17, 2017	Jan. 16, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 26, 2016	Jul. 25, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

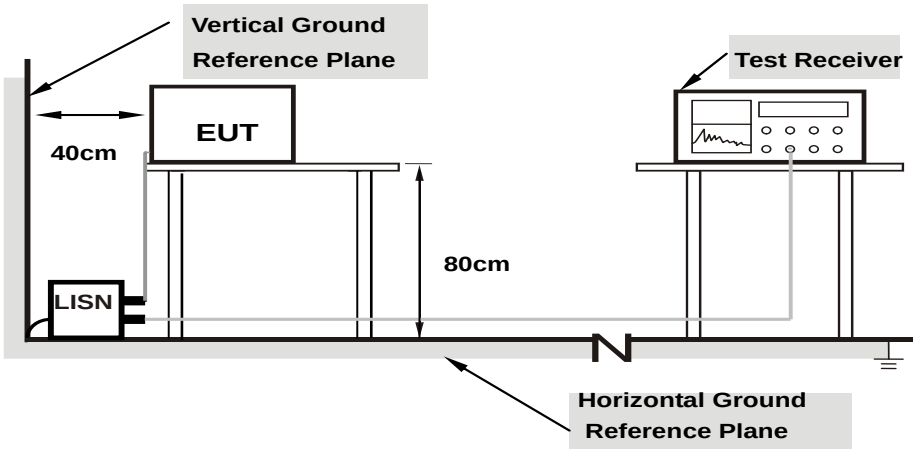
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

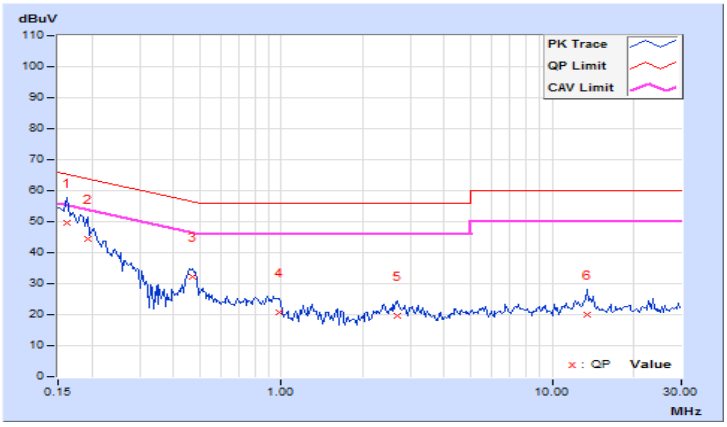
4.2.7 Test Results

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16172**	**10.02**	**39.53**	**23.13**	**49.55**	**33.15**	**65.38**	**55.38**	**-15.83**	**-22.23**
2	0.19297	9.94	34.42	17.32	44.36	27.26	63.91	53.91	-19.55	-26.65
3	0.47031	9.92	22.35	15.57	32.27	25.49	56.51	46.51	-24.24	-21.02
4	0.97813	10.01	10.58	4.06	20.59	14.07	56.00	46.00	-35.41	-31.93
5	2.66797	9.98	9.49	4.55	19.47	14.53	56.00	46.00	-36.53	-31.47
6	13.40625	10.17	9.88	2.69	20.05	12.86	60.00	50.00	-39.95	-37.14

Remarks:

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

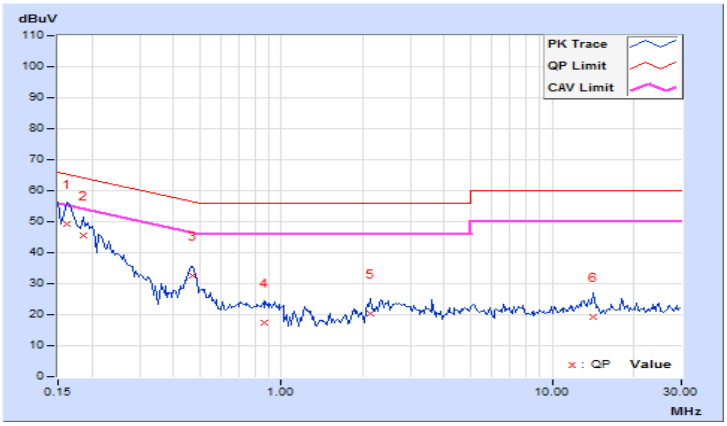


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/19

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	9.86	39.38	23.54	49.24	33.40	65.38	55.38	-16.14	-21.98
2	0.18516	9.82	35.85	19.29	45.67	29.11	64.25	54.25	-18.58	-25.14
3	0.47031	9.95	22.74	16.00	32.69	25.95	56.51	46.51	-23.82	-20.56
4	0.86094	9.93	7.61	1.01	17.54	10.94	56.00	46.00	-38.46	-35.06
5	2.12500	9.99	10.27	3.83	20.26	13.82	56.00	46.00	-35.74	-32.18
6	14.16016	10.25	8.98	-0.83	19.23	9.42	60.00	50.00	-40.77	-40.58

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 $N_{ANT} \leq 4$;

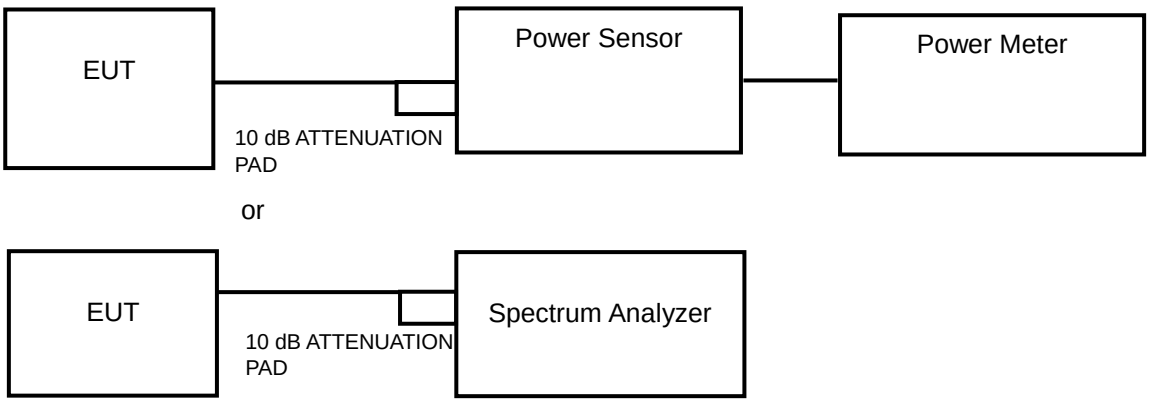
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

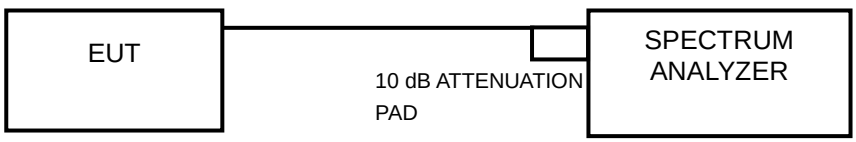
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

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	54.075	17.33	24	Pass
44	5220	52.36	17.19	24	Pass
48	5240	51.88	17.15	24	Pass
52	5260	83.753	19.23	24	Pass
60	5300	80.724	19.07	24	Pass
64	5320	85.901	19.34	24	Pass
100	5500	29.174	14.65	24	Pass
116	5580	29.648	14.72	24	Pass
140	5700	30.061	14.78	24	Pass
149	5745	77.804	18.91	30	Pass
157	5785	80.538	19.06	30	Pass
165	5825	82.794	19.18	30	Pass

Note:

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

1. 11 dBm + 10log (27.45) = 25.38 dBm > 24 dBm.
2. 11 dBm + 10log (26.36) = 25.2 dBm > 24 dBm.
3. 11 dBm + 10log (25.60) = 25.08 dBm > 24 dBm.
4. 11 dBm + 10log (24.47) = 24.88 dBm > 24 dBm.
5. 11 dBm + 10log (24.50) = 24.89 dBm > 24 dBm.
6. 11 dBm + 10log (23.13) = 24.64 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	16.99	9.07	58.075	17.64	24	Pass
44	5220	16.97	8.83	57.412	17.59	24	Pass
48	5240	17.08	8.52	58.162	17.65	24	Pass
52	5260	18.73	10.00	84.645	19.28	24	Pass
60	5300	18.62	9.01	80.74	19.07	24	Pass
64	5320	18.94	8.82	85.964	19.34	24	Pass
100	5500	15.67	6.44	41.304	16.16	24	Pass
116	5580	15.53	7.27	41.06	16.13	24	Pass
140	5700	15.41	7.02	39.789	16.00	24	Pass
149	5745	19.05	9.06	88.407	19.46	30	Pass
157	5785	18.87	8.15	83.621	19.22	30	Pass
165	5825	19.07	7.39	86.207	19.36	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (27.61) = 25.41 dBm > 24 dBm.
2. 11 dBm + 10log (26.04) = 25.16 dBm > 24 dBm.
3. 11 dBm + 10log (25.37) = 25.04 dBm > 24 dBm.
4. 11 dBm + 10log (23.59) = 24.73 dBm > 24 dBm.
5. 11 dBm + 10log (24.03) = 24.81 dBm > 24 dBm.
6. 11 dBm + 10log (23.50) = 24.71 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (24.26) = 24.85 dBm > 24 dBm.
2. 11 dBm + 10log (23.61) = 24.73 dBm > 24 dBm.
3. 11 dBm + 10log (24.16) = 24.83 dBm > 24 dBm.
4. 11 dBm + 10log (23.72) = 24.75 dBm > 24 dBm.
5. 11 dBm + 10log (23.94) = 24.79 dBm > 24 dBm.
6. 11 dBm + 10log (24.06) = 24.81 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.75	6.86	34.707	15.40	24	Pass
46	5230	14.92	5.51	34.602	15.39	24	Pass
54	5270	18.68	9.62	82.952	19.19	24	Pass
62	5310	18.81	9.01	83.995	19.24	24	Pass
102	5510	15.43	6.21	39.092	15.92	24	Pass
110	5550	15.24	7.10	38.549	15.86	24	Pass
134	5670	15.44	7.28	40.341	16.06	24	Pass
151	5755	18.96	9.00	86.648	19.38	30	Pass
159	5795	18.77	7.89	81.488	19.11	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (48.48) = 27.86 dBm > 24 dBm.
2. 11 dBm + 10log (47.17) = 27.74 dBm > 24 dBm.
3. 11 dBm + 10log (45.29) = 27.56 dBm > 24 dBm.
4. 11 dBm + 10log (44.81) = 27.51 dBm > 24 dBm.
5. 11 dBm + 10log (44.52) = 27.49 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (45.19) = 27.55 dBm > 24 dBm.
2. 11 dBm + 10log (45.15) = 27.55 dBm > 24 dBm.
3. 11 dBm + 10log (45.15) = 27.55 dBm > 24 dBm.
4. 11 dBm + 10log (44.93) = 27.53 dBm > 24 dBm.
5. 11 dBm + 10log (45.37) = 27.57 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.66	6.69	33.909	15.30	24	Pass
58	5290	18.72	9.52	83.427	19.21	24	Pass
106	5530	15.63	6.87	41.423	16.17	24	Pass
122	5610	15.67	7.37	42.356	16.27	24	Pass
155	5775	16.01	6.00	43.883	16.42	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (90.43) = 30.56 dBm > 24 dBm.
2. 11 dBm + 10log (84.56) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (84.97) = 30.29 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (83.62) = 30.22 dBm > 24 dBm.
2. 11 dBm + 10log (85.43) = 30.32 dBm > 24 dBm.
3. 11 dBm + 10log (85.39) = 30.31 dBm > 24 dBm.

26 dB Bandwidth:

Mode A

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	27.38
44	5220	26.34
48	5240	27.32
52	5260	27.45
60	5300	26.36
64	5320	25.60
100	5500	24.47
116	5580	24.50
140	5700	23.13

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	27.41	24.07
44	5220	27.15	24.63
48	5240	25.96	23.50
52	5260	27.61	24.26
60	5300	26.04	23.61
64	5320	25.37	24.16
100	5500	23.59	23.72
116	5580	24.03	23.94
140	5700	23.50	24.06

802.11n (HT40)

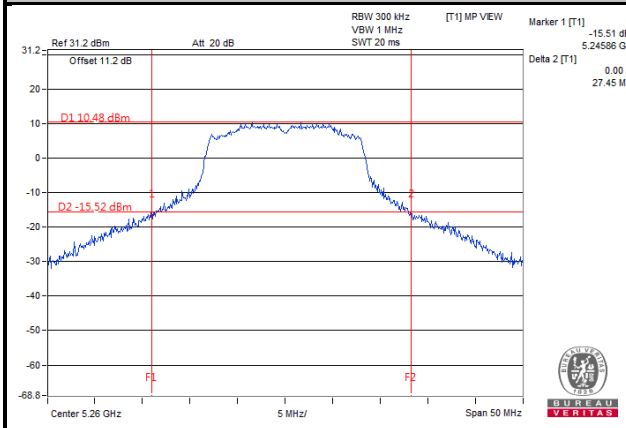
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	48.60	44.80
46	5230	48.36	44.56
54	5270	48.48	45.19
62	5310	47.17	45.15
102	5510	45.29	45.15
110	5550	44.81	44.93
134	5670	44.52	45.37

802.11ac (VHT80)

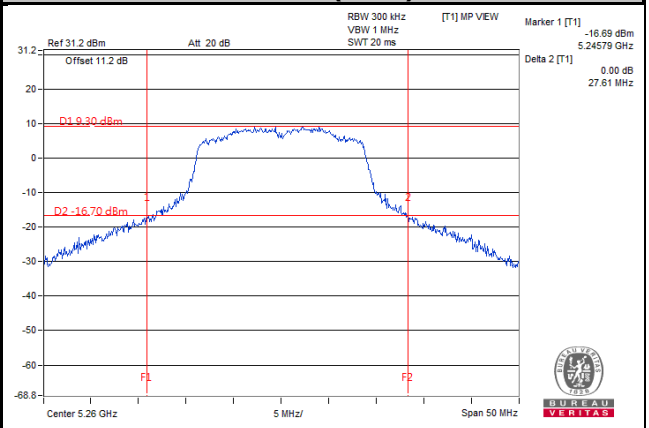
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	91.10	85.27
58	5290	90.43	83.62
106	5530	84.56	85.43
122	5610	84.97	85.39

Spectrum Plot of Worst Value

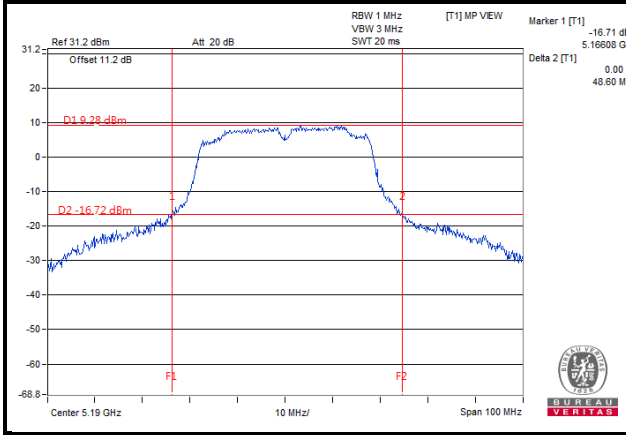
802.11a



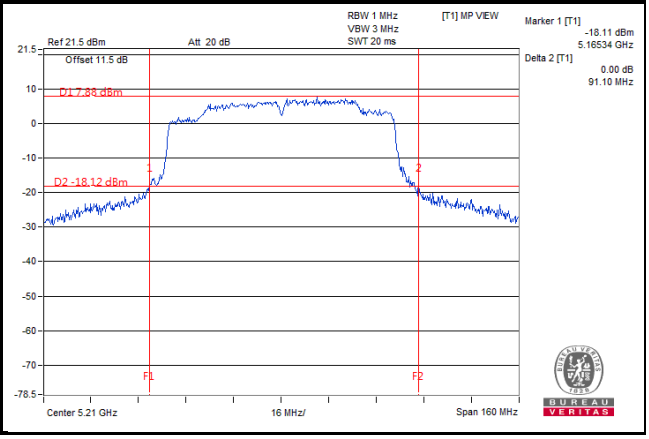
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

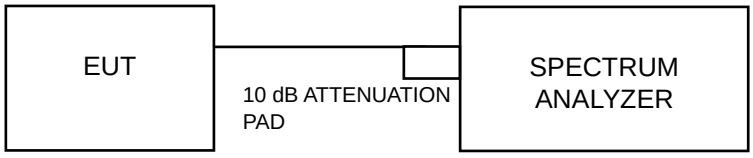


4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 Test Procedures

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

Using method SA-2

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

※For U-NII-3 band:

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

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

4.4.7 Test Results

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

Mode A

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	3.46	0.25	3.71	11	Pass
44	5220	4.27	0.25	4.52	11	Pass
48	5240	4.52	0.25	4.77	11	Pass
52	5260	6.71	0.25	6.96	11	Pass
60	5300	6.70	0.25	6.95	11	Pass
64	5320	6.99	0.25	7.24	11	Pass
100	5500	7.72	0.25	7.97	11	Pass
116	5580	7.55	0.25	7.80	11	Pass
140	5700	6.71	0.25	6.96	11	Pass

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

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	3.23	-3.66	0.77	4.81	10.94	Pass
44	5220	3.07	-4.09	0.77	4.60	10.94	Pass
48	5240	3.50	-3.94	0.77	4.99	10.94	Pass
52	5260	5.08	-2.45	0.77	6.55	9.96	Pass
60	5300	5.69	-2.60	0.77	7.06	9.96	Pass
64	5320	5.52	-2.55	0.77	6.92	9.96	Pass
100	5500	6.46	-2.04	0.77	7.80	9.91	Pass
116	5580	6.03	-1.28	0.77	7.54	9.91	Pass
140	5700	5.52	-2.87	0.77	6.88	9.91	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 = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.06 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.06-6) = 10.94 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.04 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.04-6) = 9.96 dBm.
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.09 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.09-6) = 9.91 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-0.81	-8.53	0.95	0.76	10.94	Pass
46	5230	-0.55	-9.00	0.95	0.93	10.94	Pass
54	5270	3.33	-5.13	0.95	4.84	9.96	Pass
62	5310	3.67	-5.17	0.95	5.09	9.96	Pass
102	5510	4.88	6.39	0.95	9.42	9.91	Pass
110	5550	4.35	-3.49	0.95	5.93	9.91	Pass
134	5670	3.98	-5.17	0.95	5.39	9.91	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 = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.06 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.06-6) = 10.94 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.04 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.04-6) = 9.96 dBm.
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.09 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.09-6) = 9.91 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

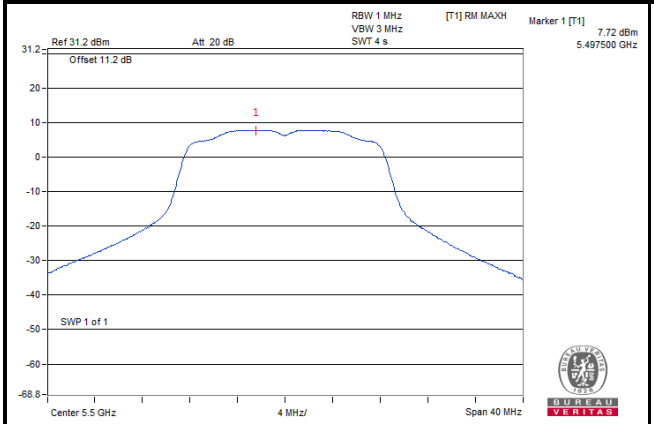
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-3.63	-11.37	1.16	-1.79	10.94	Pass
58	5290	-0.05	-8.53	1.16	1.69	9.96	Pass
106	5530	-2.30	-10.56	1.16	-0.53	9.91	Pass
122	5610	1.17	-8.44	1.16	2.78	9.91	Pass

Note:

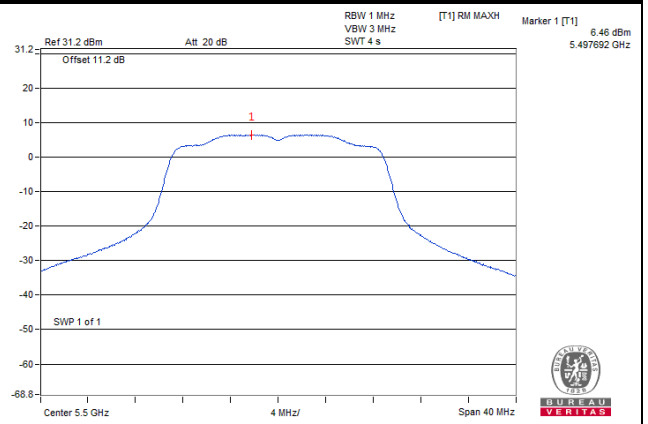
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.06 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.06-6) = 10.94 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.04 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.04-6) = 9.96 dBm.
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 7.09 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.09-6) = 9.91 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

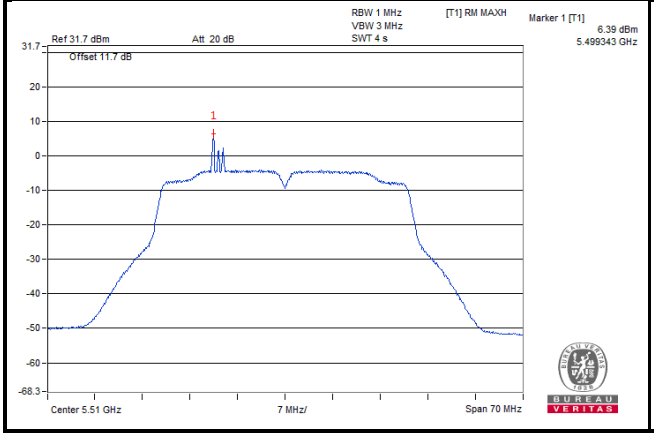
802.11a



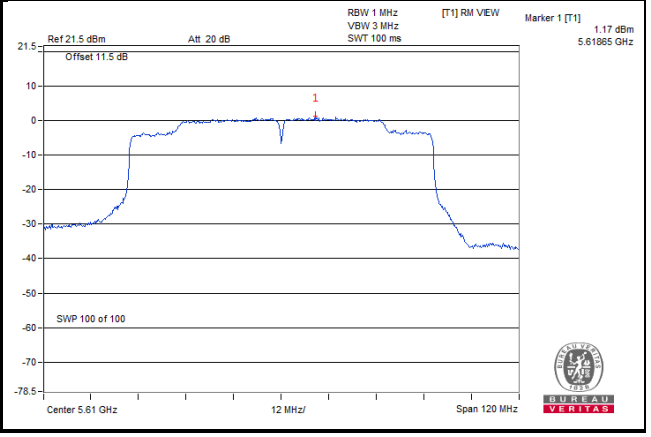
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

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	2.46	0.25	2.71	30	Pass
157	5785	3.30	0.25	3.55	30	Pass
165	5825	3.90	0.25	4.15	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	1.57	3.01	0.77	5.35	29.29	Pass
	157	5785	2.00	3.01	0.77	5.78	29.29	Pass
	165	5825	2.10	3.01	0.77	5.88	29.29	Pass
1	149	5745	-7.31	3.01	0.77	-3.53	29.29	Pass
	157	5785	-7.67	3.01	0.77	-3.89	29.29	Pass
	165	5825	-7.35	3.01	0.77	-3.57	29.29	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.71 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.71-6) = 29.29 dBm.
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	-1.24	3.01	0.95	2.72	29.29	Pass
	159	5795	-0.95	3.01	0.95	3.01	29.29	Pass
1	151	5755	-10.33	3.01	0.95	-6.37	29.29	Pass
	159	5795	-11.23	3.01	0.95	-7.27	29.29	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.71 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.71-6) = 29.29 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

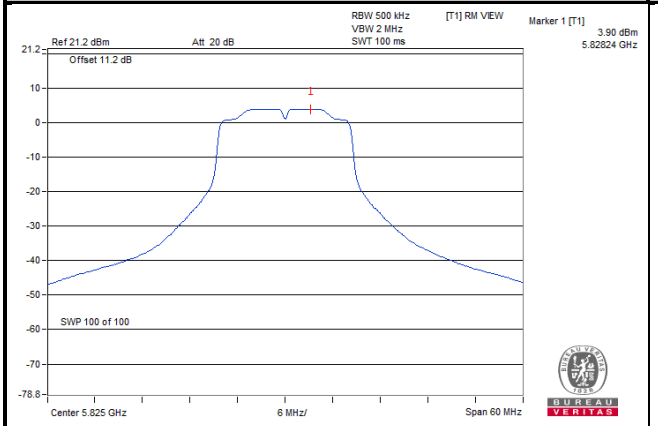
TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-5.07	3.01	1.16	-0.90	29.29	Pass
1	155	5775	-14.77	3.01	1.16	-10.60	29.29	Pass

Note:

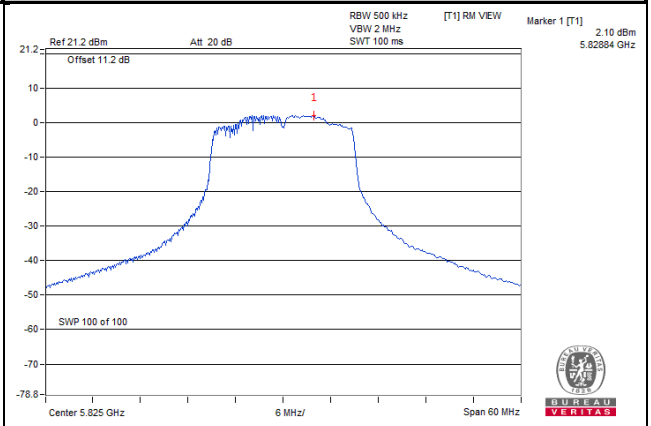
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 6.71 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.71-6) = 29.29 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

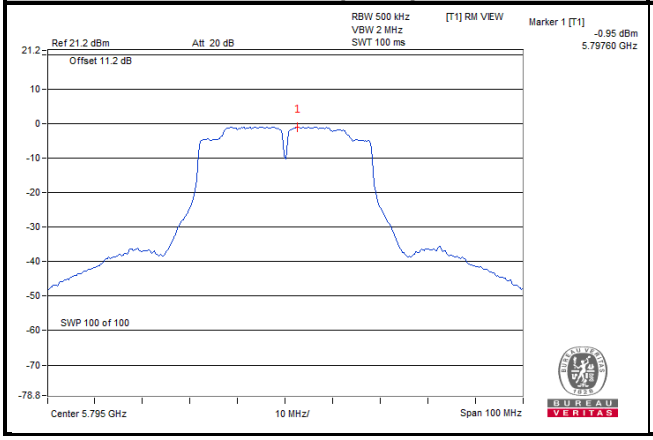
802.11a



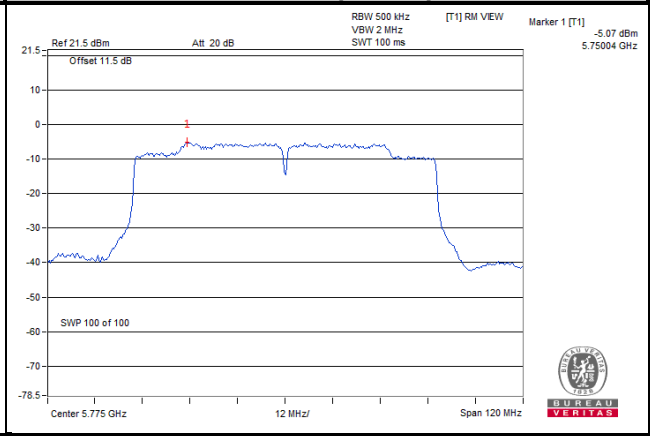
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

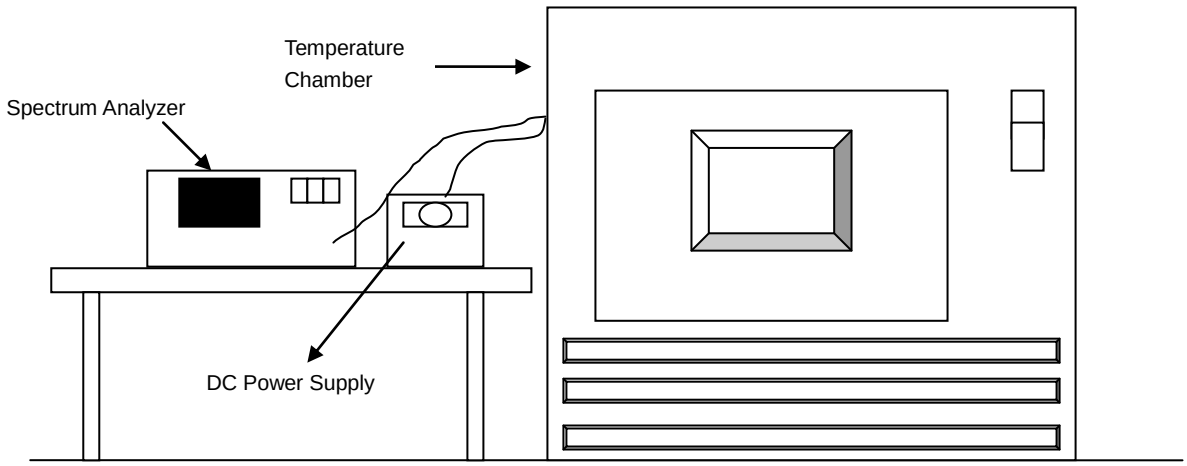


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	19	5180.0061	0.00012	5180.0067	0.00013	5180.0028	0.00005	5180.0035	0.00007
40	19	5179.9775	-0.00043	5179.9772	-0.00044	5179.9783	-0.00042	5179.9741	-0.00050
30	19	5179.9944	-0.00011	5179.9948	-0.00010	5179.9936	-0.00012	5179.9927	-0.00014
20	19	5179.979	-0.00041	5179.9804	-0.00038	5179.9772	-0.00044	5179.9808	-0.00037
10	19	5180.0231	0.00045	5180.023	0.00044	5180.0241	0.00047	5180.022	0.00042
0	19	5179.9998	0.00000	5180.0013	0.00003	5179.999	-0.00002	5179.9988	-0.00002
-10	19	5180.0228	0.00044	5180.0195	0.00038	5180.0213	0.00041	5180.0204	0.00039
-20	19	5180.0189	0.00036	5180.0185	0.00036	5180.014	0.00027	5180.0163	0.00031
-30	19	5179.9886	-0.00022	5179.9908	-0.00018	5179.99	-0.00019	5179.9889	-0.00021

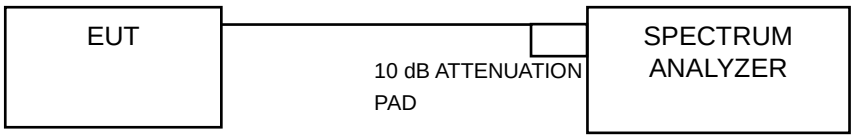
Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	21.85	5179.9797	-0.00039	5179.9797	-0.00039	5179.9779	-0.00043	5179.9803	-0.00038
	19	5179.979	-0.00041	5179.9804	-0.00038	5179.9772	-0.00044	5179.9808	-0.00037
	16.15	5179.9788	-0.00041	5179.98	-0.00039	5179.9771	-0.00044	5179.9812	-0.00036

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	15.14	0.5	Pass
157	5785	15.34	0.5	Pass
165	5825	15.12	0.5	Pass

Mode B

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.18	15.76	0.5	Pass
157	5785	15.14	15.75	0.5	Pass
165	5825	15.18	15.75	0.5	Pass

802.11n (HT40)

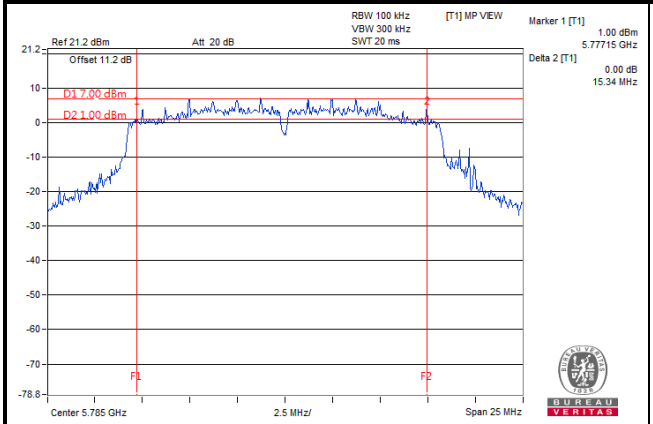
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.23	35.21	0.5	Pass
159	5795	35.14	35.15	0.5	Pass

802.11ac (VHT80)

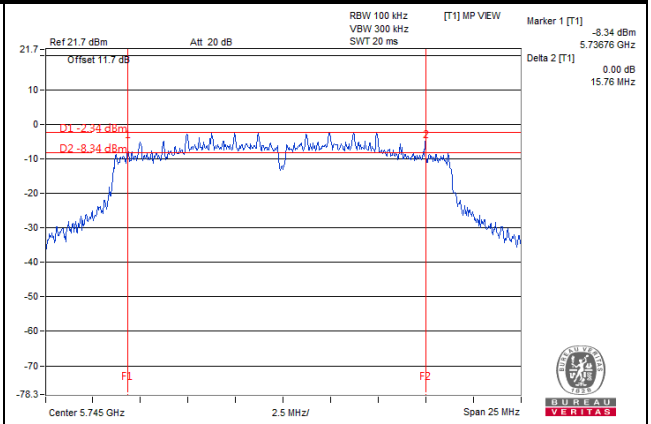
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.23	73.90	0.5	Pass

Spectrum Plot of Worst Value

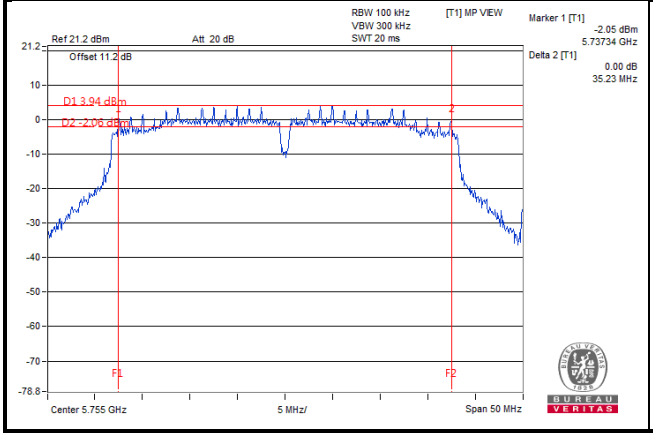
802.11a



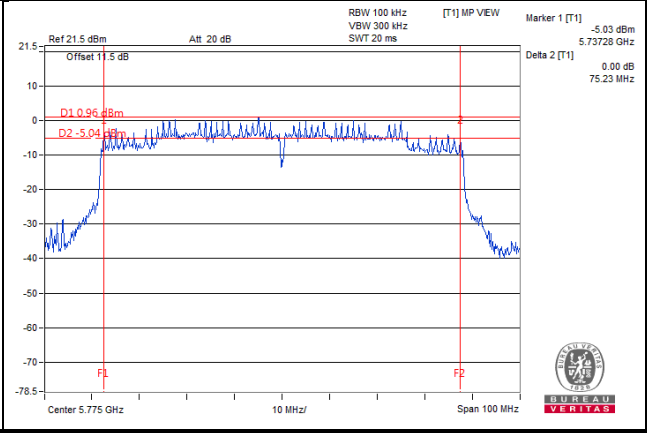
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

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

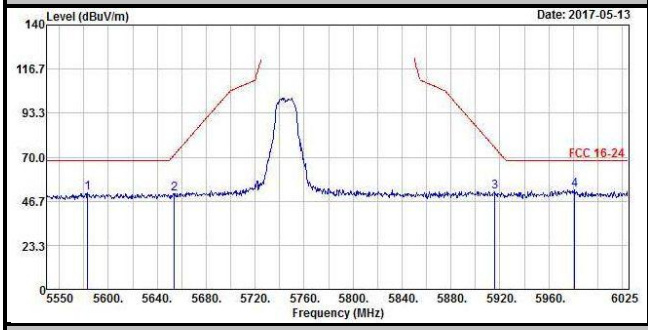
Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)

Mode A

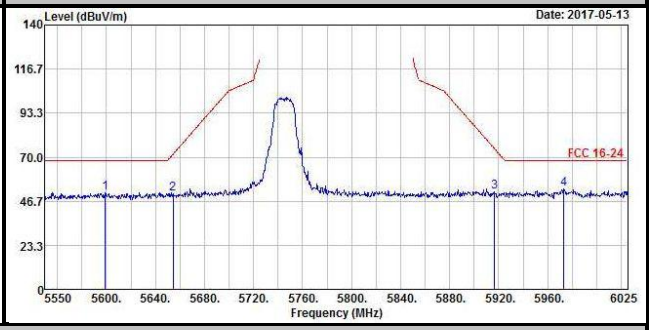
802.11a

Ch 149

Horizontal

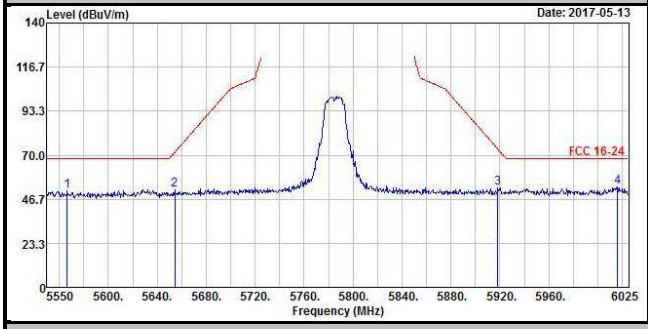


Vertical

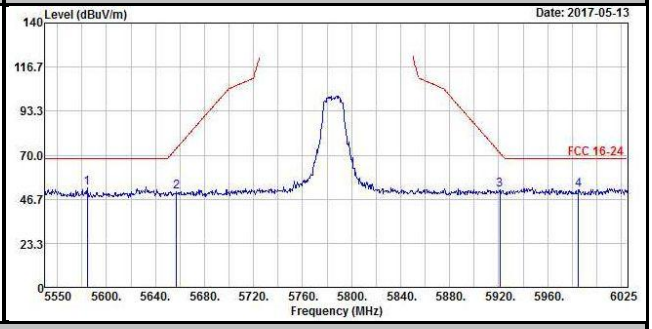


Ch 157

Horizontal

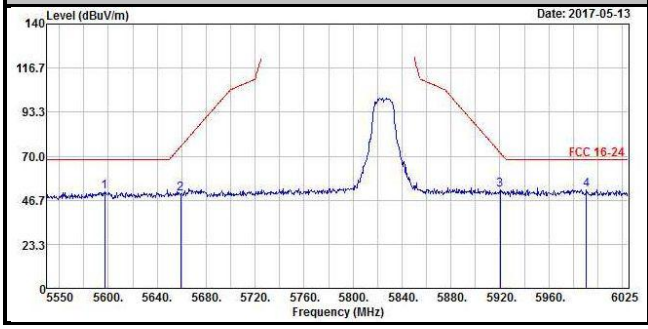


Vertical

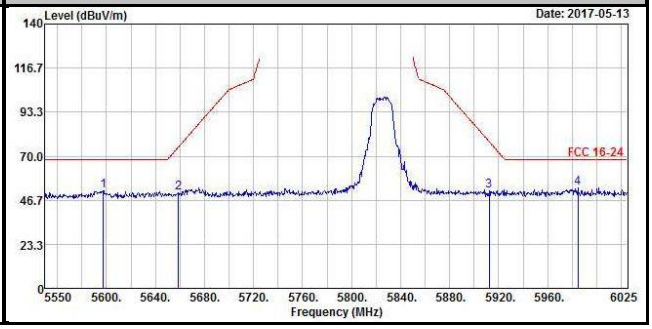


Ch 165

Horizontal

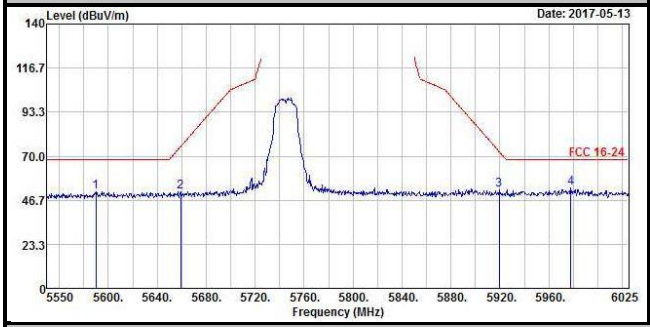
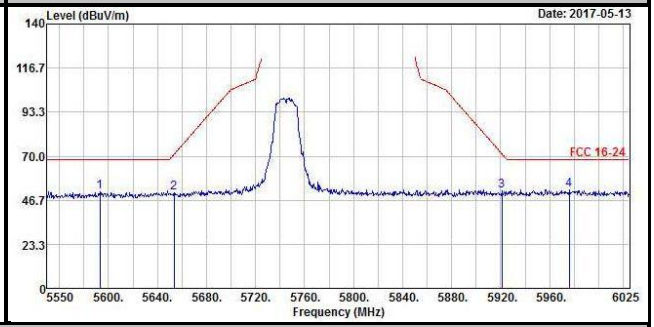
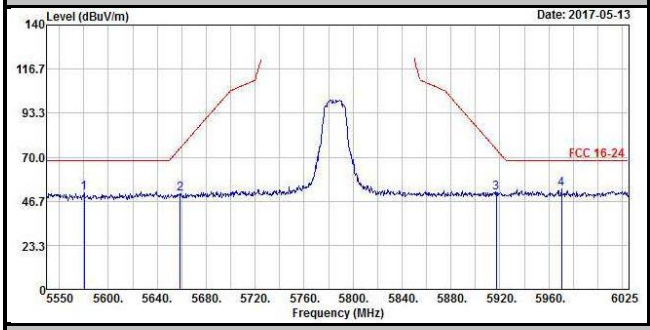
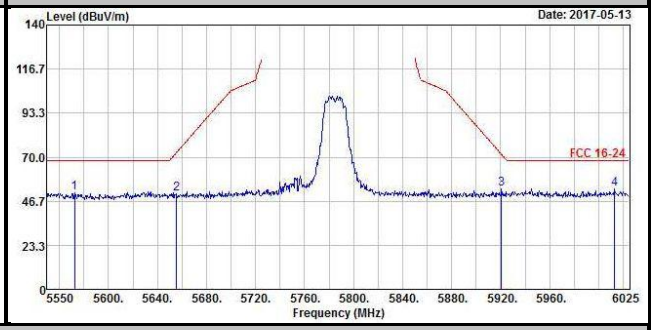
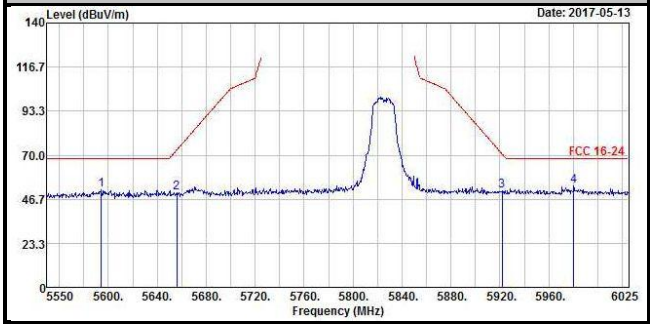
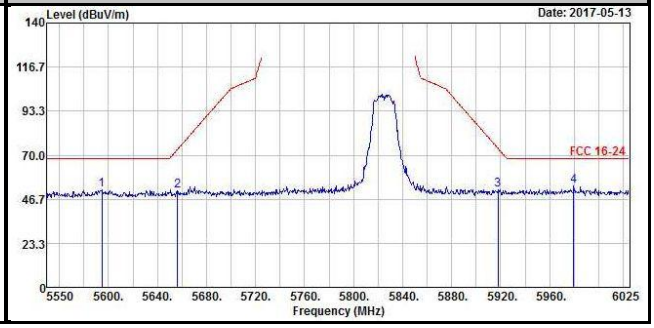


Vertical

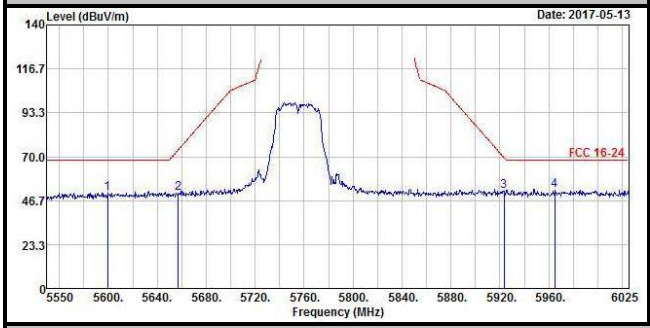
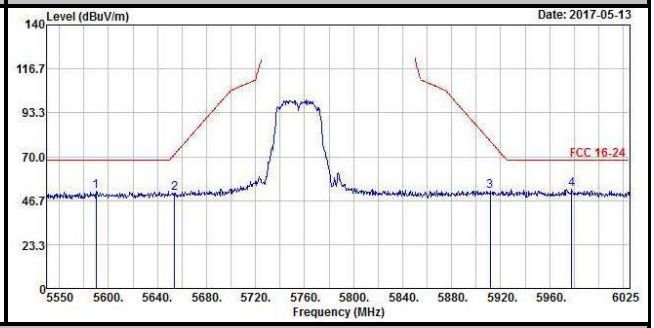
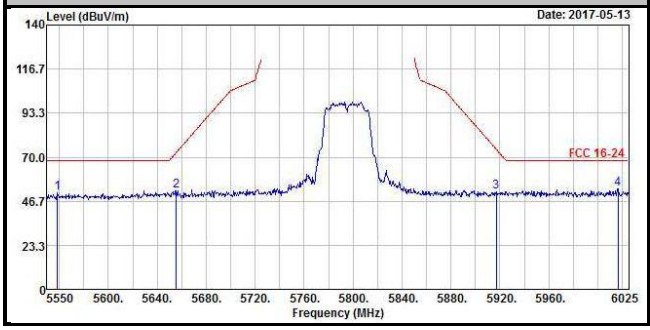
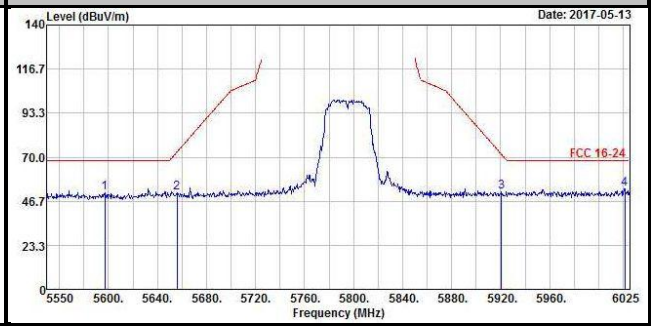


Mode B

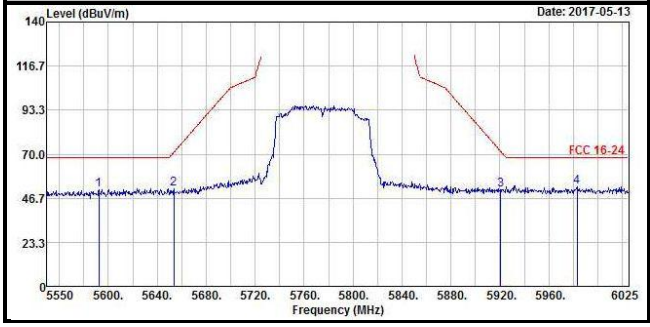
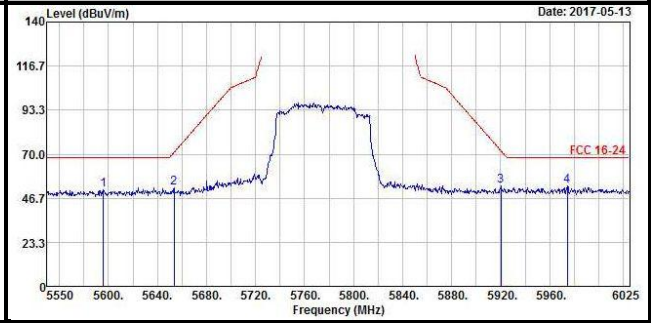
802.11n (HT20)

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

802.11n (HT40)

Ch 151	
Horizontal	Vertical
	
Ch 159	
Horizontal	Vertical
	

802.11ac (VHT80)

Ch 155	
Horizontal	Vertical
	

Appendix – Information on the Testing Laboratories

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

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

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

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