FCC Test Report

Report No.:	RF160301C04-9
FCC ID:	NM82PS6400
Test Model:	2PS6400
Received Date:	Mar. 01, 2016
Test Date:	Mar. 22, 2016 ~ Mar. 30, 2016
Issued Date:	Apr. 12, 2016
Applicant:	HTC Corporation
Address:	1F, 6-3 Baoqiang Road, Xindian District, New Taipei City, Taiwan 231
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF160301C04-9	Original Release	Apr. 12, 2016

1 Certificate of Conformity

Product:	Smartphone
Brand:	HTC
Test Model:	2PS6400
Sample Status:	Production Unit
Applicant:	HTC Corporation
Test Date:	Mar. 22, 2016 ~ Mar. 30, 2016
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 : _____ , **Date:** Apr. 12, 2016

Ivonne Wu / Supervisor

Approved by : _____ , **Date:** Apr. 12, 2016

Stanley Wu / Assistant Manager

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 -21.05 dB at 13.52200 MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -5.18 dB at 40.67 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.

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	2.0153 dB
	200 MHz ~1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Smartphone
Brand	HTC
Test Model	2PS6400
Status of EUT	Production Unit
Power Supply Rating	5.0 Vdc (adapter or host equipment) 3.85 Vdc (Li-ion battery)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 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	42.45 mW for 5180 ~ 5240 MHz 43.59 mW for 5260 ~ 5320 MHz 43.80 mW for 5500 ~ 5700 MHz 42.45 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with -3.5 dBi gain (5180 ~ 5240 MHz) PIFA antenna with -3 dBi gain (5260 ~ 5320 MHz) PIFA antenna with -3 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -3.5 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

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

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

   * The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40 / VHT80, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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

3.2 Description of Test Modes

FOR 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

FOR 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

FOR 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

FOR 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	-	-	√	1TX
B	√	√	√	√	2TX

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

NOTE:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for 5180-5240MHz & 5260-5320MHz & 5500-5700MHz, **X-plane** for 1TX and **Y-plane** for 2TX for 5745-5825MHz.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B	802.11n (HT20)		36 to 48	36, 44, 48	OFDM	BPSK	MCS8
B	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		42	42	OFDM	BPSK	V0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS8
B	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		58	58	OFDM	BPSK	V0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	MCS8
B	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	V0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS8
B	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		155	155	OFDM	BPSK	V0

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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11n (HT40)	5180-5240	38 to 46	38	OFDM	BPSK	MCS8
	802.11n (HT20)	5260-5320	52 to 64	64	OFDM	BPSK	MCS8
	802.11n (HT40)	5500-5700	102 to 134	102	OFDM	BPSK	MCS0
	802.11n (HT40)	5745-5825	151 to 159	151	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11n (HT40)	5745-5825	151 to 159	151	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B	802.11n (HT20)		36 to 48	36, 44, 48	OFDM	BPSK	MCS8
B	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		42	42	OFDM	BPSK	V0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	MCS8
B	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		58	58	OFDM	BPSK	V0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	MCS8
B	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	V0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS8
B	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	MCS8
B	802.11ac (VHT80)		155	155	OFDM	BPSK	V0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian
APCM	25 deg. C, 65 % RH	3.85 Vdc	Carlos Chen

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

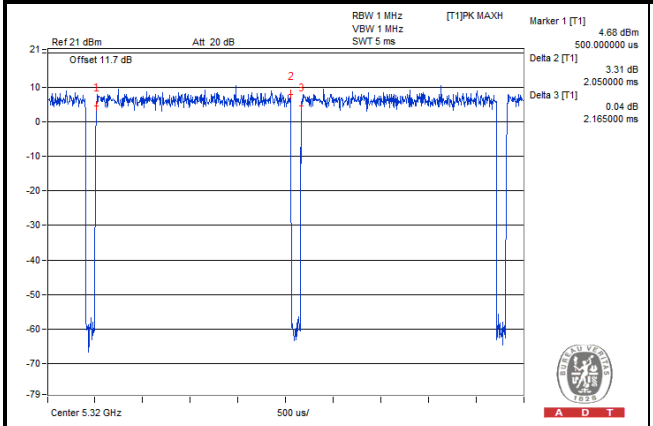
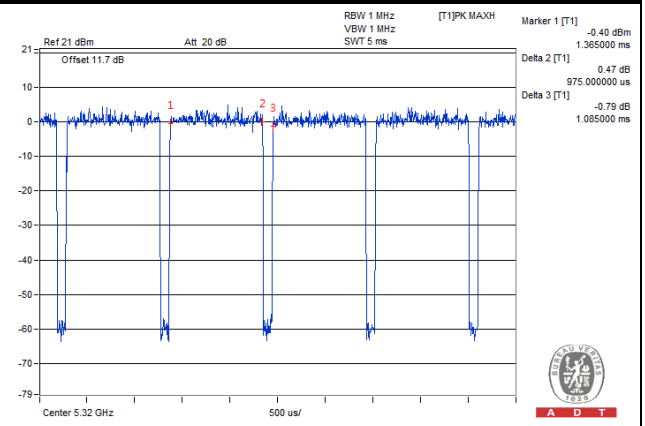
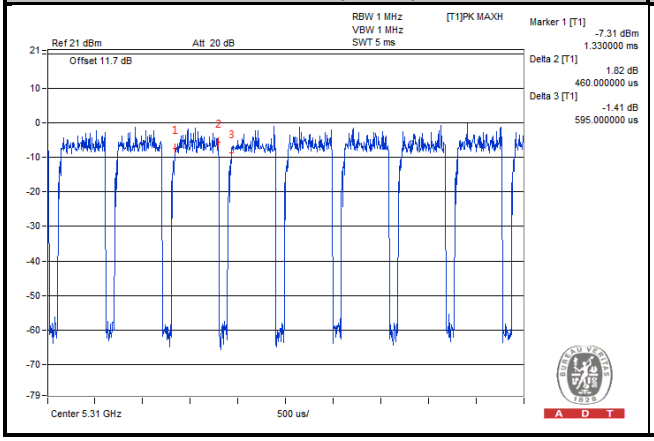
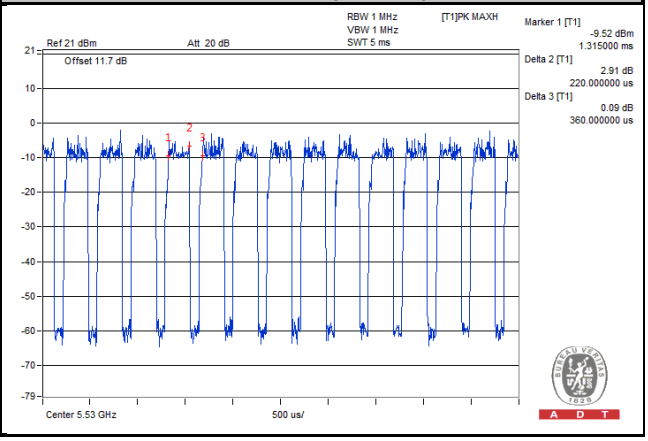
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 2.050/2.165 = 0.947, Duty factor = 10 * log(1/0.947) = 0.24

802.11n (HT20): Duty cycle = 0.975/1.085 = 0.899, Duty factor = 10 * log(1/0.899) = 0.46

802.11n (HT40): Duty cycle = 460/595 = 0.773, Duty factor = 10 * log(1/0.773) = 1.12

802.11ac (VHT80): Duty cycle = 220/360 = 0.611, Duty factor = 10 * log(1/0.611) = 2.14

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

MODULATION TYPE: QPSK

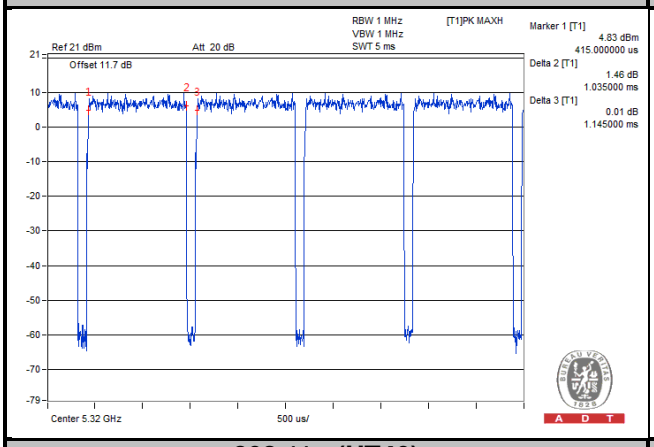
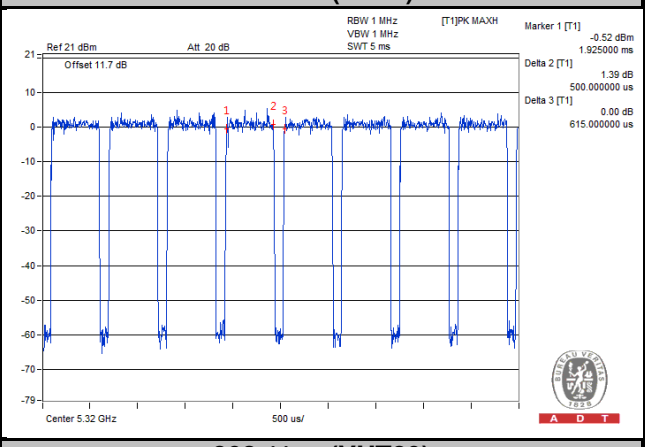
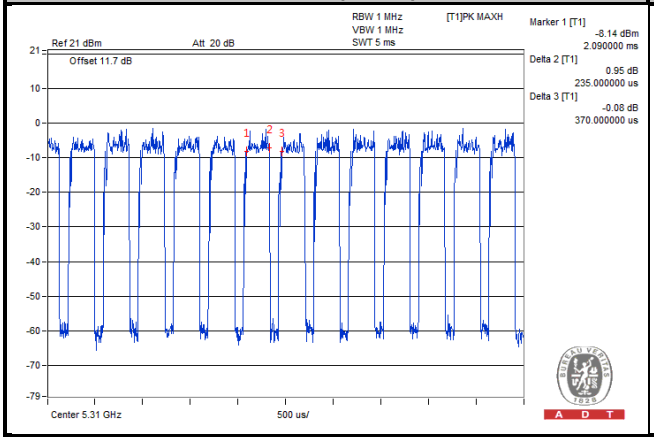
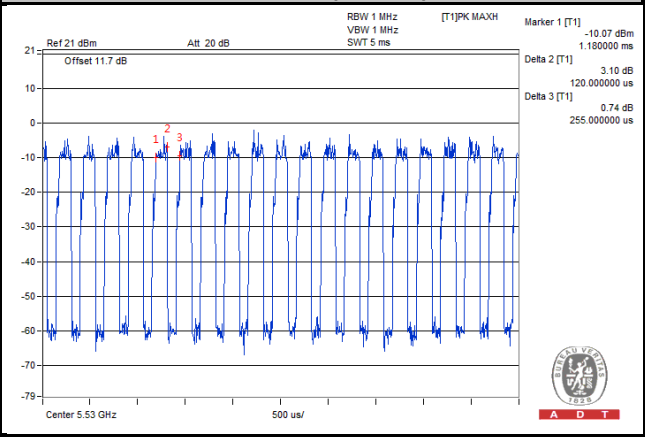
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 1.035/1.145 = 0.904, Duty factor = 10 * log(1/0.904) = 0.44

802.11n (HT20): Duty cycle = 500/615 = 0.813, Duty factor = 10 * log(1/0.813) = 0.90

802.11n (HT40): Duty cycle = 235/370 = 0.635, Duty factor = 10 * log(1/0.635) = 1.97

802.11ac (VHT80): Duty cycle = 120/255 = 0.471, Duty factor = 10 * log(1/0.608) = 3.27

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

MODULATION TYPE: 16QAM

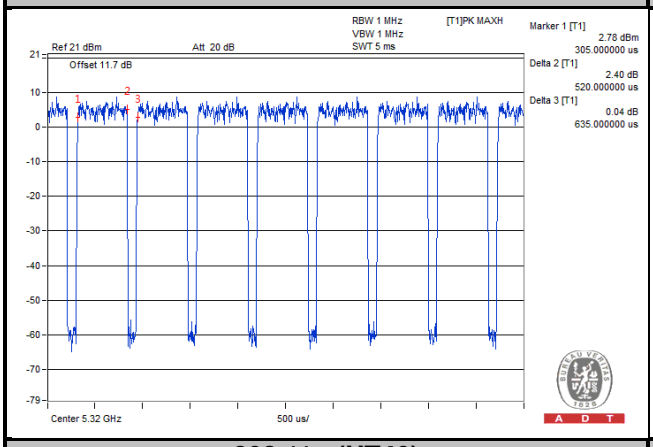
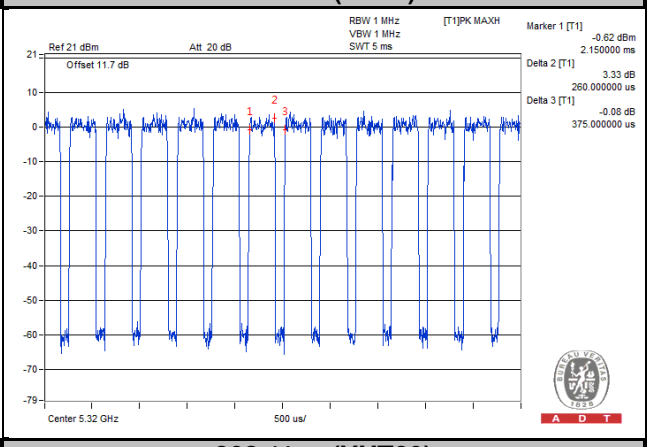
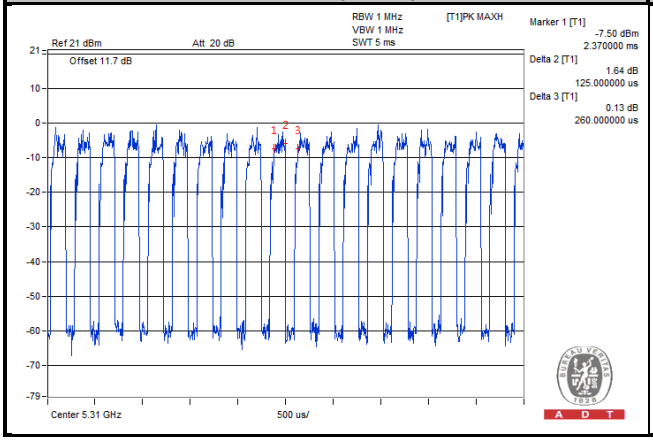
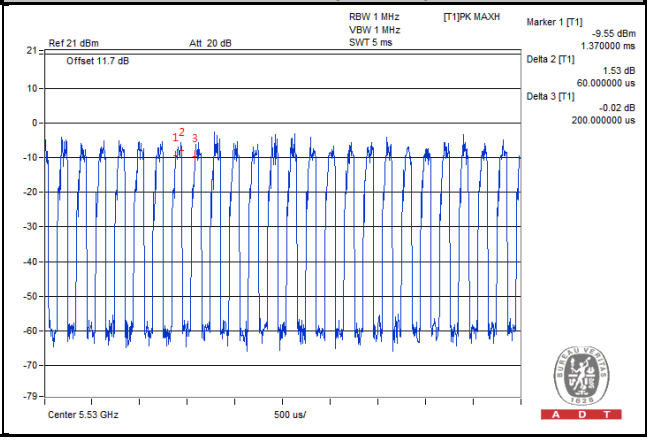
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 520/635 = 0.819, Duty factor = 10 * log(1/0.819) = 0.87

802.11n (HT20): Duty cycle = 260/375 = 0.693, Duty factor = 10 * log(1/0.693) = 1.59

802.11n (HT40): Duty cycle = 125/260 = 0.481, Duty factor = 10 * log(1/0.481) = 3.18

802.11ac (VHT80): Duty cycle = 60/200 = 0.300, Duty factor = 10 * log(1/0.300) = 5.23

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

MODULATION TYPE: 64QAM

Duty cycle of test signal is < 98 %, duty factor is required.

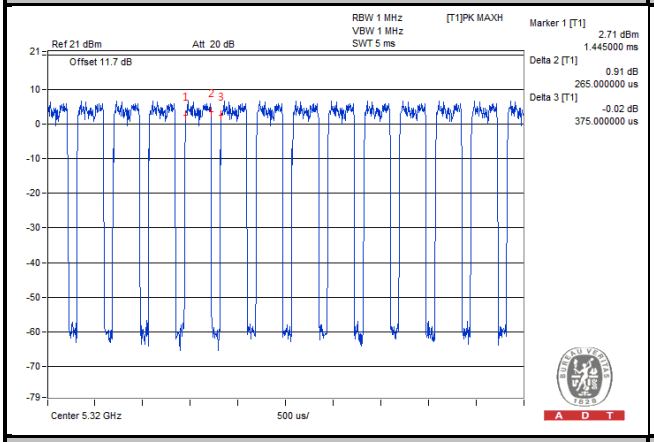
802.11a: Duty cycle = 265/375 = 0.707, Duty factor = 10 * log(1/0.707) = 1.51

802.11n (HT20): Duty cycle = 150/260 = 0.577, Duty factor = 10 * log(1/0.577) = 2.39

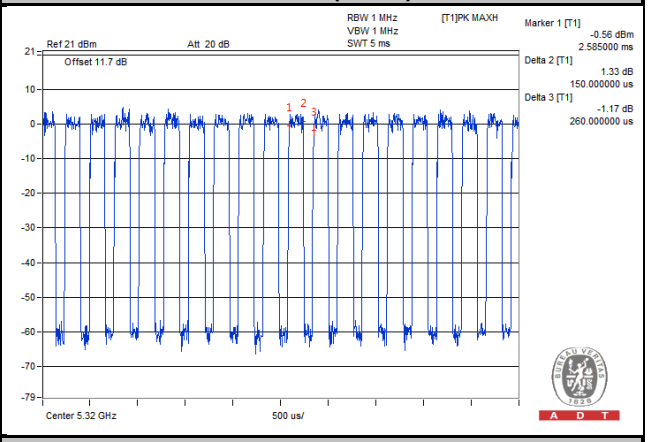
802.11n (HT40): Duty cycle = 68/202 = 0.337, Duty factor = 10 * log(1/0.337) = 4.73

802.11ac (VHT80): Duty cycle = 42/174 = 0.241, Duty factor = 10 * log(1/0.241) = 6.17

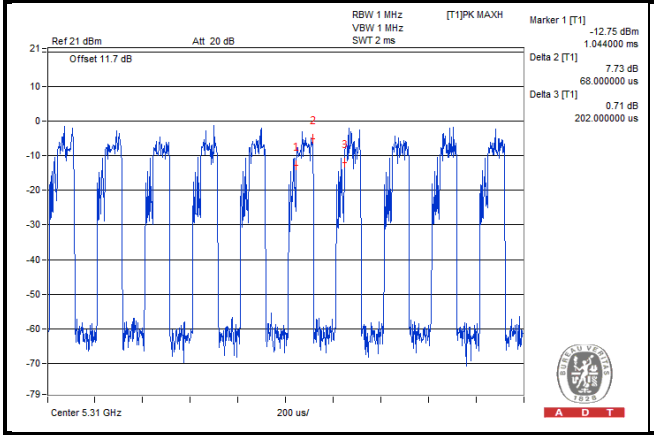
802.11a



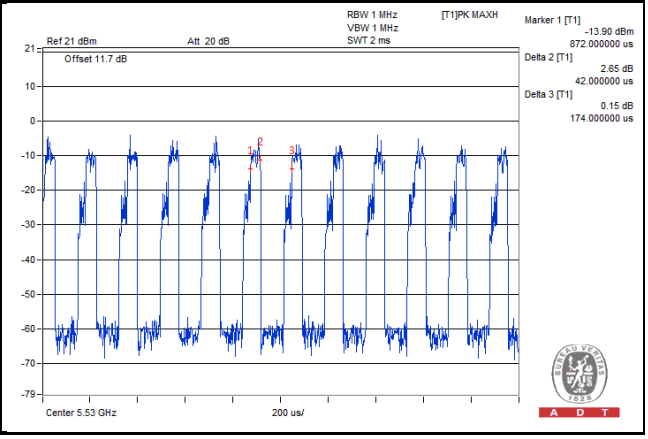
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

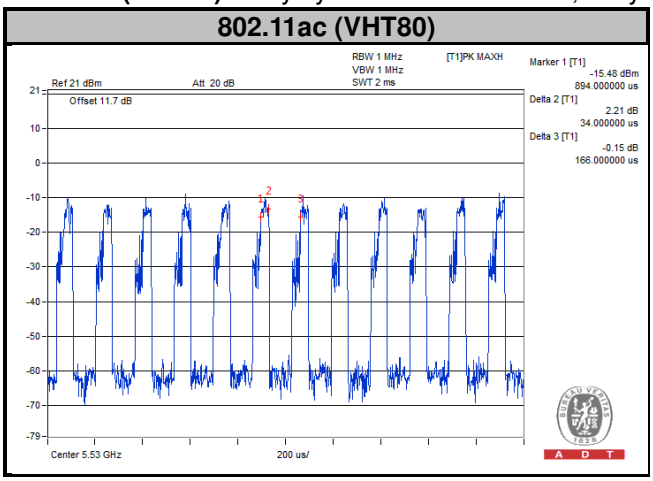


MODULATION TYPE: 256QAM

Duty cycle of test signal is < 98 %, duty factor is required.

802.11ac (VHT80): Duty cycle = 34/166 = 0.205, Duty factor = 10 * log(1/0.205) = 6.89

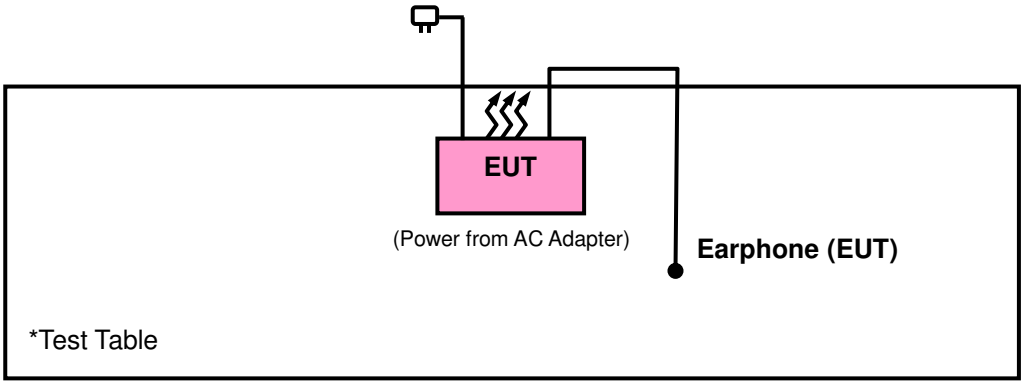
802.11ac (VHT80)



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 v01r02
644545 D01 Guidance for IEEE 802 11ac v01r02
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limit	
789033 D02 General UNII Test Procedures New Rules v01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Applicable To	**EIRP Limit**	**Equivalent Field Strength at 3 m**
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) [*1] PK: -17 (dBm/MHz) [*2]	PK: 68.2 (dBμV/m) [*1] PK: 78.2 (dBμV/m) [*2]

NOTE: [*1] beyond 10 MHz of the band edge [*2] within 10 MHz of band edge

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	Jan. 21, 2016	Jan. 20, 2017
Spectrum Analyzer Agilent	N9010A	MY52220314	Sep. 03, 2015	Sep. 02, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2015	Dec. 16, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 04, 2016	Jan. 03, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 08, 2016	Jan. 07, 2017
Loop Antenna	EM-6879	269	Jul. 31, 2015	Jul. 30, 2016
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 2017
Agilent Communications Tester-Wireless	8960 Series 10	MY53201073	Jul. 03, 2015	Jul. 02, 2017
Preamplifier EMCI	EMC 012645	980115	Dec. 21, 2015	Dec. 20, 2016
Preamplifier EMCI	EMC 184045	980116	Dec. 21, 2015	Dec. 20, 2016
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2015	Dec. 27, 2016
Power Meter Anritsu	ML2495A	1232002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor Anritsu	MA2411B	1207325	Sep. 21, 2015	Sep. 20, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 12, 2015	Oct. 11, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 12, 2015	Oct. 11, 2016
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 12, 2015	Oct. 11, 2016
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

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:

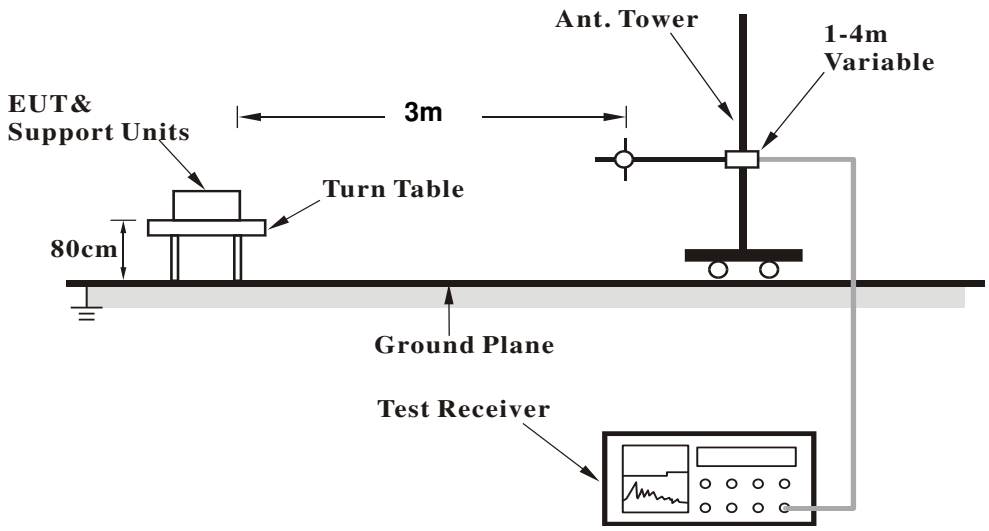
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
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

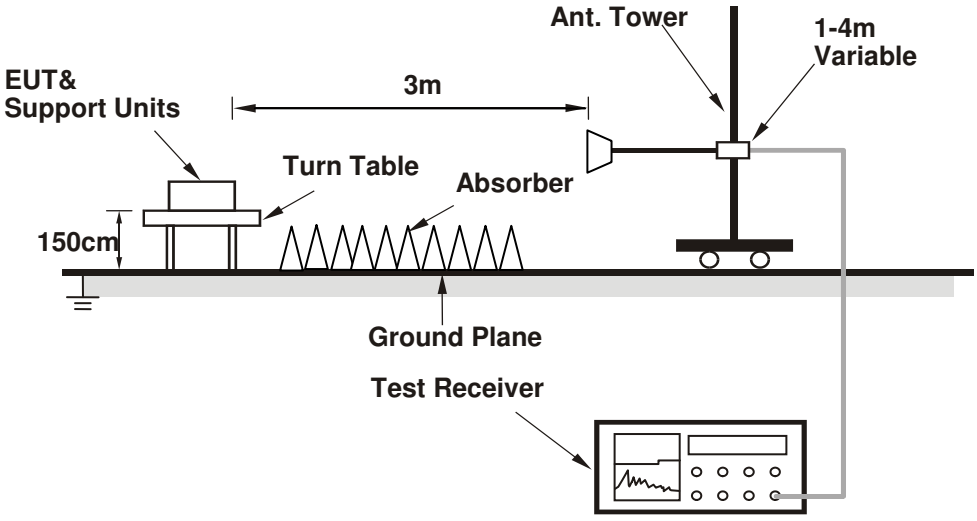
No deviation.

4.1.6 Test Set Up

<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

ABOVE 1 GHz DATA :

<1TX>

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5144	39.83	39.63	54	-14.17	31.32	6.2	37.32	160	28	Average
5144	60.23	60.03	74	-13.77	31.32	6.2	37.32	160	28	Peak
5180	88.43	88.2			31.35	6.22	37.34	160	28	Average
5180	98.12	97.89			31.35	6.22	37.34	160	28	Peak
5364	38.48	37.86	54	-15.52	31.49	6.31	37.18	160	28	Average
5364	60.02	59.4	74	-13.98	31.49	6.31	37.18	160	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5068	39.16	39.01	54	-14.84	31.25	6.17	37.27	200	338	Average
5068	61.18	61.03	74	-12.82	31.25	6.17	37.27	200	338	Peak
5180	86.03	85.8			31.35	6.22	37.34	200	338	Average
5180	96.75	96.52			31.35	6.22	37.34	200	338	Peak
5446	38.64	37.87	54	-15.36	31.56	6.34	37.13	200	338	Average
5446	59.36	58.59	74	-14.64	31.56	6.34	37.13	200	338	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5028	38.89	38.75	54	-15.11	31.23	6.15	37.24	179	29	Average
5028	61.12	60.98	74	-12.88	31.23	6.15	37.24	179	29	Peak
5220	88.72	88.47			31.37	6.24	37.36	179	29	Average
5220	98.65	98.4			31.37	6.24	37.36	179	29	Peak
5364	38.39	37.77	54	-15.61	31.49	6.31	37.18	179	29	Average
5364	61.63	61.01	74	-12.37	31.49	6.31	37.18	179	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	40.36	40.16	54	-13.64	31.32	6.2	37.32	199	338	Average
5150	60.26	60.06	74	-13.74	31.32	6.2	37.32	199	338	Peak
5220	86.22	85.97			31.37	6.24	37.36	199	338	Average
5220	96.41	96.16			31.37	6.24	37.36	199	338	Peak
5448	40.42	39.65	54	-13.58	31.56	6.34	37.13	199	338	Average
5448	59.66	58.89	74	-14.34	31.56	6.34	37.13	199	338	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5074	38.08	37.91	54	-15.92	31.27	6.17	37.27	187	28	Average
5074	60.44	60.27	74	-13.56	31.27	6.17	37.27	187	28	Peak
5240	88.77	88.45			31.39	6.25	37.32	187	28	Average
5240	98.34	98.02			31.39	6.25	37.32	187	28	Peak
5354	38.59	38	54	-15.41	31.48	6.29	37.18	187	28	Average
5354	59.22	58.63	74	-14.78	31.48	6.29	37.18	187	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5002	38.18	38.08	54	-15.82	31.2	6.13	37.23	197	338	Average
5002	56.72	56.62	74	-17.28	31.2	6.13	37.23	197	338	Peak
5240	86.56	86.24			31.39	6.25	37.32	197	338	Average
5240	96.92	96.6			31.39	6.25	37.32	197	338	Peak
5450	38.55	37.73	54	-15.45	31.56	6.34	37.08	197	338	Average
5450	60.14	59.32	74	-13.86	31.56	6.34	37.08	197	338	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.38	38.21	54	-15.62	31.27	6.17	37.27	218	241	Average
5076	60.69	60.52	74	-13.31	31.27	6.17	37.27	218	241	Peak
5260	90.3	89.91			31.41	6.25	37.27	218	241	Average
5260	99.43	99.04			31.41	6.25	37.27	218	241	Peak
5360	38.61	38	54	-15.39	31.48	6.31	37.18	218	241	Average
5360	60.8	60.19	74	-13.2	31.48	6.31	37.18	218	241	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5066	38.16	37.99	54	-15.84	31.25	6.17	37.25	214	323	Average
5066	60.79	60.62	74	-13.21	31.25	6.17	37.25	214	323	Peak
5260	87.71	87.32			31.41	6.25	37.27	214	323	Average
5260	97.19	96.8			31.41	6.25	37.27	214	323	Peak
5414	38.56	37.89	54	-15.44	31.53	6.32	37.18	214	323	Average
5414	59.83	59.16	74	-14.17	31.53	6.32	37.18	214	323	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5062	38.2	38.03	54	-15.8	31.25	6.17	37.25	222	236	Average
5062	59.55	59.38	74	-14.45	31.25	6.17	37.25	222	236	Peak
5300	89.93	89.41			31.44	6.27	37.19	222	236	Average
5300	99.13	98.61			31.44	6.27	37.19	222	236	Peak
5440	39.64	38.88	54	-14.36	31.55	6.34	37.13	222	236	Average
5440	60.15	59.39	74	-13.85	31.55	6.34	37.13	222	236	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5038	38.1	37.95	54	-15.9	31.24	6.15	37.24	210	321	Average
5038	60.08	59.93	74	-13.92	31.24	6.15	37.24	210	321	Peak
5300	87.77	87.25			31.44	6.27	37.19	210	321	Average
5300	97.08	96.56			31.44	6.27	37.19	210	321	Peak
5392	39.52	38.88	54	-14.48	31.51	6.31	37.18	210	321	Average
5392	59.94	59.3	74	-14.06	31.51	6.31	37.18	210	321	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5080	38.26	38.09	54	-15.74	31.27	6.17	37.27	220	210	Average
5080	60.42	60.25	74	-13.58	31.27	6.17	37.27	220	210	Peak
5320	89.83	89.28			31.45	6.29	37.19	220	210	Average
5320	99.34	98.79			31.45	6.29	37.19	220	210	Peak
5358	40.61	40	54	-13.39	31.48	6.31	37.18	220	210	Average
5358	60.85	60.24	74	-13.15	31.48	6.31	37.18	220	210	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5014	38.17	38.04	54	-15.83	31.21	6.15	37.23	220	313	Average
5014	60.3	60.17	74	-13.7	31.21	6.15	37.23	220	313	Peak
5320	87.82	87.27			31.45	6.29	37.19	220	313	Average
5320	97.43	96.88			31.45	6.29	37.19	220	313	Peak
5442	40.26	39.5	54	-13.74	31.55	6.34	37.13	220	313	Average
5442	60.83	60.07	74	-13.17	31.55	6.34	37.13	220	313	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental frequency.

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	43.45	42.63	54	-10.55	31.56	6.34	37.08	176	303	Average
5458	59.92	59.1	74	-14.08	31.56	6.34	37.08	176	303	Peak
5470	61.16	60.33	68.2	-7.04	31.57	6.34	37.08	176	303	Peak
5500	91.51	90.58			31.6	6.36	37.03	176	303	Average
5500	101.17	100.24			31.6	6.36	37.03	176	303	Peak
5725	61.29	60.01	68.2	-6.91	31.96	6.75	37.43	176	303	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5416	40.17	39.5	54	-13.83	31.53	6.32	37.18	222	69	Average
5416	60.54	59.87	74	-13.46	31.53	6.32	37.18	222	69	Peak
5470	60.76	59.93	68.2	-7.44	31.57	6.34	37.08	222	69	Peak
5500	86.94	86.01			31.6	6.36	37.03	222	69	Average
5500	96.78	95.85			31.6	6.36	37.03	222	69	Peak
5725	60.29	59.01	68.2	-7.91	31.96	6.75	37.43	222	69	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5412	38.72	38.05	54	-15.28	31.53	6.32	37.18	178	309	Average
5412	60.49	59.82	74	-13.51	31.53	6.32	37.18	178	309	Peak
5470	58.36	57.53	68.2	-9.84	31.57	6.34	37.08	178	309	Peak
5580	91.55	90.51			31.71	6.49	37.16	178	309	Average
5580	101.16	100.12			31.71	6.49	37.16	178	309	Peak
5725	60.95	59.67	68.2	-7.25	31.96	6.75	37.43	178	309	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.53	37.71	54	-15.47	31.56	6.34	37.08	239	40	Average
5458	60.37	59.55	74	-13.63	31.56	6.34	37.08	239	40	Peak
5470	58.44	57.61	68.2	-9.76	31.57	6.34	37.08	239	40	Peak
5580	87.2	86.16			31.71	6.49	37.16	239	40	Average
5580	96.81	95.77			31.71	6.49	37.16	239	40	Peak
5725	59.22	57.94	68.2	-8.98	31.96	6.75	37.43	239	40	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5416	38.59	37.92	54	-15.41	31.53	6.32	37.18	179	306	Average
5416	60.15	59.48	74	-13.85	31.53	6.32	37.18	179	306	Peak
5470	58.91	58.08	68.2	-9.29	31.57	6.34	37.08	179	306	Peak
5700	92.03	90.84			31.9	6.69	37.4	179	306	Average
5700	101.18	99.99			31.9	6.69	37.4	179	306	Peak
5725	61.6	60.32	68.2	-6.6	31.96	6.75	37.43	179	306	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5436	38.52	37.78	54	-15.48	31.55	6.32	37.13	232	39	Average
5436	60.41	59.67	74	-13.59	31.55	6.32	37.13	232	39	Peak
5470	59.91	59.08	68.2	-8.29	31.57	6.34	37.08	232	39	Peak
5700	87.65	86.46			31.9	6.69	37.4	232	39	Average
5700	96.96	95.77			31.9	6.69	37.4	232	39	Peak
5725	60.6	59.32	68.2	-7.6	31.96	6.75	37.43	232	39	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. 5470 MHz & 5725 MHz: 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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.27	60.08	68.2	-6.93	31.93	6.69	37.43	166	29	Peak
*5725	64.57	63.29	78.2	-13.63	31.96	6.75	37.43	166	29	Peak
5745	83.53	82.26			31.99	6.75	37.47	166	29	Average
5745	93.57	92.3			31.99	6.75	37.47	166	29	Peak
*5850	60.46	58.94	78.2	-17.74	32.15	6.88	37.51	166	29	Peak
*5861	60.87	59.24	68.2	-7.33	32.18	6.95	37.5	166	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	60.87	59.68	68.2	-7.33	31.93	6.69	37.43	201	316	Peak
*5725	62.68	61.4	78.2	-15.52	31.96	6.75	37.43	201	316	Peak
5745	85.79	84.52			31.99	6.75	37.47	201	316	Average
5745	95.38	94.11			31.99	6.75	37.47	201	316	Peak
*5850	60.11	58.59	78.2	-18.09	32.15	6.88	37.51	201	316	Peak
*5861	59.8	58.17	68.2	-8.4	32.18	6.95	37.5	201	316	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.74	58.55	68.2	-8.46	31.93	6.69	37.43	166	29	Peak
*5725	59.54	58.26	78.2	-18.66	31.96	6.75	37.43	166	29	Peak
5785	82.53	81.21			32.04	6.82	37.54	166	29	Average
5785	92.18	90.86			32.04	6.82	37.54	166	29	Peak
*5850	59.82	58.3	78.2	-18.38	32.15	6.88	37.51	166	29	Peak
*5861	60.14	58.51	68.2	-8.06	32.18	6.95	37.5	166	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	60.23	59.04	68.2	-7.97	31.93	6.69	37.43	201	313	Peak
*5725	60.67	59.39	78.2	-17.53	31.96	6.75	37.43	201	313	Peak
5785	85.55	84.23			32.04	6.82	37.54	201	313	Average
5785	94.74	93.42			32.04	6.82	37.54	201	313	Peak
*5850	60.77	59.25	78.2	-17.43	32.15	6.88	37.51	201	313	Peak
*5861	61.18	59.55	68.2	-7.02	32.18	6.95	37.5	201	313	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.32	58.13	68.2	-8.88	31.93	6.69	37.43	166	29	Peak
*5725	60.06	58.78	78.2	-18.14	31.96	6.75	37.43	166	29	Peak
5825	84.1	82.63			32.12	6.88	37.53	166	29	Average
5825	93.67	92.2			32.12	6.88	37.53	166	29	Peak
*5850	59.76	58.24	78.2	-18.44	32.15	6.88	37.51	166	29	Peak
*5861	59.7	58.07	68.2	-8.5	32.18	6.95	37.5	166	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.69	58.5	68.2	-8.51	31.93	6.69	37.43	198	310	Peak
*5725	59.97	58.69	78.2	-18.23	31.96	6.75	37.43	198	310	Peak
5825	85.03	83.56			32.12	6.88	37.53	198	310	Average
5825	94.53	93.06			32.12	6.88	37.53	198	310	Peak
*5850	62.38	60.86	78.2	-15.82	32.15	6.88	37.51	198	310	Peak
*5861	60.02	58.39	68.2	-8.18	32.18	6.95	37.5	198	310	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

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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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	39.25	39.14	54	-14.75	31.21	6.13	37.23	192	300	Average
5006	61.17	61.06	74	-12.83	31.21	6.13	37.23	192	300	Peak
5180	84.77	84.54			31.35	6.22	37.34	192	300	Average
5180	94.34	94.11			31.35	6.22	37.34	192	300	Peak
5402	38.76	38.1	54	-15.24	31.52	6.32	37.18	192	300	Average
5402	59.99	59.33	74	-14.01	31.52	6.32	37.18	192	300	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5128	38.65	38.44	54	-15.35	31.31	6.2	37.3	201	331	Average
5128	59.88	59.67	74	-14.12	31.31	6.2	37.3	201	331	Peak
5180	82.99	82.76			31.35	6.22	37.34	201	331	Average
5180	92.58	92.35			31.35	6.22	37.34	201	331	Peak
5362	38.56	37.94	54	-15.44	31.49	6.31	37.18	201	331	Average
5362	60.44	59.82	74	-13.56	31.49	6.31	37.18	201	331	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.21	38.07	54	-15.79	31.24	6.15	37.25	194	297	Average
5044	59.68	59.54	74	-14.32	31.24	6.15	37.25	194	297	Peak
5220	85.29	85.04			31.37	6.24	37.36	194	297	Average
5220	94.89	94.64			31.37	6.24	37.36	194	297	Peak
5458	38.82	38	54	-15.18	31.56	6.34	37.08	194	297	Average
5458	60.18	59.36	74	-13.82	31.56	6.34	37.08	194	297	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5084	38.18	38.01	54	-15.82	31.27	6.17	37.27	200	333	Average
5084	59.92	59.75	74	-14.08	31.27	6.17	37.27	200	333	Peak
5220	82.86	82.61			31.37	6.24	37.36	200	333	Average
5220	92.33	92.08			31.37	6.24	37.36	200	333	Peak
5456	38.58	37.76	54	-15.42	31.56	6.34	37.08	200	333	Average
5456	60.66	59.84	74	-13.34	31.56	6.34	37.08	200	333	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5052	38.28	38.12	54	-15.72	31.24	6.17	37.25	205	293	Average
5052	60.87	60.71	74	-13.13	31.24	6.17	37.25	205	293	Peak
5240	85.01	84.69			31.39	6.25	37.32	205	293	Average
5240	94.35	94.03			31.39	6.25	37.32	205	293	Peak
5352	38.96	38.37	54	-15.04	31.48	6.29	37.18	205	293	Average
5352	60.66	60.07	74	-13.34	31.48	6.29	37.18	205	293	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5092	38.34	38.14	54	-15.66	31.28	6.19	37.27	205	338	Average
5092	60.82	60.62	74	-13.18	31.28	6.19	37.27	205	338	Peak
5240	83.14	82.82			31.39	6.25	37.32	205	338	Average
5240	92.62	92.3			31.39	6.25	37.32	205	338	Peak
5422	38.64	37.97	54	-15.36	31.53	6.32	37.18	205	338	Average
5422	60.14	59.47	74	-13.86	31.53	6.32	37.18	205	338	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5030	38.18	38.04	54	-15.82	31.23	6.15	37.24	190	288	Average
5030	59.94	59.8	74	-14.06	31.23	6.15	37.24	190	288	Peak
5260	84.97	84.58			31.41	6.25	37.27	190	288	Average
5260	94.64	94.25			31.41	6.25	37.27	190	288	Peak
5446	38.68	37.91	54	-15.32	31.56	6.34	37.13	190	288	Average
5446	61.04	60.27	74	-12.96	31.56	6.34	37.13	190	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5074	38.18	38.01	54	-15.82	31.27	6.17	37.27	150	331	Average
5074	59.93	59.76	74	-14.07	31.27	6.17	37.27	150	331	Peak
5260	83.16	82.77			31.41	6.25	37.27	150	331	Average
5260	92.24	91.85			31.41	6.25	37.27	150	331	Peak
5454	38.66	37.84	54	-15.34	31.56	6.34	37.08	150	331	Average
5454	59.99	59.17	74	-14.01	31.56	6.34	37.08	150	331	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.05	37.94	54	-15.95	31.21	6.13	37.23	195	296	Average
5006	60.91	60.8	74	-13.09	31.21	6.13	37.23	195	296	Peak
5300	84.93	84.41			31.44	6.27	37.19	195	296	Average
5300	94.5	93.98			31.44	6.27	37.19	195	296	Peak
5432	39.18	38.44	54	-14.82	31.55	6.32	37.13	195	296	Average
5432	60.26	59.52	74	-13.74	31.55	6.32	37.13	195	296	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5066	38.18	38.01	54	-15.82	31.25	6.17	37.25	155	311	Average
5066	60.15	59.98	74	-13.85	31.25	6.17	37.25	155	311	Peak
5300	83.13	82.61			31.44	6.27	37.19	155	311	Average
5300	91.98	91.46			31.44	6.27	37.19	155	311	Peak
5456	38.64	37.82	54	-15.36	31.56	6.34	37.08	155	311	Average
5456	60.52	59.7	74	-13.48	31.56	6.34	37.08	155	311	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5036	38.15	38.01	54	-15.85	31.23	6.15	37.24	193	300	Average
5036	59.95	59.81	74	-14.05	31.23	6.15	37.24	193	300	Peak
5320	85	84.45			31.45	6.29	37.19	193	300	Average
5320	94.37	93.82			31.45	6.29	37.19	193	300	Peak
5404	40.38	39.72	54	-13.62	31.52	6.32	37.18	193	300	Average
5404	61.31	60.65	74	-12.69	31.52	6.32	37.18	193	300	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5120	38.28	38.1	54	-15.72	31.29	6.19	37.3	155	321	Average
5120	59.93	59.75	74	-14.07	31.29	6.19	37.3	155	321	Peak
5320	82.98	82.43			31.45	6.29	37.19	155	321	Average
5320	92.29	91.74			31.45	6.29	37.19	155	321	Peak
5350	38.9	38.31	54	-15.1	31.48	6.29	37.18	155	321	Average
5350	59.77	59.18	74	-14.23	31.48	6.29	37.18	155	321	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental frequency.

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5422	40.38	39.71	54	-13.62	31.53	6.32	37.18	173	306	Average
5422	60.77	60.1	74	-13.23	31.53	6.32	37.18	173	306	Peak
5470	58.34	57.51	68.2	-9.86	31.57	6.34	37.08	173	306	Peak
5500	86.02	85.09			31.6	6.36	37.03	173	306	Average
5500	95.91	94.98			31.6	6.36	37.03	173	306	Peak
5725	60.11	58.83	68.2	-8.09	31.96	6.75	37.43	173	306	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.89	38.15	54	-15.11	31.55	6.32	37.13	189	61	Average
5430	59.86	59.12	74	-14.14	31.55	6.32	37.13	189	61	Peak
5470	59.31	58.48	68.2	-8.89	31.57	6.34	37.08	189	61	Peak
5500	81.59	80.66			31.6	6.36	37.03	189	61	Average
5500	91.35	90.42			31.6	6.36	37.03	189	61	Peak
5725	59.96	58.68	68.2	-8.24	31.96	6.75	37.43	189	61	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5414	38.71	38.04	54	-15.29	31.53	6.32	37.18	175	310	Average
5414	59.92	59.25	74	-14.08	31.53	6.32	37.18	175	310	Peak
5470	58.07	57.24	68.2	-10.13	31.57	6.34	37.08	175	310	Peak
5580	86.53	85.49			31.71	6.49	37.16	175	310	Average
5580	95.95	94.91			31.71	6.49	37.16	175	310	Peak
5725	60.94	59.66	68.2	-7.26	31.96	6.75	37.43	175	310	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5456	38.56	37.74	54	-15.44	31.56	6.34	37.08	201	36	Average
5456	60.3	59.48	74	-13.7	31.56	6.34	37.08	201	36	Peak
5470	58.7	57.87	68.2	-9.5	31.57	6.34	37.08	201	36	Peak
5580	81.57	80.53			31.71	6.49	37.16	201	36	Average
5580	91.38	90.34			31.71	6.49	37.16	201	36	Peak
5725	59.02	57.74	68.2	-9.18	31.96	6.75	37.43	201	36	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5448	38.72	37.95	54	-15.28	31.56	6.34	37.13	171	306	Average
5448	60.01	59.24	74	-13.99	31.56	6.34	37.13	171	306	Peak
5470	58.01	57.18	68.2	-10.19	31.57	6.34	37.08	171	306	Peak
5700	86.81	85.62			31.9	6.69	37.4	171	306	Average
5700	95.91	94.72			31.9	6.69	37.4	171	306	Peak
5725	60.94	59.66	68.2	-7.26	31.96	6.75	37.43	171	306	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5422	38.52	37.85	54	-15.48	31.53	6.32	37.18	200	29	Average
5422	60	59.33	74	-14	31.53	6.32	37.18	200	29	Peak
5470	57.48	56.65	68.2	-10.72	31.57	6.34	37.08	200	29	Peak
5700	81.85	80.66			31.9	6.69	37.4	200	29	Average
5700	91.43	90.24			31.9	6.69	37.4	200	29	Peak
5725	59.97	58.69	68.2	-8.23	31.96	6.75	37.43	200	29	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. 5470 MHz & 5725 MHz: 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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	60.53	59.34	68.2	-7.67	31.93	6.69	37.43	115	282	Peak
*5725	62.32	61.04	78.2	-15.88	31.96	6.75	37.43	115	282	Peak
5745	79.56	78.29			31.99	6.75	37.47	115	282	Average
5745	91.3	90.03			31.99	6.75	37.47	115	282	Peak
*5850	60.36	58.84	78.2	-17.84	32.15	6.88	37.51	115	282	Peak
*5861	59.98	58.35	68.2	-8.22	32.18	6.95	37.5	115	282	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.22	58.03	68.2	-8.98	31.93	6.69	37.43	101	61	Peak
*5725	61.92	60.64	78.2	-16.28	31.96	6.75	37.43	101	61	Peak
5745	81.95	80.68			31.99	6.75	37.47	101	61	Average
5745	93.08	91.81			31.99	6.75	37.47	101	61	Peak
*5850	59.77	58.25	78.2	-18.43	32.15	6.88	37.51	101	61	Peak
*5861	59.6	57.97	68.2	-8.6	32.18	6.95	37.5	101	61	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.17	59.98	68.2	-7.03	31.93	6.69	37.43	115	282	Peak
*5725	60.36	59.08	78.2	-17.84	31.96	6.75	37.43	115	282	Peak
5785	79.62	78.3			32.04	6.82	37.54	115	282	Average
5785	90.04	88.72			32.04	6.82	37.54	115	282	Peak
*5850	60.71	59.19	78.2	-17.49	32.15	6.88	37.51	115	282	Peak
*5861	61.2	59.57	68.2	-7	32.18	6.95	37.5	115	282	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	60.69	59.5	68.2	-7.51	31.93	6.69	37.43	101	64	Peak
*5725	60.58	59.3	78.2	-17.62	31.96	6.75	37.43	101	64	Peak
5785	81.98	80.66			32.04	6.82	37.54	101	64	Average
5785	91.87	90.55			32.04	6.82	37.54	101	64	Peak
*5850	60.72	59.2	78.2	-17.48	32.15	6.88	37.51	101	64	Peak
*5861	60.39	58.76	68.2	-7.81	32.18	6.95	37.5	101	64	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.51	58.32	68.2	-8.69	31.93	6.69	37.43	115	290	Peak
*5725	60.16	58.88	78.2	-18.04	31.96	6.75	37.43	115	290	Peak
5825	79.08	77.61			32.12	6.88	37.53	115	290	Average
5825	90.06	88.59			32.12	6.88	37.53	115	290	Peak
*5850	60.93	59.41	78.2	-17.27	32.15	6.88	37.51	115	290	Peak
*5861	59.57	57.94	68.2	-8.63	32.18	6.95	37.5	115	290	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	59.68	58.49	68.2	-8.52	31.93	6.69	37.43	100	66	Peak
*5725	60.38	59.1	78.2	-17.82	31.96	6.75	37.43	100	66	Peak
5825	82.19	80.72			32.12	6.88	37.53	100	66	Average
5825	91.94	90.47			32.12	6.88	37.53	100	66	Peak
*5850	59.74	58.22	78.2	-18.46	32.15	6.88	37.51	100	66	Peak
*5861	59.81	58.18	68.2	-8.39	32.18	6.95	37.5	100	66	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	45.15	44.95	54	-8.85	31.32	6.2	37.32	195	288	Average
5148	61.28	61.08	74	-12.72	31.32	6.2	37.32	195	288	Peak
5190	83.8	83.57			31.35	6.22	37.34	195	288	Average
5190	93.59	93.36			31.35	6.22	37.34	195	288	Peak
5416	38.91	38.24	54	-15.09	31.53	6.32	37.18	195	288	Average
5416	60.62	59.95	74	-13.38	31.53	6.32	37.18	195	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	43.17	42.97	54	-10.83	31.32	6.2	37.32	201	332	Average
5150	60.93	60.73	74	-13.07	31.32	6.2	37.32	201	332	Peak
5190	81.46	81.23			31.35	6.22	37.34	201	332	Average
5190	90.93	90.7			31.35	6.22	37.34	201	332	Peak
5350	38.53	37.94	54	-15.47	31.48	6.29	37.18	201	332	Average
5350	60.35	59.76	74	-13.65	31.48	6.29	37.18	201	332	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5138	39.12	38.91	54	-14.88	31.31	6.2	37.3	193	295	Average
5138	60.61	60.4	74	-13.39	31.31	6.2	37.3	193	295	Peak
5230	83.7	83.39			31.39	6.24	37.32	193	295	Average
5230	93	92.69			31.39	6.24	37.32	193	295	Peak
5364	38.91	38.29	54	-15.09	31.49	6.31	37.18	193	295	Average
5364	60.52	59.9	74	-13.48	31.49	6.31	37.18	193	295	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5062	38.97	38.8	54	-15.03	31.25	6.17	37.25	197	326	Average
5062	60.38	60.21	74	-13.62	31.25	6.17	37.25	197	326	Peak
5230	81.28	80.97			31.39	6.24	37.32	197	326	Average
5230	90.62	90.31			31.39	6.24	37.32	197	326	Peak
5446	39.13	38.36	54	-14.87	31.56	6.34	37.13	197	326	Average
5446	60.3	59.53	74	-13.7	31.56	6.34	37.13	197	326	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5106	38.85	38.65	54	-15.15	31.29	6.19	37.28	191	312	Average
5106	61.13	60.93	74	-12.87	31.29	6.19	37.28	191	312	Peak
5270	83.75	83.36			31.41	6.25	37.27	191	312	Average
5270	92.98	92.59			31.41	6.25	37.27	191	312	Peak
5408	39.58	38.92	54	-14.42	31.52	6.32	37.18	191	312	Average
5408	60.18	59.52	74	-13.82	31.52	6.32	37.18	191	312	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.54	38.34	54	-15.46	31.31	6.19	37.3	163	339	Average
5124	60.65	60.45	74	-13.35	31.31	6.19	37.3	163	339	Peak
5270	81.18	80.79			31.41	6.25	37.27	163	339	Average
5270	90.67	90.28			31.41	6.25	37.27	163	339	Peak
5416	38.91	38.24	54	-15.09	31.53	6.32	37.18	163	339	Average
5416	60.42	59.75	74	-13.58	31.53	6.32	37.18	163	339	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5046	38.6	38.46	54	-15.4	31.24	6.15	37.25	197	308	Average
5046	59.76	59.62	74	-14.24	31.24	6.15	37.25	197	308	Peak
5310	83.65	83.12			31.45	6.27	37.19	197	308	Average
5310	93.21	92.68			31.45	6.27	37.19	197	308	Peak
5380	40.05	39.41	54	-13.95	31.51	6.31	37.18	197	308	Average
5380	60.85	60.21	74	-13.15	31.51	6.31	37.18	197	308	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5026	38.52	38.38	54	-15.48	31.23	6.15	37.24	158	325	Average
5026	60.34	60.2	74	-13.66	31.23	6.15	37.24	158	325	Peak
5310	81.67	81.14			31.45	6.27	37.19	158	325	Average
5310	90.95	90.42			31.45	6.27	37.19	158	325	Peak
5400	40.39	39.73	54	-13.61	31.52	6.32	37.18	158	325	Average
5400	60.37	59.71	74	-13.63	31.52	6.32	37.18	158	325	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental frequency.

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5414	41.38	40.71	54	-12.62	31.53	6.32	37.18	175	312	Average
5414	60.64	59.97	74	-13.36	31.53	6.32	37.18	175	312	Peak
5470	61.76	60.93	68.2	-6.44	31.57	6.34	37.08	175	312	Peak
5510	84.6	83.7			31.6	6.36	37.06	175	312	Average
5510	94.15	93.25			31.6	6.36	37.06	175	312	Peak
5725	60.54	59.26	68.2	-7.66	31.96	6.75	37.43	175	312	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5442	39.28	38.52	54	-14.72	31.55	6.34	37.13	213	35	Average
5442	60.44	59.68	74	-13.56	31.55	6.34	37.13	213	35	Peak
5470	58.4	57.57	68.2	-9.8	31.57	6.34	37.08	213	35	Peak
5510	79.85	78.95			31.6	6.36	37.06	213	35	Average
5510	89.72	88.82			31.6	6.36	37.06	213	35	Peak
5725	59.42	58.14	68.2	-8.78	31.96	6.75	37.43	213	35	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5444	39.88	39.12	54	-14.12	31.55	6.34	37.13	173	304	Average
5444	61.37	60.61	74	-12.63	31.55	6.34	37.13	173	304	Peak
5470	60.56	59.73	68.2	-7.64	31.57	6.34	37.08	173	304	Peak
5550	84.42	83.41			31.68	6.42	37.09	173	304	Average
5550	93.9	92.89			31.68	6.42	37.09	173	304	Peak
5725	59.57	58.29	68.2	-8.63	31.96	6.75	37.43	173	304	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5356	38.69	38.1	54	-15.31	31.48	6.29	37.18	221	34	Average
5356	60.94	60.35	74	-13.06	31.48	6.29	37.18	221	34	Peak
5470	59.04	58.21	68.2	-9.16	31.57	6.34	37.08	221	34	Peak
5550	79.95	78.94			31.68	6.42	37.09	221	34	Average
5550	89.57	88.56			31.68	6.42	37.09	221	34	Peak
5725	60.11	58.83	68.2	-8.09	31.96	6.75	37.43	221	34	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5432	38.99	38.25	54	-15.01	31.55	6.32	37.13	174	301	Average
5432	60.88	60.14	74	-13.12	31.55	6.32	37.13	174	301	Peak
5470	59.65	58.82	68.2	-8.55	31.57	6.34	37.08	174	301	Peak
5670	84.48	83.32			31.88	6.62	37.34	174	301	Average
5670	93.99	92.83			31.88	6.62	37.34	174	301	Peak
5725	61.31	60.03	68.2	-6.89	31.96	6.75	37.43	174	301	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.83	38.19	54	-15.17	31.51	6.31	37.18	217	46	Average
5388	60.97	60.33	74	-13.03	31.51	6.31	37.18	217	46	Peak
5470	58.59	57.76	68.2	-9.61	31.57	6.34	37.08	217	46	Peak
5670	80.2	79.04			31.88	6.62	37.34	217	46	Average
5670	89.52	88.36			31.88	6.62	37.34	217	46	Peak
5725	59.78	58.5	68.2	-8.42	31.96	6.75	37.43	217	46	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. 5470 MHz & 5725 MHz: 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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.4	60.21	68.2	-6.8	31.93	6.69	37.43	115	284	Peak
*5725	62.13	60.85	78.2	-16.07	31.96	6.75	37.43	115	284	Peak
5755	77.29	76			32.01	6.75	37.47	115	284	Average
5755	88.65	87.36			32.01	6.75	37.47	115	284	Peak
*5850	59.55	58.03	78.2	-18.65	32.15	6.88	37.51	115	284	Peak
*5861	59.58	57.95	68.2	-8.62	32.18	6.95	37.5	115	284	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.98	60.79	68.2	-6.22	31.93	6.69	37.43	101	61	Peak
*5725	62.74	61.46	78.2	-15.46	31.96	6.75	37.43	101	61	Peak
5755	79.39	78.1			32.01	6.75	37.47	101	61	Average
5755	90.11	88.82			32.01	6.75	37.47	101	61	Peak
*5850	61.41	59.89	78.2	-16.79	32.15	6.88	37.51	101	61	Peak
*5861	60.52	58.89	68.2	-7.68	32.18	6.95	37.5	101	61	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	60.21	59.02	68.2	-7.99	31.93	6.69	37.43	115	282	Peak
*5725	59.58	58.3	78.2	-18.62	31.96	6.75	37.43	115	282	Peak
5795	77.25	75.9			32.07	6.82	37.54	115	282	Average
5795	87.87	86.52			32.07	6.82	37.54	115	282	Peak
*5850	60.71	59.19	78.2	-17.49	32.15	6.88	37.51	115	282	Peak
*5861	60.9	59.27	68.2	-7.3	32.18	6.95	37.5	115	282	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	58.83	57.64	68.2	-9.37	31.93	6.69	37.43	101	61	Peak
*5725	60.07	58.79	78.2	-18.13	31.96	6.75	37.43	101	61	Peak
5795	79.07	77.72			32.07	6.82	37.54	101	61	Average
5795	89.63	88.28			32.07	6.82	37.54	101	61	Peak
*5850	59.84	58.32	78.2	-18.36	32.15	6.88	37.51	101	61	Peak
*5861	59.4	57.77	68.2	-8.8	32.18	6.95	37.5	101	61	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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5050	39.42	39.28	54	-14.58	31.24	6.15	37.25	223	29	Average
5050	61.47	61.33	74	-12.53	31.24	6.15	37.25	223	29	Peak
5210	77.51	77.26			31.37	6.24	37.36	223	29	Average
5210	87.49	87.24			31.37	6.24	37.36	223	29	Peak
5450	38.86	38.04	54	-15.14	31.56	6.34	37.08	223	29	Average
5450	60.39	59.57	74	-13.61	31.56	6.34	37.08	223	29	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5038	40.84	40.69	54	-13.16	31.24	6.15	37.24	102	339	Average
5038	62.34	62.19	74	-11.66	31.24	6.15	37.24	102	339	Peak
5210	80.78	80.53			31.37	6.24	37.36	102	339	Average
5210	89.85	89.6			31.37	6.24	37.36	102	339	Peak
5378	38.85	38.21	54	-15.15	31.51	6.31	37.18	102	339	Average
5378	60.14	59.5	74	-13.86	31.51	6.31	37.18	102	339	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5210 MHz: Fundamental frequency.

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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5086	38.6	38.43	54	-15.4	31.27	6.17	37.27	132	25	Average
5086	60.23	60.06	74	-13.77	31.27	6.17	37.27	132	25	Peak
5290	77.62	77.15			31.43	6.27	37.23	132	25	Average
5290	87.07	86.6			31.43	6.27	37.23	132	25	Peak
5440	40.62	39.86	54	-13.38	31.55	6.34	37.13	132	25	Average
5440	60.28	59.52	74	-13.72	31.55	6.34	37.13	132	25	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5068	38.67	38.52	54	-15.33	31.25	6.17	37.27	100	340	Average
5068	59.92	59.77	74	-14.08	31.25	6.17	37.27	100	340	Peak
5290	80.16	79.69			31.43	6.27	37.23	100	340	Average
5290	89.28	88.81			31.43	6.27	37.23	100	340	Peak
5452	40.46	39.64	54	-13.54	31.56	6.34	37.08	100	340	Average
5452	60.67	59.85	74	-13.33	31.56	6.34	37.08	100	340	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental frequency.

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5454	45.53	44.71	54	-8.47	31.56	6.34	37.08	188	355	Average
5454	61.63	60.81	74	-12.37	31.56	6.34	37.08	188	355	Peak
5470	59.81	58.98	68.2	-8.39	31.57	6.34	37.08	188	355	Peak
5530	77.51	76.55			31.63	6.42	37.09	188	355	Average
5530	88.79	87.83			31.63	6.42	37.09	188	355	Peak
5725	58.98	57.7	68.2	-9.22	31.96	6.75	37.43	188	355	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5442	40.41	39.65	54	-13.59	31.55	6.34	37.13	100	45	Average
5442	60.21	59.45	74	-13.79	31.55	6.34	37.13	100	45	Peak
5470	58.3	57.47	68.2	-9.9	31.57	6.34	37.08	100	45	Peak
5530	76	75.04			31.63	6.42	37.09	100	45	Average
5530	85.81	84.85			31.63	6.42	37.09	100	45	Peak
5725	59.3	58.02	68.2	-8.9	31.96	6.75	37.43	100	45	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. 5470 MHz & 5725 MHz: Out of restricted band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5412	39.75	39.08	54	-14.25	31.53	6.32	37.18	188	355	Average
5412	60.26	59.59	74	-13.74	31.53	6.32	37.18	188	355	Peak
5470	60.63	59.8	68.2	-7.57	31.57	6.34	37.08	188	355	Peak
5610	78.5	77.39			31.77	6.56	37.22	188	355	Average
5610	89.24	88.13			31.77	6.56	37.22	188	355	Peak
5724	60.32	59.1	68.2	-7.88	31.96	6.69	37.43	188	355	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read 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	38.86	38.12	54	-15.14	31.55	6.32	37.13	100	35	Average
5430	60.68	59.94	74	-13.32	31.55	6.32	37.13	100	35	Peak
5470	58.86	58.03	68.2	-9.34	31.57	6.34	37.08	100	35	Peak
5610	75.45	74.34			31.77	6.56	37.22	100	35	Average
5610	85.97	84.86			31.77	6.56	37.22	100	35	Peak
5725	60.22	58.94	68.2	-7.98	31.96	6.75	37.43	100	35	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. 5470 MHz & 5725 MHz: 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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.06	59.87	68.2	-7.14	31.93	6.69	37.43	196	354	Peak
*5725	61.41	60.13	78.2	-16.79	31.96	6.75	37.43	196	354	Peak
5775	75.13	73.77			32.04	6.82	37.5	196	354	Average
5775	84.82	83.46			32.04	6.82	37.5	196	354	Peak
*5850	59.58	58.06	78.2	-18.62	32.15	6.88	37.51	196	354	Peak
*5861	60.5	58.87	68.2	-7.7	32.18	6.95	37.5	196	354	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	61.4	60.21	68.2	-6.8	31.93	6.69	37.43	101	62	Peak
*5725	61.54	60.26	78.2	-16.66	31.96	6.75	37.43	101	62	Peak
5775	75.9	74.54			32.04	6.82	37.5	101	62	Average
5775	85.92	84.56			32.04	6.82	37.5	101	62	Peak
*5850	61.59	60.07	78.2	-16.61	32.15	6.88	37.51	101	62	Peak
*5861	60.17	58.54	68.2	-8.03	32.18	6.95	37.5	101	62	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:

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
107.6	21.02	41.98	43.5	-22.48	9.81	1.09	31.86	115	184	Peak
176.47	28.22	47.75	43.5	-15.28	11.1	1.17	31.8	104	323	Peak
219.15	27.34	47.49	46	-18.66	10.18	1.37	31.7	137	193	Peak
442.25	19.6	33.45	46	-26.4	16.18	1.97	32	104	173	Peak
583.87	22.39	33.06	46	-23.61	19.23	2.23	32.13	137	52	Peak
641.1	23.46	33.1	46	-22.54	20.1	2.34	32.08	127	77	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
40.67	31.44	48.26	40	-8.56	13.55	0.65	31.02	100	304	Peak
67.83	24.48	44.36	40	-15.52	11	0.85	31.73	104	124	Peak
176.47	22.55	42.08	43.5	-20.95	11.1	1.17	31.8	115	161	Peak
331.67	16	32.38	46	-30	13.71	1.72	31.81	119	76	Peak
528.58	21.14	32.71	46	-24.86	17.97	2.14	31.68	123	175	Peak
621.7	22.19	32.18	46	-23.81	19.87	2.3	32.16	139	240	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 64	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
108.57	20.69	41.54	43.5	-22.81	9.9	1.1	31.85	119	83	Peak
157.07	27.32	45.27	43.5	-16.18	12.72	1.13	31.8	109	85	Peak
220.12	26.99	47.1	46	-19.01	10.22	1.38	31.71	125	293	Peak
412.18	19.08	33.57	46	-26.92	15.58	1.93	32	120	339	Peak
538.28	20.62	31.99	46	-25.38	18.19	2.16	31.72	135	128	Peak
689.6	24.12	32.83	46	-21.88	20.69	2.44	31.84	101	91	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
40.67	34.82	51.64	40	-5.18	13.55	0.65	31.02	129	144	Peak
66.86	26.35	46.06	40	-13.65	11.12	0.85	31.68	102	2	Peak
157.07	24.57	42.52	43.5	-18.93	12.72	1.13	31.8	124	141	Peak
291.9	18.73	36.11	46	-27.27	12.71	1.61	31.7	123	58	Peak
432.55	20.02	34.09	46	-25.98	15.98	1.96	32.01	130	207	Peak
653.71	23.5	32.87	46	-22.5	20.26	2.36	31.99	104	57	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 102	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
107.6	22.3	43.26	43.5	-21.2	9.81	1.09	31.86	100	246	Peak
176.47	27.8	47.33	43.5	-15.7	11.1	1.17	31.8	114	63	Peak
224	26.73	46.73	46	-19.27	10.38	1.39	31.77	122	118	Peak
399.57	17.99	32.88	46	-28.01	15.33	1.91	32.13	140	109	Peak
573.2	21.31	32.19	46	-24.69	18.99	2.22	32.09	129	147	Peak
663.41	23.83	32.98	46	-22.17	20.37	2.38	31.9	104	270	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
40.67	31.44	48.26	40	-8.56	13.55	0.65	31.02	126	113	Peak
67.83	25.83	45.71	40	-14.17	11	0.85	31.73	122	186	Peak
158.04	24.99	42.96	43.5	-18.51	12.73	1.13	31.83	128	220	Peak
406.36	17.95	32.61	46	-28.05	15.46	1.92	32.04	133	229	Peak
528.58	21.43	33	46	-24.57	17.97	2.14	31.68	139	25	Peak
675.05	23.36	32.27	46	-22.64	20.51	2.41	31.83	133	111	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 151	**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**	Gavin Wu

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
107.6	21.42	42.38	43.5	-22.08	9.81	1.09	31.86	133	220	Peak
175.5	25.97	45.41	43.5	-17.53	11.19	1.16	31.79	132	205	Peak
225.94	25.81	45.75	46	-20.19	10.46	1.4	31.8	130	290	Peak
406.36	18.93	33.59	46	-27.07	15.46	1.92	32.04	100	126	Peak
551.86	21.18	32.47	46	-24.82	18.5	2.18	31.97	115	2	Peak
629.46	22.62	32.49	46	-23.38	19.96	2.31	32.14	116	359	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
40.67	33.72	50.54	40	-6.28	13.55	0.65	31.02	114	198	Peak
67.83	23.94	43.82	40	-16.06	11	0.85	31.73	108	69	Peak
175.5	23.16	42.6	43.5	-20.34	11.19	1.16	31.79	119	256	Peak
410.24	18.01	32.53	46	-27.99	15.54	1.93	31.99	121	151	Peak
557.68	21.2	32.41	46	-24.8	18.64	2.19	32.04	115	188	Peak
683.78	23.53	32.33	46	-22.47	20.62	2.42	31.84	124	157	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

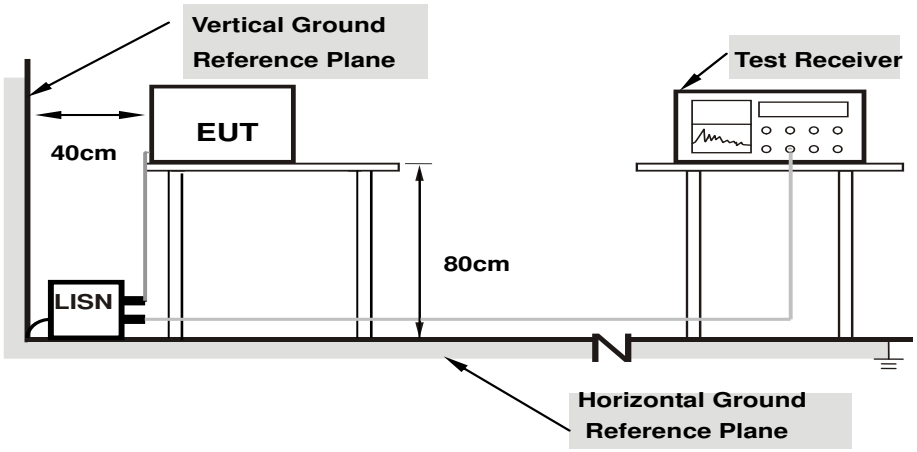
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

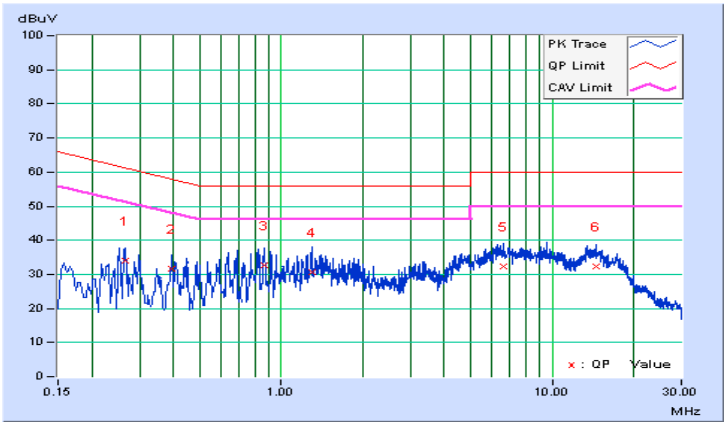
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/3/22

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	0.26569	10.12	23.99	9.99	34.11	20.11	61.25	51.25	-27.14	-31.14
2	0.39400	10.13	21.40	8.89	31.53	19.02	57.98	47.98	-26.45	-28.96
3	0.86200	10.25	22.45	10.43	32.70	20.68	56.00	46.00	-23.30	-25.32
4	1.29800	10.28	20.46	10.33	30.74	20.61	56.00	46.00	-25.26	-25.39
5	6.65400	10.56	21.70	13.94	32.26	24.50	60.00	50.00	-27.74	-25.50
6	14.58600	10.90	21.33	15.19	32.23	26.09	60.00	50.00	-27.77	-23.91

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

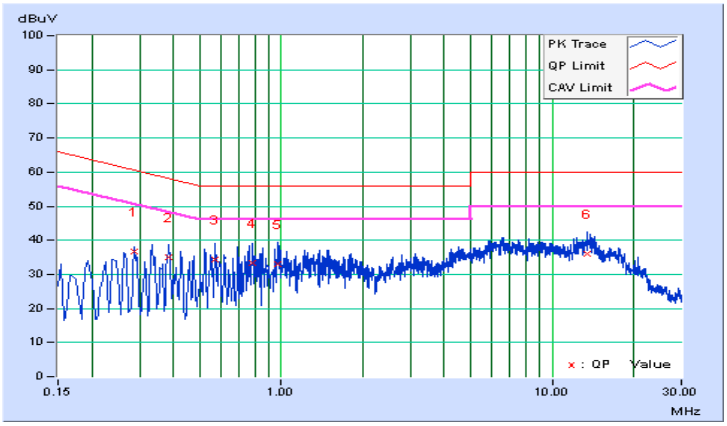


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/3/22

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	0.28602	10.09	26.67	14.03	36.76	24.12	60.64	50.64	-23.88	-26.52
2	0.38600	10.14	24.88	12.41	35.02	22.55	58.15	48.15	-23.13	-25.60
3	0.57000	10.17	24.01	12.35	34.18	22.52	56.00	46.00	-21.82	-23.48
4	0.78600	10.20	23.26	10.77	33.46	20.97	56.00	46.00	-22.54	-25.03
5	0.97400	10.23	22.89	10.74	33.12	20.97	56.00	46.00	-22.88	-25.03
6	13.52200	10.73	25.18	18.22	35.91	28.95	60.00	50.00	-24.09	-21.05

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 $N_{ANT} \leq 4$;

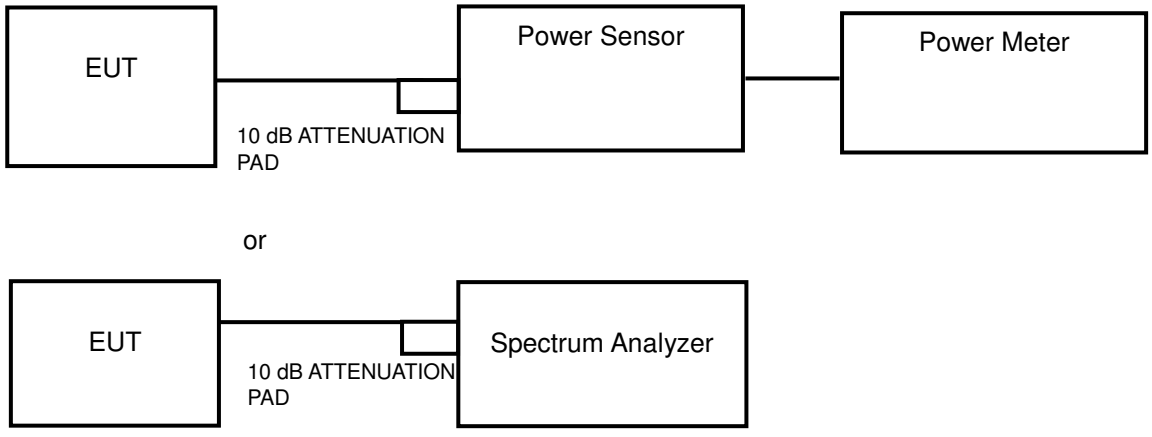
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

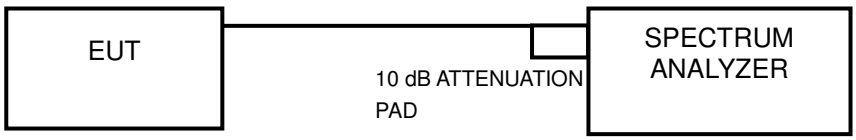
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

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:

<1TX>

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	38.82	15.89	24	Pass
44	5220	38.37	15.84	24	Pass
48	5240	38.64	15.87	24	Pass
52	5260	37.50	15.74	24	Pass
60	5300	38.19	15.82	24	Pass
64	5320	38.64	15.87	24	Pass
100	5500	38.37	15.84	24	Pass
116	5580	37.67	15.76	24	Pass
140	5700	38.11	15.81	24	Pass
149	5745	40.36	16.06	30	Pass
157	5785	40.46	16.07	30	Pass
165	5825	38.37	15.84	30	Pass

NOTE:

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

1. 11 dBm + 10log (21.56) = 24.34 dBm > 24 dBm.
2. 11 dBm + 10log (22.66) = 24.55 dBm > 24 dBm.
3. 11 dBm + 10log (21.70) = 24.36 dBm > 24 dBm.
4. 11 dBm + 10log (21.55) = 24.33 dBm > 24 dBm.
5. 11 dBm + 10log (21.58) = 24.34 dBm > 24 dBm.
6. 11 dBm + 10log (21.64) = 24.35 dBm > 24 dBm.

<2TX>

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	11.78	14.26	41.73	16.20	24	Pass
44	5220	11.59	14.33	41.52	16.18	24	Pass
48	5240	11.77	14.23	41.52	16.18	24	Pass
52	5260	11.72	14.16	40.92	16.12	24	Pass
60	5300	11.97	13.93	40.46	16.07	24	Pass
64	5320	11.95	14.01	40.84	16.11	24	Pass
100	5500	12.46	14.18	43.80	16.41	24	Pass
116	5580	12.38	13.99	42.36	16.27	24	Pass
140	5700	12.59	13.52	40.65	16.09	24	Pass
149	5745	11.77	14.24	41.58	16.19	30	Pass
157	5785	11.86	14.33	42.45	16.28	30	Pass
165	5825	11.93	14.09	41.24	16.15	30	Pass

NOTE:

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

CHAIN 0

1. 11 dBm + 10log (24.92) = 24.97 dBm > 24 dBm.
2. 11 dBm + 10log (22.73) = 24.57 dBm > 24 dBm.
3. 11 dBm + 10log (21.94) = 24.41 dBm > 24 dBm.
4. 11 dBm + 10log (23.23) = 24.66 dBm > 24 dBm.
5. 11 dBm + 10log (24.00) = 24.80 dBm > 24 dBm.
6. 11 dBm + 10log (22.16) = 24.46 dBm > 24 dBm.

CHAIN 1

1. 11 dBm + 10log (24.85) = 24.95 dBm > 24 dBm.
2. 11 dBm + 10log (27.33) = 25.37 dBm > 24 dBm.
3. 11 dBm + 10log (25.22) = 25.02 dBm > 24 dBm.
4. 11 dBm + 10log (26.01) = 25.15 dBm > 24 dBm.
5. 11 dBm + 10log (23.29) = 24.67 dBm > 24 dBm.
6. 11 dBm + 10log (27.93) = 25.46 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	11.56	14.38	41.74	16.21	24	Pass
46	5230	11.66	14.44	42.45	16.28	24	Pass
54	5270	11.67	14.51	42.94	16.33	24	Pass
62	5310	12.07	14.39	43.59	16.39	24	Pass
102	5510	12.42	14.15	43.46	16.38	24	Pass
110	5550	12.28	13.85	41.17	16.15	24	Pass
134	5670	12.59	13.76	41.92	16.22	24	Pass
151	5755	11.81	14.29	42.02	16.23	30	Pass
159	5795	11.74	14.26	41.59	16.19	30	Pass

NOTE:

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

CHAIN 0

1. 11 dBm + 10log (45.81) = 27.61 dBm > 24 dBm.
2. 11 dBm + 10log (41.25) = 27.15 dBm > 24 dBm.
3. 11 dBm + 10log (51.41) = 28.11 dBm > 24 dBm.
4. 11 dBm + 10log (50.27) = 28.01 dBm > 24 dBm.
5. 11 dBm + 10log (47.35) = 27.75 dBm > 24 dBm.

CHAIN 1

1. 11 dBm + 10log (70.41) = 29.48 dBm > 24 dBm.
2. 11 dBm + 10log (72.08) = 29.58 dBm > 24 dBm.
3. 11 dBm + 10log (56.21) = 28.50 dBm > 24 dBm.
4. 11 dBm + 10log (62.38) = 28.95 dBm > 24 dBm.
5. 11 dBm + 10log (66.69) = 29.24 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	11.21	14.39	40.69	16.10	24	Pass
58	5290	11.19	14.34	40.32	16.05	24	Pass
106	5530	11.09	14.15	38.85	15.89	24	Pass
122	5610	11.03	14.05	38.09	15.81	24	Pass
155	5775	10.93	14.24	38.93	15.90	30	Pass

NOTE:

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

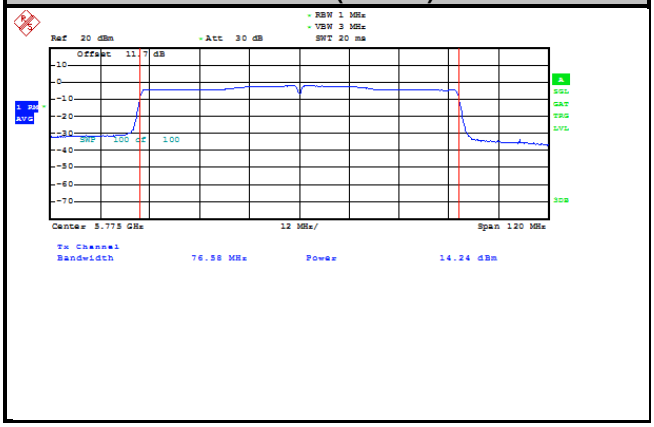
CHAIN 0

1. 11 dBm + 10log (98.99) = 30.96 dBm > 24 dBm.
2. 11 dBm + 10log (99.90) = 31.00 dBm > 24 dBm.
3. 11 dBm + 10log (99.20) = 30.97 dBm > 24 dBm.

CHAIN 1

1. 11 dBm + 10log (105.53) = 31.23 dBm > 24 dBm.
2. 11 dBm + 10log (104.53) = 31.19 dBm > 24 dBm.
3. 11 dBm + 10log (104.58) = 31.19 dBm > 24 dBm.

Spectrum Plot of Worst Value
802.11ac (VHT80)



26 dB Bandwidth:

<1TX>

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
36	5180	21.65	Pass
44	5220	21.88	Pass
48	5240	21.53	Pass
52	5260	21.56	Pass
60	5300	22.66	Pass
64	5320	21.70	Pass
100	5500	21.55	Pass
116	5580	21.58	Pass
140	5700	21.64	Pass

<2TX>

802.11n (HT20)

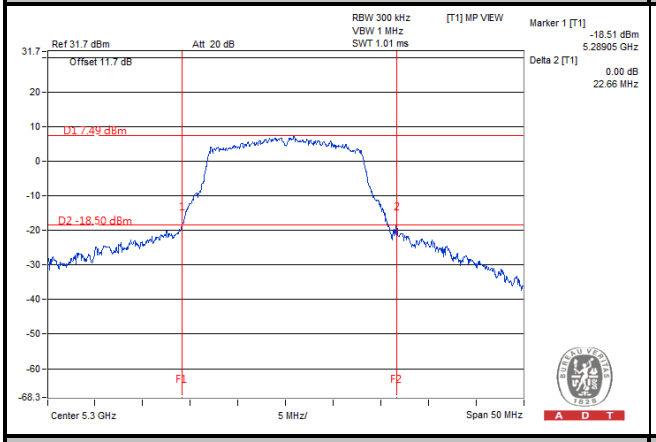
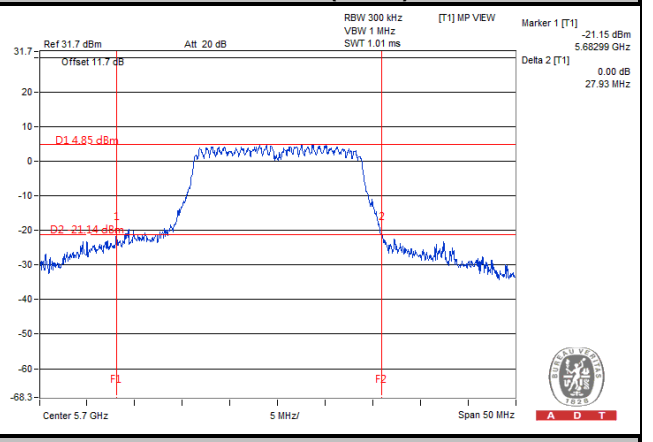
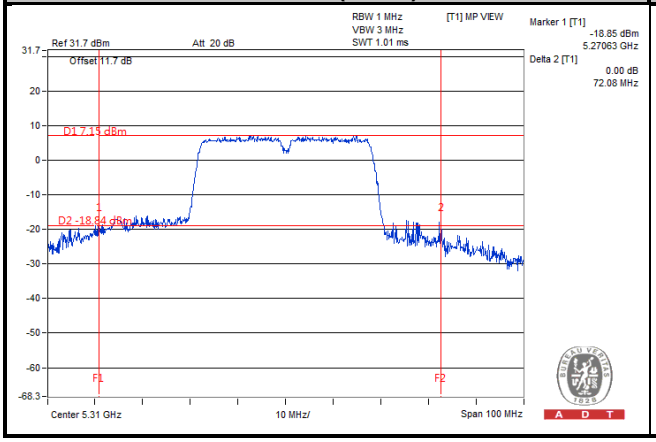
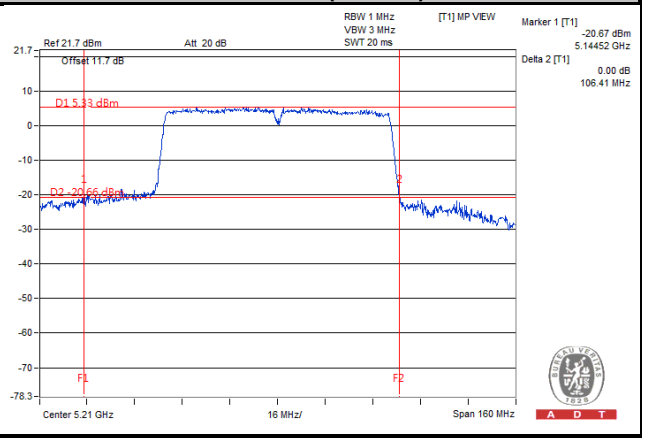
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	23.48	25.00	Pass
44	5220	22.16	23.91	Pass
48	5240	23.47	25.06	Pass
52	5260	24.92	24.85	Pass
60	5300	22.73	27.33	Pass
64	5320	21.94	25.22	Pass
100	5500	23.23	26.01	Pass
116	5580	24.00	23.29	Pass
140	5700	22.16	27.93	Pass

802.11n (HT40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	43.87	68.44	Pass
46	5230	44.53	68.61	Pass
54	5270	45.81	70.41	Pass
62	5310	41.25	72.08	Pass
102	5510	51.41	56.21	Pass
110	5550	50.27	62.38	Pass
134	5670	47.35	66.69	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	99.70	106.41	Pass
58	5290	98.99	105.53	Pass
106	5530	99.90	104.53	Pass
122	5610	99.20	104.58	Pass

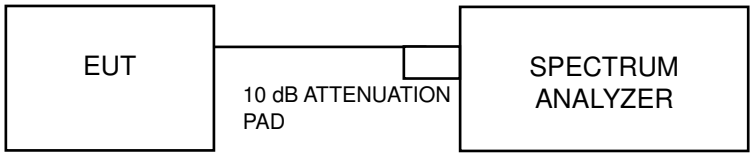
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

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 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

※For U-NII-3:

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

4.4.5 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

<1TX>

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	5.50	0.24	5.74	11	Pass
44	5220	4.52	0.24	4.76	11	Pass
48	5240	4.39	0.24	4.63	11	Pass
52	5260	4.55	0.24	4.79	11	Pass
60	5300	4.44	0.24	4.68	11	Pass
64	5320	4.24	0.24	4.48	11	Pass
100	5500	4.24	0.24	4.48	11	Pass
116	5580	4.37	0.24	4.61	11	Pass
140	5700	4.50	0.24	4.74	11	Pass

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

<2TX>

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm)		Total PSD w/o Duty Factor (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-0.97	0.80	3.01	0.46	3.48	11	Pass
44	5220	-1.17	0.46	2.73	0.46	3.20	11	Pass
48	5240	-1.11	0.14	2.57	0.46	3.03	11	Pass
52	5260	-1.05	0.01	2.52	0.46	2.99	11	Pass
60	5300	-0.96	-0.31	2.39	0.46	2.85	11	Pass
64	5320	-1.27	-0.19	2.31	0.46	2.78	11	Pass
100	5500	-0.67	0.12	2.75	0.46	3.22	11	Pass
116	5580	-0.05	0.40	3.19	0.46	3.66	11	Pass
140	5700	-0.02	0.36	3.18	0.46	3.65	11	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -3 dBi + 10log(2) = 0.01 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm)		Total PSD w/o Duty Factor (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-3.99	-1.18	0.65	1.12	1.77	11	Pass
46	5230	-4.10	-1.85	0.18	1.12	1.30	11	Pass
54	5270	-4.05	-2.11	0.04	1.12	1.16	11	Pass
62	5310	-4.24	-2.40	-0.21	1.12	0.90	11	Pass
102	5510	-3.27	-2.32	0.24	1.12	1.36	11	Pass
110	5550	-3.38	-2.18	0.27	1.12	1.39	11	Pass
134	5670	-3.12	-1.41	0.83	1.12	1.95	11	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -3 dBi + 10log(2) = 0.01 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

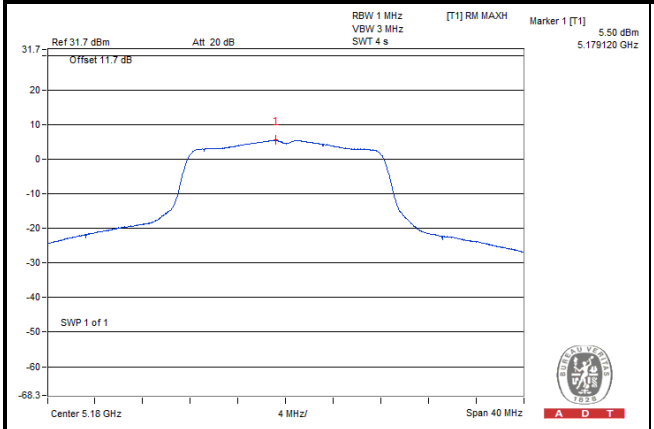
Channel	Frequency (MHz)	PSD (dBm)		Total PSD w/o Duty Factor (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-6.00	-3.26	-1.41	2.14	0.73	11	Pass
58	5290	-6.12	-4.02	-1.93	2.14	0.20	11	Pass
106	5530	-4.97	-4.17	-1.54	2.14	0.60	11	Pass
122	5610	-4.85	-3.77	-1.27	2.14	0.87	11	Pass

NOTE:

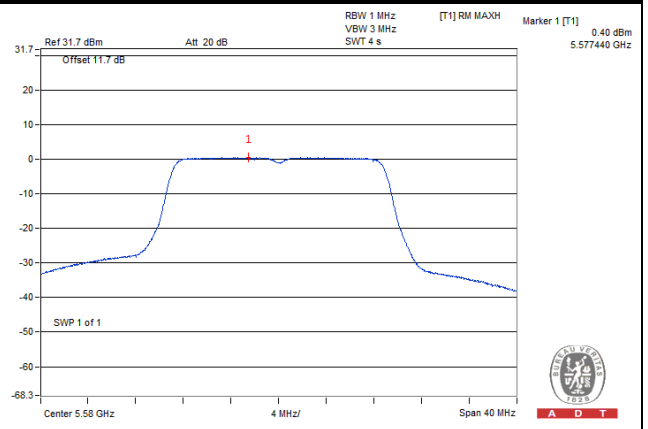
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = -3 dBi + 10log(2) = 0.01 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

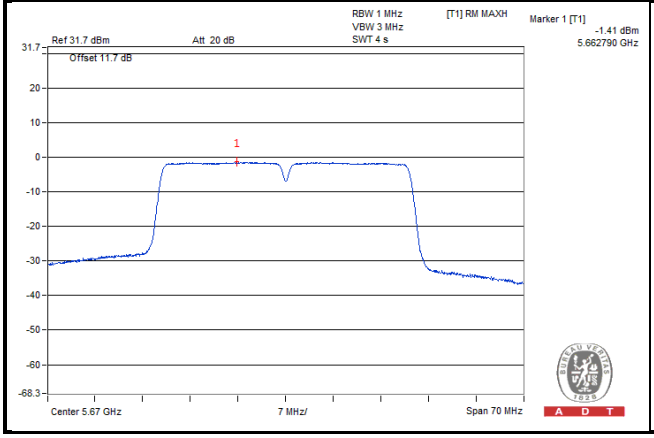
802.11a



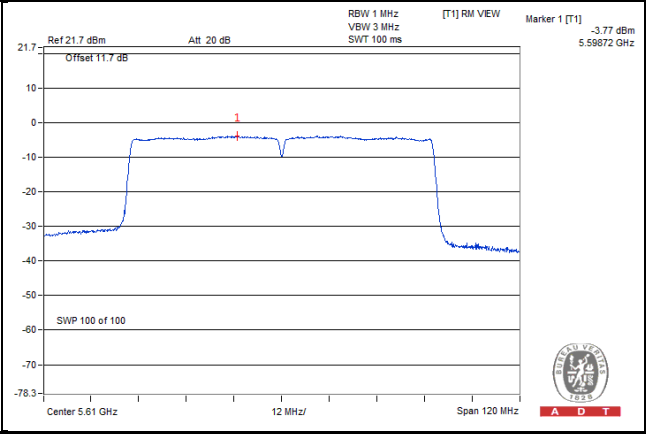
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

<1TX>

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	1.92	0.24	2.16	30	Pass
157	5785	2.32	0.24	2.56	30	Pass
165	5825	2.40	0.24	2.64	30	Pass

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

<2TX>

802.11n (HT20)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD without Duty Factor (dBm/500 kHz)	Duty Factor	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-3.93	3.01	-0.92	0.46	-0.46	30	Pass
	157	5785	-3.60	3.01	-0.59	0.46	-0.13	30	Pass
	165	5825	-3.02	3.01	-0.01	0.46	0.45	30	Pass
1	149	5745	-2.05	3.01	0.96	0.46	1.42	30	Pass
	157	5785	-2.10	3.01	0.91	0.46	1.37	30	Pass
	165	5825	-1.49	3.01	1.52	0.46	1.98	30	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD without Duty Factor (dBm/500 kHz)	Duty Factor	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-6.87	3.01	-3.86	1.12	-2.74	30	Pass
	159	5795	-6.54	3.01	-3.53	1.12	-2.41	30	Pass
1	151	5755	-5.00	3.01	-1.99	1.12	-0.87	30	Pass
	159	5795	-4.61	3.01	-1.60	1.12	-0.48	30	Pass

NOTE:

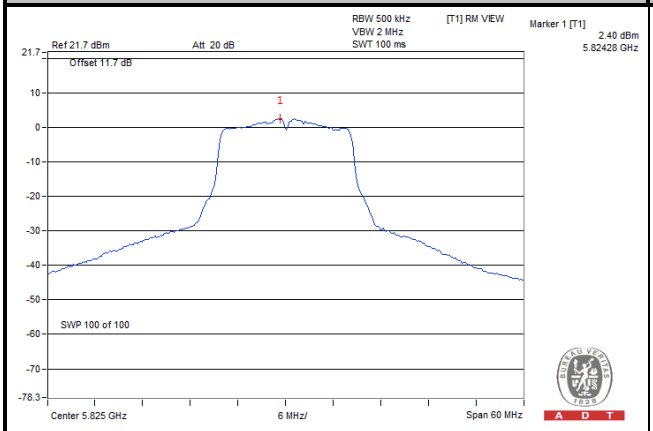
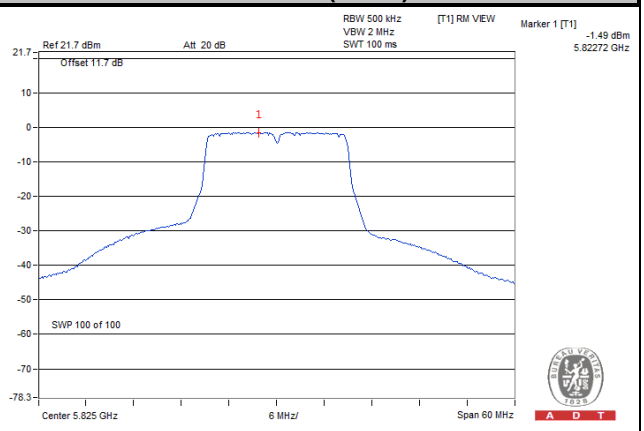
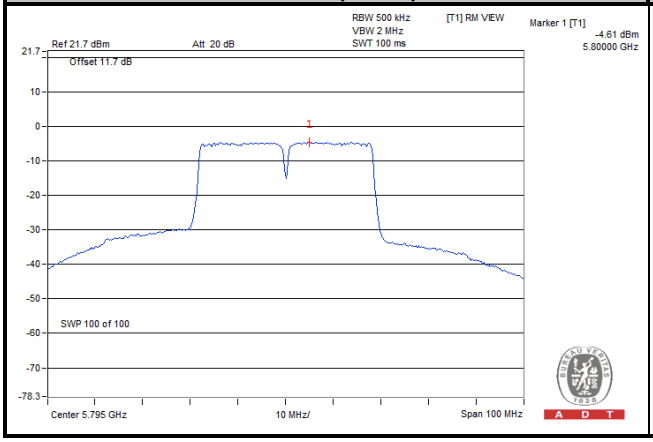
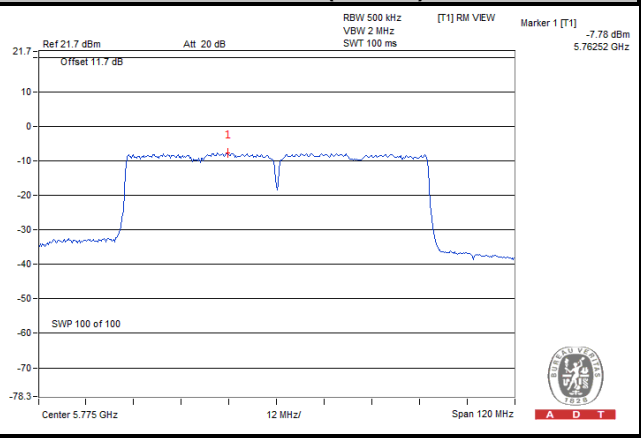
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD without Duty Factor (dBm/500 kHz)	Duty Factor	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-10.53	3.01	-7.52	2.14	-5.38	30	Pass
1	155	5775	-7.78	3.01	-4.77	2.14	-2.63	30	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = -3.5 dBi + 10log(2) = -0.49 dBi < 6 dBi, so the power density limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

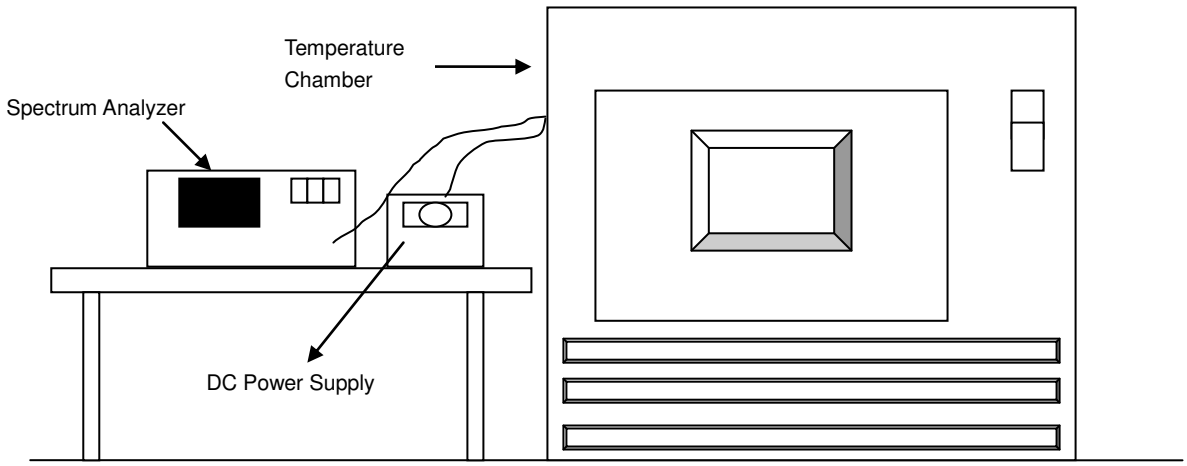
Spectrum Plot of Worst Value	
802.11a	**802.11n (HT20)**
	
802.11n (HT40)	**802.11ac (VHT80)**
	

4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
55	3.8	5320.014051	2.641	5320.013477	2.533	5320.013663	2.568	5320.013574	2.552
50	3.8	5320.014687	2.761	5320.014017	2.635	5320.014439	2.714	5320.013949	2.622
40	3.8	5320.014329	2.693	5320.014750	2.773	5320.014110	2.652	5320.014695	2.762
30	3.8	5320.015916	2.992	5320.015875	2.984	5320.015073	2.833	5320.015375	2.890
20	3.8	5320.016210	3.047	5320.016639	3.128	5320.016307	3.065	5320.016871	3.171
10	3.8	5320.017636	3.315	5320.018079	3.398	5320.017724	3.332	5320.018216	3.424
0	3.8	5320.016500	3.102	5320.016764	3.151	5320.016565	3.114	5320.016463	3.095
-10	3.8	5320.014800	2.782	5320.015411	2.897	5320.015355	2.886	5320.015284	2.873
-20	3.8	5320.014744	2.771	5320.014200	2.669	5320.014503	2.726	5320.014671	2.758
-30	3.8	5320.013326	2.505	5320.013602	2.557	5320.013112	2.465	5320.013263	2.493

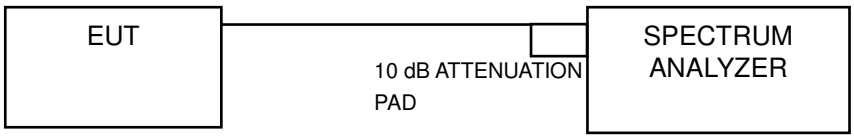
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.6	5320.021287	4.001	5320.021657	4.071	5320.021150	3.976	5320.021418	4.026
	3.85	5320.016210	3.047	5320.016639	3.128	5320.016307	3.065	5320.016871	3.171
	4.4	5320.022952	4.314	5320.022978	4.319	5320.022693	4.266	5320.023349	4.389

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

<1TX>

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.37	0.5	Pass
157	5785	16.37	0.5	Pass
165	5825	16.37	0.5	Pass

<2TX>

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.64	17.67	0.5	Pass
157	5785	17.66	17.65	0.5	Pass
165	5825	17.65	17.67	0.5	Pass

802.11n (HT40)

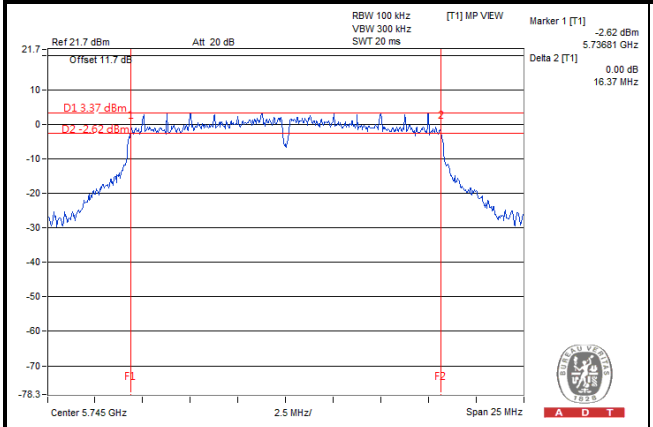
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.46	36.43	0.5	Pass
159	5795	36.48	36.44	0.5	Pass

802.11ac (VHT80)

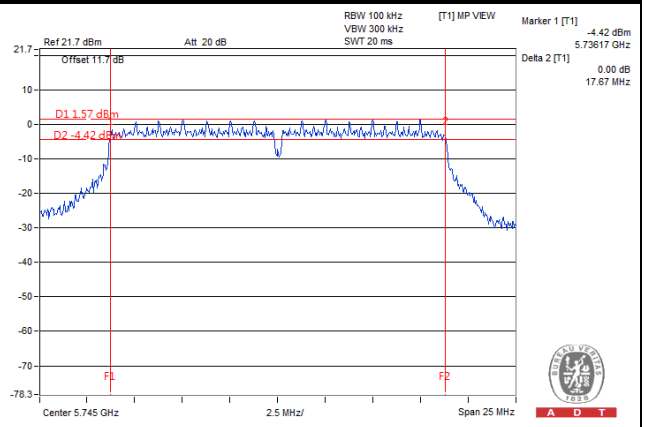
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.53	76.58	0.5	Pass

Spectrum Plot of Worst Value

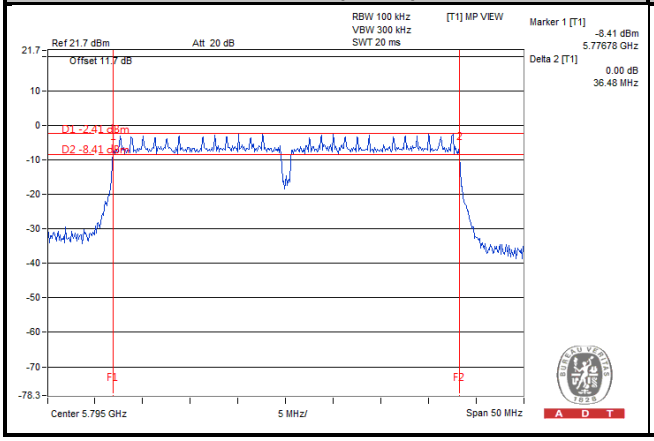
802.11a



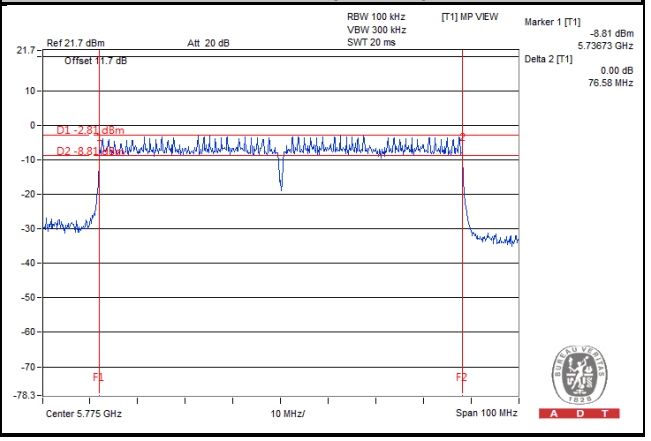
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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