FCC Test Report

Report No.:	RF160603C09-3
FCC ID:	HFS-QTASUN1
Test Model:	QTASUN1
Received Date:	Jun. 03, 2016
Test Date:	Jun. 14, 2016 ~ Jul. 13, 2016
Issued Date:	Jul. 25, 2016
Applicant:	Quanta Computer Inc.
Address:	No.188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan
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
RF160603C09-3	Original Release	Jul. 25, 2016

1 Certificate of Conformity

Product:	8 inch Tablet
Test Model:	QTASUN1
Sample Status:	Identical Prototype
Applicant:	Quanta Computer Inc.
Test Date:	Jun. 14, 2016 ~ Jul. 13, 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 : Vera Huang , **Date:** Jul. 25, 2016

Vera Huang / Specialist

Approved by : Stanley Wu , **Date:** Jul. 25, 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 -12.38 dB at 0.61543 MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.58 dB at 5714 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	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	8 inch Tablet
Test Model	QTASUN1
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 MCS7 802.11ac: up to V9
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	18.97 mW for 5180 ~ 5240 MHz 19.50 mW for 5260 ~ 5320 MHz 19.54 mW for 5500 ~ 5700 MHz 20.84 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with -0.31 dBi gain (5180 ~ 5240 MHz) PIFA antenna with -0.31 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 0.41 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -0.12 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 provides one completed transmitter and one receiver.

Modulation Mode	Tx Function
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (HT20)	1TX
802.11ac (HT40)	1TX

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	PI ELECTRONICS	AD2062320	I/P: 100-240 Vac, 50/60 Hz, 0.3 A O/P: 5 Vdc, 2 A
Battery	McNair	MLP29110109	3.85 Vdc, 5100 mAh
USB Cable	Quanta	N/A	1m cable
LTE Chip	Qualcomm	WTR2965	--
WLAN Chip	Qualcomm	WCN3680B	--

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

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

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		

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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/5500-5700MH/5745-5825MHz and **Y-plane** for 5260-5320MHz.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

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

Radiated Emission Test (Below 1 GHz):

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

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

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

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	Wayne Lin

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

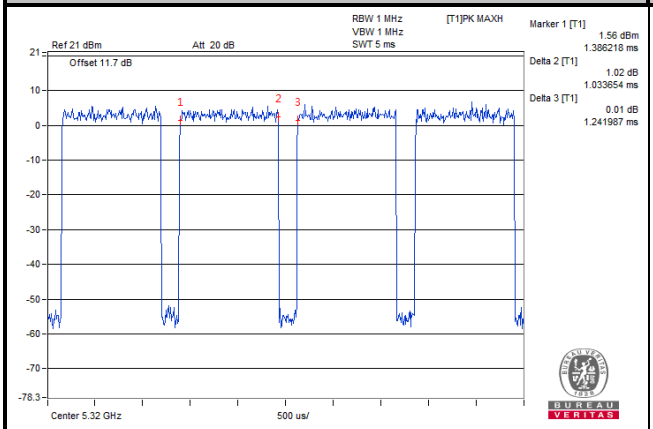
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 1.033/1.241 = 0.832, Duty factor = 10 * log(1/0.832) = 0.80

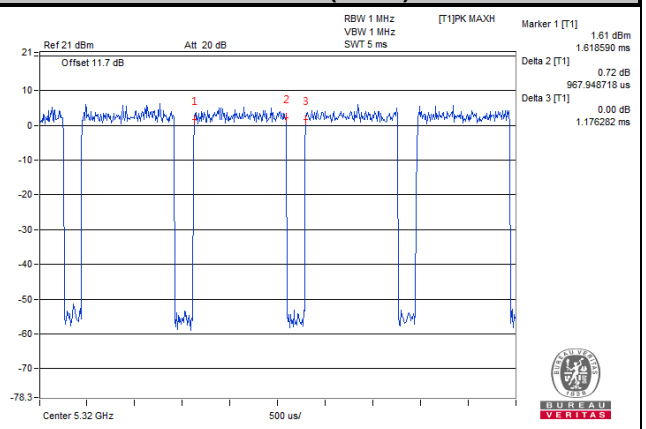
802.11n (HT20): Duty cycle = 0.967/1.176 = 0.822, Duty factor = 10 * log(1/0.822) = 0.85

802.11n (HT40): Duty cycle = 469.55/685.89 = 0.684, Duty factor = 10 * log(1/0.684) = 1.65

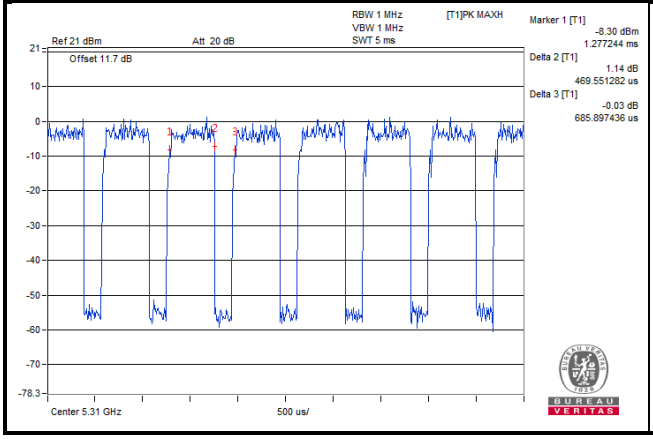
802.11a



802.11n (HT20)



802.11n (HT40)



MODULATION TYPE: QPSK

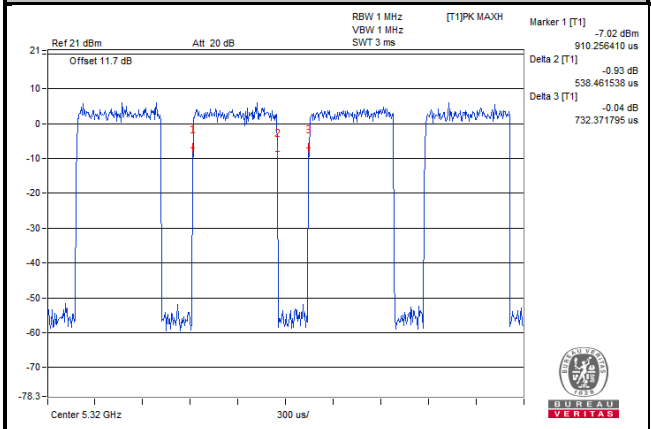
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 538.46/732.37 = 0.735, Duty factor = 10 * log(1/0.735) = 1.34

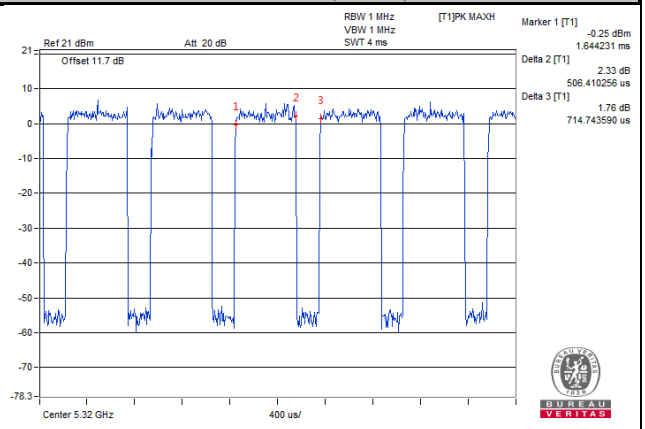
802.11n (HT20): Duty cycle = 506.41/714.74 = 0.708, Duty factor = 10 * log(1/0.708) = 1.50

802.11n (HT40): Duty cycle = 232.37/448.71 = 0.518, Duty factor = 10 * log(1/0.518) = 2.86

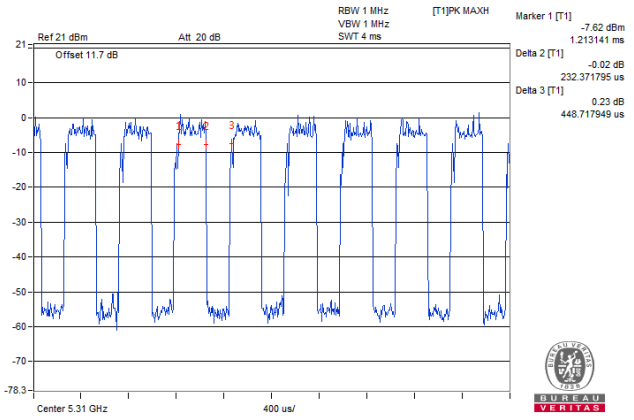
802.11a



802.11n (HT20)



802.11n (HT40)



MODULATION TYPE: 16QAM

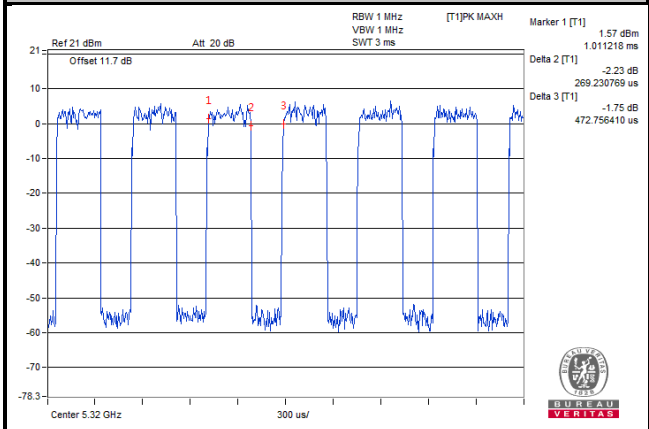
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 269.23/472.75 = 0.569, Duty factor = 10 * log(1/0.569) = 2.45

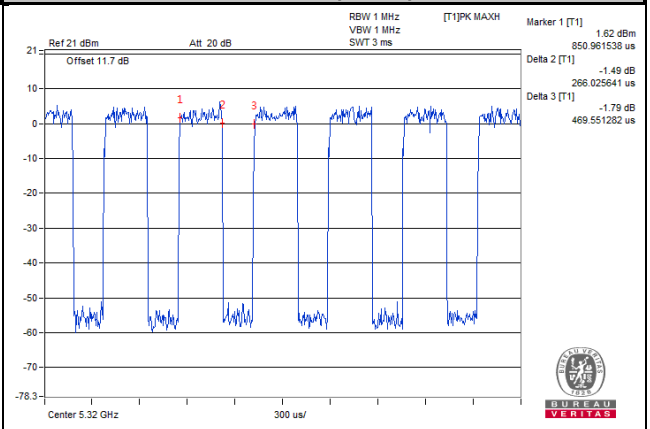
802.11n (HT20): Duty cycle = 266.02/469.55 = 0.566, Duty factor = 10 * log(1/0.566) = 2.47

802.11n (HT40): Duty cycle = 131.41/347.75 = 0.378, Duty factor = 10 * log(1/0.378) = 4.23

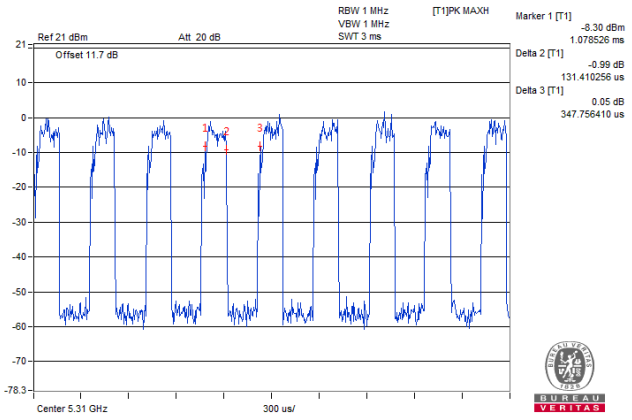
802.11a



802.11n (HT20)



802.11n (HT40)



MODULATION TYPE: 64QAM

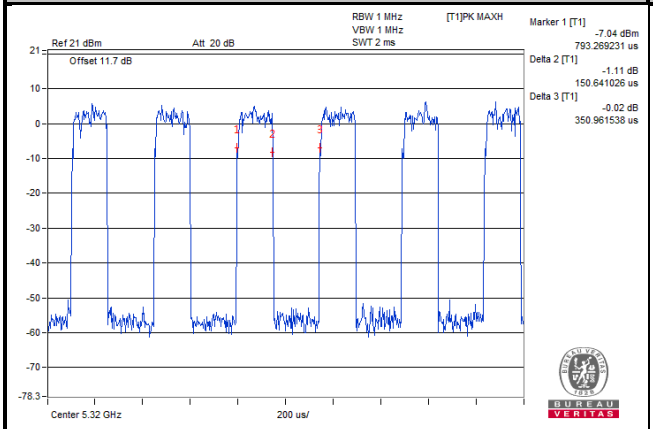
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 150.64/350.96 = 0.429, Duty factor = 10 * log(1/0.429) = 3.67

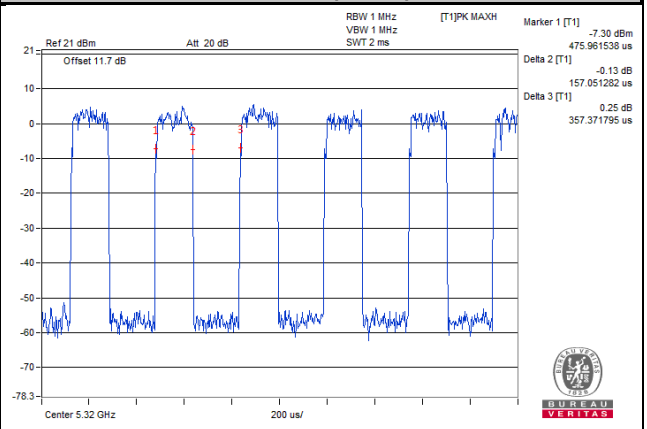
802.11n (HT20): Duty cycle = 157.05/357.37 = 0.439, Duty factor = 10 * log(1/0.439) = 3.57

802.11n (HT40): Duty cycle = 73.71/306.08 = 0.241, Duty factor = 10 * log(1/0.241) = 6.18

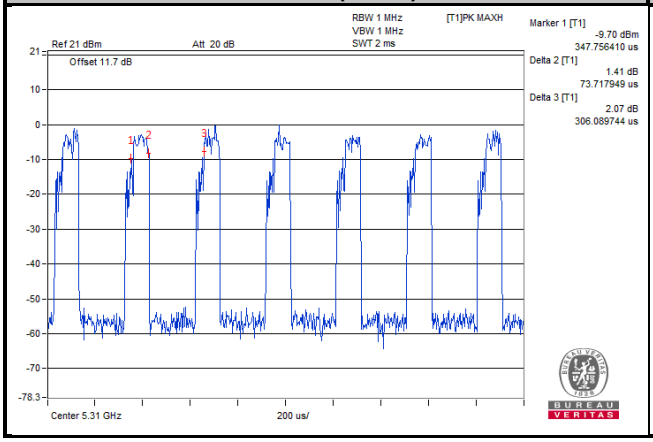
802.11a



802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

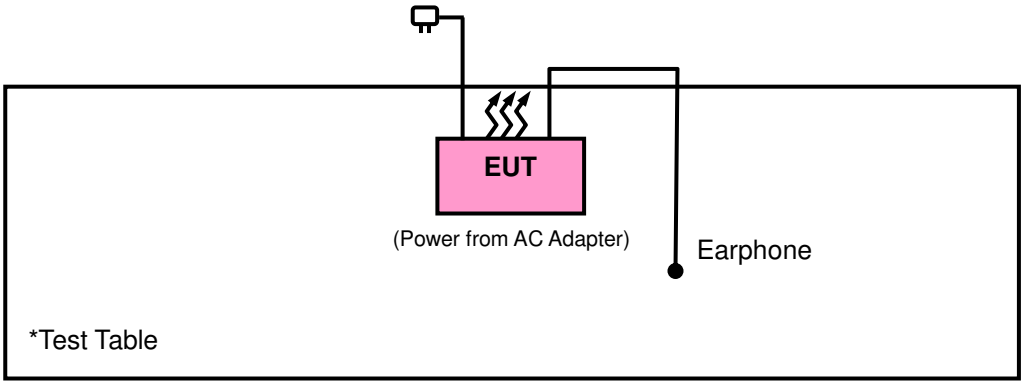
No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Earphone	N/A	N/A	N/A	N/A

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

Note:

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

3.4.1 Configuration of System under Test



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
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 v01r02	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:

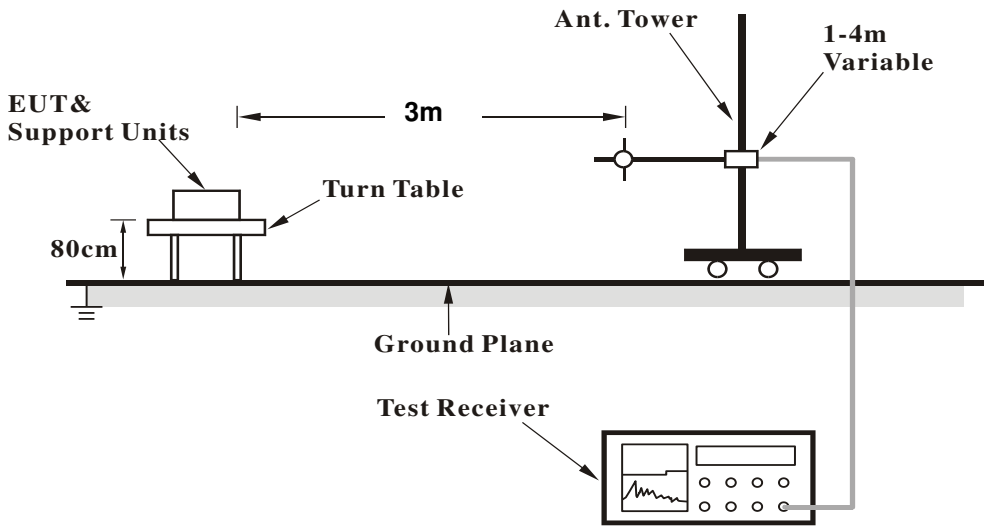
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.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

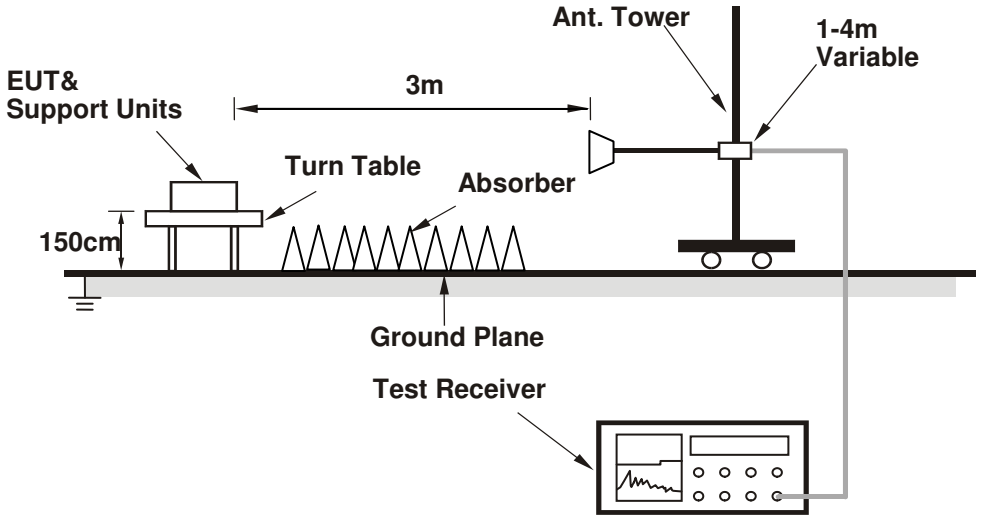
No deviation.

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：

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**
5122	41.71	41.53	54	-12.29	31.29	6.19	37.3	198	208	Average
5122	60.51	60.33	74	-13.49	31.29	6.19	37.3	198	208	Peak
5180	90.44	90.21			31.35	6.22	37.34	198	208	Average
5180	99.76	99.53			31.35	6.22	37.34	198	208	Peak
5456	38.83	38.01	54	-15.17	31.56	6.34	37.08	198	208	Average
5456	61.76	60.94	74	-12.24	31.56	6.34	37.08	198	208	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**
5060	40.98	40.81	54	-13.02	31.25	6.17	37.25	182	133	Average
5060	61.53	61.36	74	-12.47	31.25	6.17	37.25	182	133	Peak
5180	88.84	88.61			31.35	6.22	37.34	182	133	Average
5180	98.28	98.05			31.35	6.22	37.34	182	133	Peak
5428	38.63	37.91	54	-15.37	31.53	6.32	37.13	182	133	Average
5428	60.64	59.92	74	-13.36	31.53	6.32	37.13	182	133	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**
5050	38.36	38.22	54	-15.64	31.24	6.15	37.25	199	206	Average
5050	60.3	60.16	74	-13.7	31.24	6.15	37.25	199	206	Peak
5220	90.32	90.07			31.37	6.24	37.36	199	206	Average
5220	99.8	99.55			31.37	6.24	37.36	199	206	Peak
5386	38.73	38.09	54	-15.27	31.51	6.31	37.18	199	206	Average
5386	61.57	60.93	74	-12.43	31.51	6.31	37.18	199	206	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	38.6	38.4	54	-15.4	31.32	6.2	37.32	188	130	Average
5150	60.12	59.92	74	-13.88	31.32	6.2	37.32	188	130	Peak
5220	88.72	88.47			31.37	6.24	37.36	188	130	Average
5220	98.1	97.85			31.37	6.24	37.36	188	130	Peak
5436	38.66	37.92	54	-15.34	31.55	6.32	37.13	188	130	Average
5436	60.31	59.57	74	-13.69	31.55	6.32	37.13	188	130	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**
5046	38.54	38.4	54	-15.46	31.24	6.15	37.25	196	200	Average
5046	60.06	59.92	74	-13.94	31.24	6.15	37.25	196	200	Peak
5240	90.3	89.98			31.39	6.25	37.32	196	200	Average
5240	99.76	99.44			31.39	6.25	37.32	196	200	Peak
5354	38.74	38.15	54	-15.26	31.48	6.29	37.18	196	200	Average
5354	60.1	59.51	74	-13.9	31.48	6.29	37.18	196	200	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**
5110	38.33	38.13	54	-15.67	31.29	6.19	37.28	187	124	Average
5110	60.14	59.94	74	-13.86	31.29	6.19	37.28	187	124	Peak
5240	89.21	88.89			31.39	6.25	37.32	187	124	Average
5240	98.47	98.15			31.39	6.25	37.32	187	124	Peak
5448	38.91	38.14	54	-15.09	31.56	6.34	37.13	187	124	Average
5448	60.65	59.88	74	-13.35	31.56	6.34	37.13	187	124	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**
5096	38.29	38.1	54	-15.71	31.28	6.19	37.28	102	154	Average
5096	59.74	59.55	74	-14.26	31.28	6.19	37.28	102	154	Peak
5260	84.37	83.98			31.41	6.25	37.27	102	154	Average
5260	93.61	93.22			31.41	6.25	37.27	102	154	Peak
5420	38.45	37.78	54	-15.55	31.53	6.32	37.18	102	154	Average
5420	60.55	59.88	74	-13.45	31.53	6.32	37.18	102	154	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**
5080	38.12	37.95	54	-15.88	31.27	6.17	37.27	148	167	Average
5080	59.74	59.57	74	-14.26	31.27	6.17	37.27	148	167	Peak
5260	91.38	90.99			31.41	6.25	37.27	148	167	Average
5260	100.53	100.14			31.41	6.25	37.27	148	167	Peak
5416	38.71	38.04	54	-15.29	31.53	6.32	37.18	148	167	Average
5416	60.53	59.86	74	-13.47	31.53	6.32	37.18	148	167	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**
5094	38.23	38.04	54	-15.77	31.28	6.19	37.28	102	154	Average
5094	60.47	60.28	74	-13.53	31.28	6.19	37.28	102	154	Peak
5300	84.88	84.36			31.44	6.27	37.19	102	154	Average
5300	94.4	93.88			31.44	6.27	37.19	102	154	Peak
5360	38.63	38.02	54	-15.37	31.48	6.31	37.18	102	154	Average
5360	61.52	60.91	74	-12.48	31.48	6.31	37.18	102	154	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**
5104	38.21	38.02	54	-15.79	31.28	6.19	37.28	148	167	Average
5104	59.86	59.67	74	-14.14	31.28	6.19	37.28	148	167	Peak
5300	92.54	92.02			31.44	6.27	37.19	148	167	Average
5300	102.32	101.8			31.44	6.27	37.19	148	167	Peak
5360	41.9	41.29	54	-12.1	31.48	6.31	37.18	148	167	Average
5360	61.11	60.5	74	-12.89	31.48	6.31	37.18	148	167	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**
5110	38.19	37.99	54	-15.81	31.29	6.19	37.28	102	154	Average
5110	60.34	60.14	74	-13.66	31.29	6.19	37.28	102	154	Peak
5320	85.16	84.61			31.45	6.29	37.19	102	154	Average
5320	94.46	93.91			31.45	6.29	37.19	102	154	Peak
5370	39.27	38.65	54	-14.73	31.49	6.31	37.18	102	154	Average
5370	60.56	59.94	74	-13.44	31.49	6.31	37.18	102	154	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**
5118	38.3	38.1	54	-15.7	31.29	6.19	37.28	148	167	Average
5118	60.43	60.23	74	-13.57	31.29	6.19	37.28	148	167	Peak
5320	92.41	91.86			31.45	6.29	37.19	148	167	Average
5320	101.55	101			31.45	6.29	37.19	148	167	Peak
5350	42.78	42.19	54	-11.22	31.48	6.29	37.18	148	167	Average
5350	61.98	61.39	74	-12.02	31.48	6.29	37.18	148	167	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**
5374	40.96	40.34	54	-13.04	31.49	6.31	37.18	195	210	Average
5374	60.74	60.12	74	-13.26	31.49	6.31	37.18	195	210	Peak
5470	60.09	59.26	68.2	-8.11	31.57	6.34	37.08	195	210	Peak
5500	93.18	92.25			31.6	6.36	37.03	195	210	Average
5500	102.77	101.84			31.6	6.36	37.03	195	210	Peak
5725	58.53	57.25	68.2	-9.67	31.96	6.75	37.43	195	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**
5404	39.67	39.01	54	-14.33	31.52	6.32	37.18	136	140	Average
5404	60.82	60.16	74	-13.18	31.52	6.32	37.18	136	140	Peak
5470	59.63	58.8	68.2	-8.57	31.57	6.34	37.08	136	140	Peak
5500	89.26	88.33			31.6	6.36	37.03	136	140	Average
5500	98.94	98.01			31.6	6.36	37.03	136	140	Peak
5725	61.2	59.92	68.2	-7	31.96	6.75	37.43	136	140	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**
5442	38.45	37.69	54	-15.55	31.55	6.34	37.13	189	207	Average
5442	60.84	60.08	74	-13.16	31.55	6.34	37.13	189	207	Peak
5470	59.29	58.46	68.2	-8.91	31.57	6.34	37.08	189	207	Peak
5580	94.89	93.85			31.71	6.49	37.16	189	207	Average
5580	104.49	103.45			31.71	6.49	37.16	189	207	Peak
5725	58.13	56.85	68.2	-10.07	31.96	6.75	37.43	189	207	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**
5454	38.36	37.54	54	-15.64	31.56	6.34	37.08	140	139	Average
5454	60.09	59.27	74	-13.91	31.56	6.34	37.08	140	139	Peak
5470	58.38	57.55	68.2	-9.82	31.57	6.34	37.08	140	139	Peak
5580	90.6	89.56			31.71	6.49	37.16	140	139	Average
5580	99.9	98.86			31.71	6.49	37.16	140	139	Peak
5725	59.81	58.53	68.2	-8.39	31.96	6.75	37.43	140	139	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**
5454	38.51	37.69	54	-15.49	31.56	6.34	37.08	192	214	Average
5454	60.3	59.48	74	-13.7	31.56	6.34	37.08	192	214	Peak
5470	58.79	57.96	68.2	-9.41	31.57	6.34	37.08	192	214	Peak
5700	93.8	92.61			31.9	6.69	37.4	192	214	Average
5700	103.53	102.34			31.9	6.69	37.4	192	214	Peak
5725	61.9	60.62	68.2	-6.3	31.96	6.75	37.43	192	214	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	38.26	37.67	54	-15.74	31.48	6.29	37.18	192	150	Average
5356	59.93	59.34	74	-14.07	31.48	6.29	37.18	192	150	Peak
5470	58.77	57.94	68.2	-9.43	31.57	6.34	37.08	192	150	Peak
5700	88.42	87.23			31.9	6.69	37.4	192	150	Average
5700	98.47	97.28			31.9	6.69	37.4	192	150	Peak
5725	59.61	58.33	68.2	-8.59	31.96	6.75	37.43	192	150	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	62.97	61.78	68.2	-5.23	31.93	6.69	37.43	203	207	Peak
*5725	72.31	71.03	78.2	-5.89	31.96	6.75	37.43	203	207	Peak
5745	94.79	93.52			31.99	6.75	37.47	203	207	Average
5745	104.35	103.08			31.99	6.75	37.47	203	207	Peak
*5850	58.98	57.46	78.2	-19.22	32.15	6.88	37.51	203	207	Peak
*5861	58.96	57.33	68.2	-9.24	32.18	6.95	37.5	203	207	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	60.18	58.99	68.2	-8.02	31.93	6.69	37.43	198	148	Peak
*5725	66.83	65.55	78.2	-11.37	31.96	6.75	37.43	198	148	Peak
5745	88.1	86.83			31.99	6.75	37.47	198	148	Average
5745	97.98	96.71			31.99	6.75	37.47	198	148	Peak
*5850	60.57	59.05	78.2	-17.63	32.15	6.88	37.51	198	148	Peak
*5861	59.97	58.34	68.2	-8.23	32.18	6.95	37.5	198	148	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	58.94	57.75	68.2	-9.26	31.93	6.69	37.43	197	211	Peak
*5725	59.83	58.55	78.2	-18.37	31.96	6.75	37.43	197	211	Peak
5785	93.44	92.12			32.04	6.82	37.54	197	211	Average
5785	103.55	102.23			32.04	6.82	37.54	197	211	Peak
*5850	59.41	57.89	78.2	-18.79	32.15	6.88	37.51	197	211	Peak
*5861	60.68	59.05	68.2	-7.52	32.18	6.95	37.5	197	211	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	58.74	57.55	68.2	-9.46	31.93	6.69	37.43	141	144	Peak
*5725	59.69	58.41	78.2	-18.51	31.96	6.75	37.43	141	144	Peak
5785	87.09	85.77			32.04	6.82	37.54	141	144	Average
5785	97.69	96.37			32.04	6.82	37.54	141	144	Peak
*5850	59.17	57.65	78.2	-19.03	32.15	6.88	37.51	141	144	Peak
*5861	58.31	56.68	68.2	-9.89	32.18	6.95	37.5	141	144	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	59.5	58.31	68.2	-8.7	31.93	6.69	37.43	144	213	Peak
*5725	59.02	57.74	78.2	-19.18	31.96	6.75	37.43	144	213	Peak
5825	94.66	93.19			32.12	6.88	37.53	144	213	Average
5825	104.43	102.96			32.12	6.88	37.53	144	213	Peak
*5850	65.42	63.9	78.2	-12.78	32.15	6.88	37.51	144	213	Peak
*5861	59.35	57.72	68.2	-8.85	32.18	6.95	37.5	144	213	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	58.46	57.27	68.2	-9.74	31.93	6.69	37.43	172	145	Peak
*5725	58.71	57.43	78.2	-19.49	31.96	6.75	37.43	172	145	Peak
5825	87.02	85.55			32.12	6.88	37.53	172	145	Average
5825	97.43	95.96			32.12	6.88	37.53	172	145	Peak
*5850	62.28	60.76	78.2	-15.92	32.15	6.88	37.51	172	145	Peak
*5861	58.98	57.35	68.2	-9.22	32.18	6.95	37.5	172	145	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 (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**
5088	42.79	42.6	54	-11.21	31.27	6.19	37.27	200	197	Average
5088	60.1	59.91	74	-13.9	31.27	6.19	37.27	200	197	Peak
5180	90.4	90.17			31.35	6.22	37.34	200	197	Average
5180	99.89	99.66			31.35	6.22	37.34	200	197	Peak
5452	39.9	39.08	54	-14.1	31.56	6.34	37.08	200	197	Average
5452	60.36	59.54	74	-13.64	31.56	6.34	37.08	200	197	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**
5138	41.95	41.74	54	-12.05	31.31	6.2	37.3	181	129	Average
5138	60.32	60.11	74	-13.68	31.31	6.2	37.3	181	129	Peak
5180	89.09	88.86			31.35	6.22	37.34	181	129	Average
5180	98.44	98.21			31.35	6.22	37.34	181	129	Peak
5380	38.56	37.92	54	-15.44	31.51	6.31	37.18	181	129	Average
5380	60.45	59.81	74	-13.55	31.51	6.31	37.18	181	129	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**
5138	38.53	38.32	54	-15.47	31.31	6.2	37.3	197	217	Average
5138	60.07	59.86	74	-13.93	31.31	6.2	37.3	197	217	Peak
5220	90.34	90.09			31.37	6.24	37.36	197	217	Average
5220	99.84	99.59			31.37	6.24	37.36	197	217	Peak
5362	38.79	38.17	54	-15.21	31.49	6.31	37.18	197	217	Average
5362	61.31	60.69	74	-12.69	31.49	6.31	37.18	197	217	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**
5018	38.31	38.19	54	-15.69	31.21	6.15	37.24	188	139	Average
5018	60.16	60.04	74	-13.84	31.21	6.15	37.24	188	139	Peak
5220	89.08	88.83			31.37	6.24	37.36	188	139	Average
5220	98.22	97.97			31.37	6.24	37.36	188	139	Peak
5440	38.77	38.01	54	-15.23	31.55	6.34	37.13	188	139	Average
5440	60.96	60.2	74	-13.04	31.55	6.34	37.13	188	139	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**
5134	38.58	38.37	54	-15.42	31.31	6.2	37.3	197	204	Average
5134	60.19	59.98	74	-13.81	31.31	6.2	37.3	197	204	Peak
5240	90.52	90.2			31.39	6.25	37.32	197	204	Average
5240	99.9	99.58			31.39	6.25	37.32	197	204	Peak
5450	38.83	38.01	54	-15.17	31.56	6.34	37.08	197	204	Average
5450	61.05	60.23	74	-12.95	31.56	6.34	37.08	197	204	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**
5052	38.43	38.27	54	-15.57	31.24	6.17	37.25	185	144	Average
5052	60.29	60.13	74	-13.71	31.24	6.17	37.25	185	144	Peak
5240	89.12	88.8			31.39	6.25	37.32	185	144	Average
5240	98.31	97.99			31.39	6.25	37.32	185	144	Peak
5438	38.83	38.07	54	-15.17	31.55	6.34	37.13	185	144	Average
5438	60.71	59.95	74	-13.29	31.55	6.34	37.13	185	144	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**
5072	38.17	38	54	-15.83	31.27	6.17	37.27	102	154	Average
5072	60.43	60.26	74	-13.57	31.27	6.17	37.27	102	154	Peak
5260	84.07	83.68			31.41	6.25	37.27	102	154	Average
5260	93.26	92.87			31.41	6.25	37.27	102	154	Peak
5360	38.43	37.82	54	-15.57	31.48	6.31	37.18	102	154	Average
5360	60.53	59.92	74	-13.47	31.48	6.31	37.18	102	154	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	38.35	38.17	54	-15.65	31.29	6.19	37.3	148	167	Average
5120	60.57	60.39	74	-13.43	31.29	6.19	37.3	148	167	Peak
5260	91.03	90.64			31.41	6.25	37.27	148	167	Average
5260	99.91	99.52			31.41	6.25	37.27	148	167	Peak
5378	38.58	37.94	54	-15.42	31.51	6.31	37.18	148	167	Average
5378	60.67	60.03	74	-13.33	31.51	6.31	37.18	148	167	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**
5104	38.21	38.02	54	-15.79	31.28	6.19	37.28	102	154	Average
5104	59.73	59.54	74	-14.27	31.28	6.19	37.28	102	154	Peak
5300	84.66	84.14			31.44	6.27	37.19	102	154	Average
5300	94.12	93.6			31.44	6.27	37.19	102	154	Peak
5420	39.09	38.42	54	-14.91	31.53	6.32	37.18	102	154	Average
5420	60.68	60.01	74	-13.32	31.53	6.32	37.18	102	154	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	38.08	37.94	54	-15.92	31.23	6.15	37.24	148	167	Average
5026	60.46	60.32	74	-13.54	31.23	6.15	37.24	148	167	Peak
5300	92.37	91.85			31.44	6.27	37.19	148	167	Average
5300	101.83	101.31			31.44	6.27	37.19	148	167	Peak
5440	42.66	41.9	54	-11.34	31.55	6.34	37.13	148	167	Average
5440	60.51	59.75	74	-13.49	31.55	6.34	37.13	148	167	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**
5020	38.34	38.22	54	-15.66	31.21	6.15	37.24	102	154	Average
5020	59.72	59.6	74	-14.28	31.21	6.15	37.24	102	154	Peak
5320	85.02	84.47			31.45	6.29	37.19	102	154	Average
5320	94.34	93.79			31.45	6.29	37.19	102	154	Peak
5396	40.15	39.5	54	-13.85	31.52	6.31	37.18	102	154	Average
5396	60.32	59.67	74	-13.68	31.52	6.31	37.18	102	154	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**
5030	38.29	38.15	54	-15.71	31.23	6.15	37.24	148	167	Average
5030	59.94	59.8	74	-14.06	31.23	6.15	37.24	148	167	Peak
5320	92.55	92			31.45	6.29	37.19	148	167	Average
5320	101.92	101.37			31.45	6.29	37.19	148	167	Peak
5442	44.08	43.32	54	-9.92	31.55	6.34	37.13	148	167	Average
5442	61.29	60.53	74	-12.71	31.55	6.34	37.13	148	167	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**
5350	41.85	41.26	54	-12.15	31.48	6.29	37.18	191	204	Average
5350	61.4	60.81	74	-12.6	31.48	6.29	37.18	191	204	Peak
5470	59.37	58.54	68.2	-8.83	31.57	6.34	37.08	191	204	Peak
5500	93.33	92.4			31.6	6.36	37.03	191	204	Average
5500	103.13	102.2			31.6	6.36	37.03	191	204	Peak
5725	59.07	57.79	68.2	-9.13	31.96	6.75	37.43	191	204	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	39.16	38.52	54	-14.84	31.51	6.31	37.18	141	148	Average
5388	61.9	61.26	74	-12.1	31.51	6.31	37.18	141	148	Peak
5470	57.48	56.65	68.2	-10.72	31.57	6.34	37.08	141	148	Peak
5500	89.45	88.52			31.6	6.36	37.03	141	148	Average
5500	98.93	98			31.6	6.36	37.03	141	148	Peak
5725	60.21	58.93	68.2	-7.99	31.96	6.75	37.43	141	148	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**
5384	38.42	37.78	54	-15.58	31.51	6.31	37.18	192	206	Average
5384	60.17	59.53	74	-13.83	31.51	6.31	37.18	192	206	Peak
5470	57.34	56.51	68.2	-10.86	31.57	6.34	37.08	192	206	Peak
5580	94.44	93.4			31.71	6.49	37.16	192	206	Average
5580	104.11	103.07			31.71	6.49	37.16	192	206	Peak
5725	59.81	58.53	68.2	-8.39	31.96	6.75	37.43	192	206	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	38.48	37.66	54	-15.52	31.56	6.34	37.08	154	150	Average
5456	60.2	59.38	74	-13.8	31.56	6.34	37.08	154	150	Peak
5470	57.49	56.66	68.2	-10.71	31.57	6.34	37.08	154	150	Peak
5580	88.7	87.66			31.71	6.49	37.16	154	150	Average
5580	98.19	97.15			31.71	6.49	37.16	154	150	Peak
5725	60.03	58.75	68.2	-8.17	31.96	6.75	37.43	154	150	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**
5360	38.23	37.62	54	-15.77	31.48	6.31	37.18	184	206	Average
5360	60.44	59.83	74	-13.56	31.48	6.31	37.18	184	206	Peak
5470	58.76	57.93	68.2	-9.44	31.57	6.34	37.08	184	206	Peak
5700	94	92.81			31.9	6.69	37.4	184	206	Average
5700	103.94	102.75			31.9	6.69	37.4	184	206	Peak
5725	65.81	64.53	68.2	-2.39	31.96	6.75	37.43	184	206	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**
5360	38.44	37.83	54	-15.56	31.48	6.31	37.18	136	148	Average
5360	59.83	59.22	74	-14.17	31.48	6.31	37.18	136	148	Peak
5470	58.55	57.72	68.2	-9.65	31.57	6.34	37.08	136	148	Peak
5700	88.5	87.31			31.9	6.69	37.4	136	148	Average
5700	97.99	96.8			31.9	6.69	37.4	136	148	Peak
5725	62.98	61.7	68.2	-5.22	31.96	6.75	37.43	136	148	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	61.92	60.73	68.2	-6.28	31.93	6.69	37.43	203	209	Peak
*5725	73.29	72.01	78.2	-4.91	31.96	6.75	37.43	203	209	Peak
5745	93.88	92.61			31.99	6.75	37.47	203	209	Average
5745	103.27	102			31.99	6.75	37.47	203	209	Peak
*5850	60.25	58.73	78.2	-17.95	32.15	6.88	37.51	203	209	Peak
*5861	60.18	58.55	68.2	-8.02	32.18	6.95	37.5	203	209	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	60.77	59.58	68.2	-7.43	31.93	6.69	37.43	169	146	Peak
*5725	67.26	65.98	78.2	-10.94	31.96	6.75	37.43	169	146	Peak
5745	88.15	86.88			31.99	6.75	37.47	169	146	Average
5745	97.9	96.63			31.99	6.75	37.47	169	146	Peak
*5850	60.49	58.97	78.2	-17.71	32.15	6.88	37.51	169	146	Peak
*5861	58.72	57.09	68.2	-9.48	32.18	6.95	37.5	169	146	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	60.01	58.82	68.2	-8.19	31.93	6.69	37.43	191	206	Peak
*5725	59.28	58	78.2	-18.92	31.96	6.75	37.43	191	206	Peak
5785	93.05	91.73			32.04	6.82	37.54	191	206	Average
5785	103.31	101.99			32.04	6.82	37.54	191	206	Peak
*5850	59.66	58.14	78.2	-18.54	32.15	6.88	37.51	191	206	Peak
*5861	60.11	58.48	68.2	-8.09	32.18	6.95	37.5	191	206	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	60.24	59.05	68.2	-7.96	31.93	6.69	37.43	174	143	Peak
*5725	59.64	58.36	78.2	-18.56	31.96	6.75	37.43	174	143	Peak
5785	87.12	85.8			32.04	6.82	37.54	174	143	Average
5785	96.68	95.36			32.04	6.82	37.54	174	143	Peak
*5850	61.19	59.67	78.2	-17.01	32.15	6.88	37.51	174	143	Peak
*5861	59.9	58.27	68.2	-8.3	32.18	6.95	37.5	174	143	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	59.69	58.5	68.2	-8.51	31.93	6.69	37.43	192	210	Peak
*5725	59.24	57.96	78.2	-18.96	31.96	6.75	37.43	192	210	Peak
5825	94.55	93.08			32.12	6.88	37.53	192	210	Average
5825	104.87	103.4			32.12	6.88	37.53	192	210	Peak
*5850	68.15	66.63	78.2	-10.05	32.15	6.88	37.51	192	210	Peak
*5861	61.03	59.4	68.2	-7.17	32.18	6.95	37.5	192	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**
*5714	58.21	57.02	68.2	-9.99	31.93	6.69	37.43	172	143	Peak
*5725	59.24	57.96	78.2	-18.96	31.96	6.75	37.43	172	143	Peak
5825	86.92	85.45			32.12	6.88	37.53	172	143	Average
5825	97.17	95.7			32.12	6.88	37.53	172	143	Peak
*5850	62.16	60.64	78.2	-16.04	32.15	6.88	37.51	172	143	Peak
*5861	59.61	57.98	68.2	-8.59	32.18	6.95	37.5	172	143	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**
5150	51.5	51.3	54	-2.5	31.32	6.2	37.32	198	207	Average
5150	67.23	67.03	74	-6.77	31.32	6.2	37.32	198	207	Peak
5190	88.05	87.82			31.35	6.22	37.34	198	207	Average
5190	97.38	97.15			31.35	6.22	37.34	198	207	Peak
5456	39.06	38.24	54	-14.94	31.56	6.34	37.08	198	207	Average
5456	61.32	60.5	74	-12.68	31.56	6.34	37.08	198	207	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	50.12	49.92	54	-3.88	31.32	6.2	37.32	181	137	Average
5150	64.88	64.68	74	-9.12	31.32	6.2	37.32	181	137	Peak
5190	86.59	86.36			31.35	6.22	37.34	181	137	Average
5190	95.95	95.72			31.35	6.22	37.34	181	137	Peak
5430	39.13	38.39	54	-14.87	31.55	6.32	37.13	181	137	Average
5430	60.33	59.59	74	-13.67	31.55	6.32	37.13	181	137	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**
5074	39.28	39.11	54	-14.72	31.27	6.17	37.27	195	210	Average
5074	60.13	59.96	74	-13.87	31.27	6.17	37.27	195	210	Peak
5230	88.12	87.81			31.39	6.24	37.32	195	210	Average
5230	97.46	97.15			31.39	6.24	37.32	195	210	Peak
5376	39.08	38.46	54	-14.92	31.49	6.31	37.18	195	210	Average
5376	61.35	60.73	74	-12.65	31.49	6.31	37.18	195	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	38.81	38.68	54	-15.19	31.21	6.15	37.23	188	150	Average
5014	60.14	60.01	74	-13.86	31.21	6.15	37.23	188	150	Peak
5230	86.9	86.59			31.39	6.24	37.32	188	150	Average
5230	95.92	95.61			31.39	6.24	37.32	188	150	Peak
5424	39.16	38.49	54	-14.84	31.53	6.32	37.18	188	150	Average
5424	60.23	59.56	74	-13.77	31.53	6.32	37.18	188	150	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**
5138	38.64	38.43	54	-15.36	31.31	6.2	37.3	102	154	Average
5138	60.23	60.02	74	-13.77	31.31	6.2	37.3	102	154	Peak
5270	81.71	81.32			31.41	6.25	37.27	102	154	Average
5270	91.18	90.79			31.41	6.25	37.27	102	154	Peak
5376	38.74	38.12	54	-15.26	31.49	6.31	37.18	102	154	Average
5376	60.35	59.73	74	-13.65	31.49	6.31	37.18	102	154	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**
5094	38.54	38.35	54	-15.46	31.28	6.19	37.28	148	167	Average
5094	60.26	60.07	74	-13.74	31.28	6.19	37.28	148	167	Peak
5270	89.13	88.74			31.41	6.25	37.27	148	167	Average
5270	97.98	97.59			31.41	6.25	37.27	148	167	Peak
5352	40.08	39.49	54	-13.92	31.48	6.29	37.18	148	167	Average
5352	60.6	60.01	74	-13.4	31.48	6.29	37.18	148	167	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**
5108	38.64	38.44	54	-15.36	31.29	6.19	37.28	102	154	Average
5108	60.76	60.56	74	-13.24	31.29	6.19	37.28	102	154	Peak
5310	82.74	82.21			31.45	6.27	37.19	102	154	Average
5310	91.98	91.45			31.45	6.27	37.19	102	154	Peak
5350	44.11	43.52	54	-9.89	31.48	6.29	37.18	102	154	Average
5350	63.23	62.64	74	-10.77	31.48	6.29	37.18	102	154	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**
5028	38.67	38.53	54	-15.33	31.23	6.15	37.24	148	167	Average
5028	60.29	60.15	74	-13.71	31.23	6.15	37.24	148	167	Peak
5310	90.29	89.76			31.45	6.27	37.19	148	167	Average
5310	99.26	98.73			31.45	6.27	37.19	148	167	Peak
5352	51.72	51.13	54	-2.28	31.48	6.29	37.18	148	167	Average
5352	69.2	68.61	74	-4.8	31.48	6.29	37.18	148	167	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**
5460	45.7	44.88	54	-8.3	31.56	6.34	37.08	128	207	Average
5460	61.11	60.29	74	-12.89	31.56	6.34	37.08	128	207	Peak
5470	66.19	65.36	68.2	-2.01	31.57	6.34	37.08	128	207	Peak
5510	91.52	90.62			31.6	6.36	37.06	128	207	Average
5510	101.04	100.14			31.6	6.36	37.06	128	207	Peak
5725	59.4	58.12	68.2	-8.8	31.96	6.75	37.43	128	207	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**
5450	41.91	41.09	54	-12.09	31.56	6.34	37.08	135	137	Average
5450	60.72	59.9	74	-13.28	31.56	6.34	37.08	135	137	Peak
5470	62.98	62.15	68.2	-5.22	31.57	6.34	37.08	135	137	Peak
5510	86.98	86.08			31.6	6.36	37.06	135	137	Average
5510	96.81	95.91			31.6	6.36	37.06	135	137	Peak
5725	60.2	58.92	68.2	-8	31.96	6.75	37.43	135	137	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**
5454	39.83	39.01	54	-14.17	31.56	6.34	37.08	126	206	Average
5454	62.29	61.47	74	-11.71	31.56	6.34	37.08	126	206	Peak
5470	58.86	58.03	68.2	-9.34	31.57	6.34	37.08	126	206	Peak
5550	91.25	90.24			31.68	6.42	37.09	126	206	Average
5550	101.7	100.69			31.68	6.42	37.09	126	206	Peak
5725	60.68	59.4	68.2	-7.52	31.96	6.75	37.43	126	206	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**
5358	38.7	38.09	54	-15.3	31.48	6.31	37.18	141	140	Average
5358	61.28	60.67	74	-12.72	31.48	6.31	37.18	141	140	Peak
5470	59.72	58.89	68.2	-8.48	31.57	6.34	37.08	141	140	Peak
5550	87.9	86.89			31.68	6.42	37.09	141	140	Average
5550	98.53	97.52			31.68	6.42	37.09	141	140	Peak
5725	61.16	59.88	68.2	-7.04	31.96	6.75	37.43	141	140	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**
5368	38.7	38.08	54	-15.3	31.49	6.31	37.18	124	206	Average
5368	60.19	59.57	74	-13.81	31.49	6.31	37.18	124	206	Peak
5470	58.78	57.95	68.2	-9.42	31.57	6.34	37.08	124	206	Peak
5670	91.45	90.29			31.88	6.62	37.34	124	206	Average
5670	101.88	100.72			31.88	6.62	37.34	124	206	Peak
5725	61.43	60.15	68.2	-6.77	31.96	6.75	37.43	124	206	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**
5428	38.74	38.02	54	-15.26	31.53	6.32	37.13	178	143	Average
5428	60.74	60.02	74	-13.26	31.53	6.32	37.13	178	143	Peak
5470	58.24	57.41	68.2	-9.96	31.57	6.34	37.08	178	143	Peak
5670	88	86.84			31.88	6.62	37.34	178	143	Average
5670	98.69	97.53			31.88	6.62	37.34	178	143	Peak
5725	59.95	58.67	68.2	-8.25	31.96	6.75	37.43	178	143	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**	**66.62**	**65.43**	**68.2**	**-1.58**	**31.93**	**6.69**	**37.43**	**186**	**206**	**Peak**
*5725	74.84	73.56	78.2	-3.36	31.96	6.75	37.43	186	206	Peak
5755	89.62	88.33			32.01	6.75	37.47	186	206	Average
5755	100.15	98.86			32.01	6.75	37.47	186	206	Peak
*5850	59.59	58.07	78.2	-18.61	32.15	6.88	37.51	186	206	Peak
*5861	60.51	58.88	68.2	-7.69	32.18	6.95	37.5	186	206	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	62.15	60.96	68.2	-6.05	31.93	6.69	37.43	183	155	Peak
*5725	68.96	67.68	78.2	-9.24	31.96	6.75	37.43	183	155	Peak
5755	85.89	84.6			32.01	6.75	37.47	183	155	Average
5755	95.01	93.72			32.01	6.75	37.47	183	155	Peak
*5850	60.29	58.77	78.2	-17.91	32.15	6.88	37.51	183	155	Peak
*5861	59.73	58.1	68.2	-8.47	32.18	6.95	37.5	183	155	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 159	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	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	59.29	58.1	68.2	-8.91	31.93	6.69	37.43	192	213	Peak
*5725	59.9	58.62	78.2	-18.3	31.96	6.75	37.43	192	213	Peak
5795	90.21	88.86			32.07	6.82	37.54	192	213	Average
5795	100.46	99.11			32.07	6.82	37.54	192	213	Peak
*5850	61.2	59.68	78.2	-17	32.15	6.88	37.51	192	213	Peak
*5861	60.12	58.49	68.2	-8.08	32.18	6.95	37.5	192	213	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	57.72	56.53	68.2	-10.48	31.93	6.69	37.43	189	153	Peak
*5725	59.39	58.11	78.2	-18.81	31.96	6.75	37.43	189	153	Peak
5795	85.77	84.42			32.07	6.82	37.54	189	153	Average
5795	95.14	93.79			32.07	6.82	37.54	189	153	Peak
*5850	58.76	57.24	78.2	-19.44	32.15	6.88	37.51	189	153	Peak
*5861	59.63	58	68.2	-8.57	32.18	6.95	37.5	189	153	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

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:

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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**
49.4	18.75	36.25	40	-21.25	13.08	0.7	31.28	123	170	Peak
152.22	24.8	42.63	43.5	-18.7	12.71	1.12	31.66	130	122	Peak
191.02	29.1	49.53	43.5	-14.4	9.98	1.27	31.68	118	67	Peak
208.48	30.16	50.72	43.5	-13.34	9.73	1.33	31.62	109	297	Peak
236.61	26.09	45.54	46	-19.91	10.91	1.44	31.8	126	188	Peak
295.78	29.14	46.46	46	-16.86	12.83	1.62	31.77	126	43	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**
42.61	26.86	43.7	40	-13.14	13.58	0.66	31.08	127	270	Peak
150.28	23.98	41.76	43.5	-19.52	12.71	1.12	31.61	111	320	Peak
190.05	23.91	44.27	43.5	-19.59	10.05	1.26	31.67	118	117	Peak
198.78	25.12	46.16	43.5	-18.38	9.43	1.29	31.76	137	129	Peak
224.97	20.49	40.45	46	-25.51	10.42	1.4	31.78	136	112	Peak
299.66	23.52	40.79	46	-22.48	12.94	1.63	31.84	117	233	Peak

Remarks:

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

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 62	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	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**
150.28	25.18	42.96	43.5	-18.32	12.71	1.12	31.61	120	204	Peak
159.98	25.28	43.28	43.5	-18.22	12.73	1.15	31.88	120	78	Peak
198.78	31.02	52.06	43.5	-12.48	9.43	1.29	31.76	139	358	Peak
225.94	26.59	46.53	46	-19.41	10.46	1.4	31.8	132	198	Peak
256.01	24.48	43.21	46	-21.52	11.65	1.51	31.89	126	28	Peak
300.63	28.37	45.63	46	-17.63	12.96	1.63	31.85	124	286	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**
41.64	28.1	44.93	40	-11.9	13.56	0.66	31.05	132	320	Peak
150.28	23.49	41.27	43.5	-20.01	12.71	1.12	31.61	121	277	Peak
159.98	22.18	40.18	43.5	-21.32	12.73	1.15	31.88	125	250	Peak
189.08	24.15	44.47	43.5	-19.35	10.12	1.25	31.69	137	84	Peak
200.72	25.53	46.59	43.5	-17.97	9.4	1.29	31.75	138	89	Peak
298.69	23.32	40.6	46	-22.68	12.91	1.63	31.82	117	23	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**
41.64	19.97	36.8	40	-20.03	13.56	0.66	31.05	107	241	Peak
149.31	25.73	43.53	43.5	-17.77	12.68	1.13	31.61	133	0	Peak
159.98	23.51	41.51	43.5	-19.99	12.73	1.15	31.88	113	321	Peak
197.81	28.68	49.65	43.5	-14.82	9.5	1.28	31.75	140	38	Peak
229.82	26.96	46.78	46	-19.04	10.62	1.42	31.86	106	249	Peak
299.66	28.48	45.75	46	-17.52	12.94	1.63	31.84	118	319	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	29.02	45.84	40	-10.98	13.55	0.65	31.02	103	194	Peak
55.22	19.49	37.62	40	-20.51	12.45	0.75	31.33	101	311	Peak
149.31	21.97	39.77	43.5	-21.53	12.68	1.13	31.61	105	129	Peak
175.5	23.19	42.63	43.5	-20.31	11.19	1.16	31.79	127	166	Peak
189.08	25.78	46.1	43.5	-17.72	10.12	1.25	31.69	113	73	Peak
230.79	19.88	39.65	46	-26.12	10.66	1.42	31.85	129	273	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**
49.4	17.22	34.72	40	-22.78	13.08	0.7	31.28	107	7	Peak
152.22	25.03	42.86	43.5	-18.47	12.71	1.12	31.66	102	24	Peak
207.51	29.37	49.99	43.5	-14.13	9.69	1.33	31.64	131	120	Peak
229.82	27.9	47.72	46	-18.1	10.62	1.42	31.86	124	320	Peak
298.69	28.55	45.83	46	-17.45	12.91	1.63	31.82	100	229	Peak
326.82	25.73	42.27	46	-20.27	13.59	1.7	31.83	129	45	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	25.12	41.94	40	-14.88	13.55	0.65	31.02	105	140	Peak
59.1	20.06	38.57	40	-19.94	12.04	0.8	31.35	107	133	Peak
152.22	23.7	41.53	43.5	-19.8	12.71	1.12	31.66	140	229	Peak
191.99	24.47	44.98	43.5	-19.03	9.91	1.27	31.69	100	255	Peak
223.03	20.47	40.49	46	-25.53	10.34	1.39	31.75	126	309	Peak
300.63	23.3	40.56	46	-22.7	12.96	1.63	31.85	115	7	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

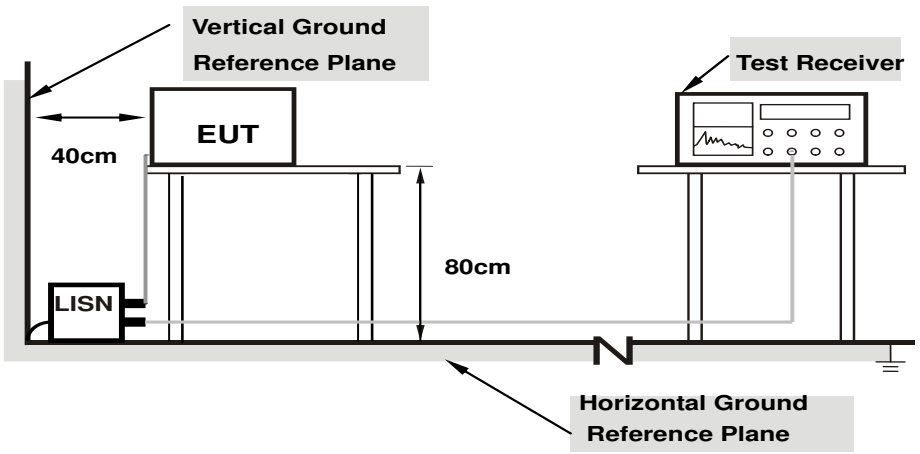
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

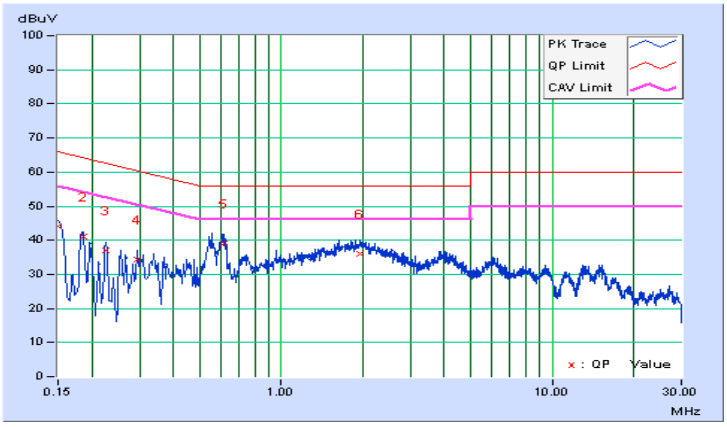
4.2.7 Test Results

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	2016/6/16

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	0.15000	10.01	34.09	26.73	44.10	36.74	66.00	56.00	-21.90	-19.26
2	0.18508	10.03	31.03	22.15	41.06	32.18	64.25	54.25	-23.19	-22.07
3	0.22434	10.04	26.90	16.08	36.94	26.12	62.66	52.66	-25.72	-26.54
4	0.29467	10.07	24.36	18.86	34.43	28.93	60.39	50.39	-25.96	-21.46
5	0.61138	10.15	28.83	21.75	38.98	31.90	56.00	46.00	-17.02	-14.10
6	1.95642	10.27	25.68	20.84	35.95	31.11	56.00	46.00	-20.05	-14.89

Remarks:

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

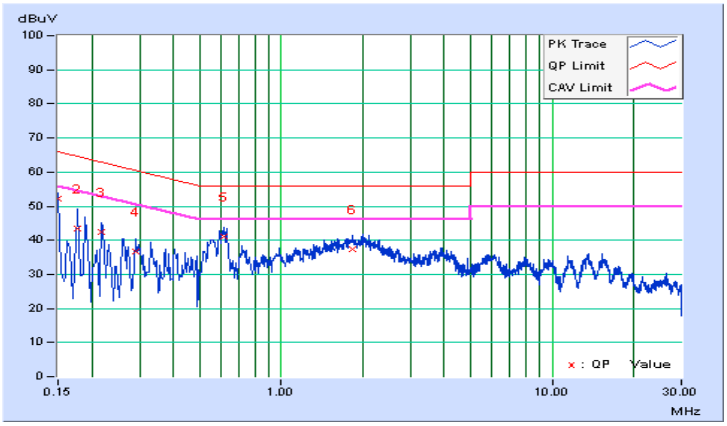


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/6/16

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	0.15000	10.03	42.06	32.81	52.09	42.84	66.00	56.00	-13.91	-13.16
2	0.17737	10.03	33.47	20.21	43.50	30.24	64.61	54.61	-21.11	-24.37
3	0.21679	10.05	32.23	20.60	42.28	30.65	62.94	52.94	-20.66	-22.29
4	0.29076	10.08	26.60	20.41	36.68	30.49	60.50	50.50	-23.82	-20.01
5	**0.61543**	**10.16**	**31.05**	**23.46**	**41.21**	**33.62**	**56.00**	**46.00**	**-14.79**	**-12.38**
6	1.83912	10.27	27.22	21.99	37.49	32.26	56.00	46.00	-18.51	-13.74

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 $N_{ANT} \leq 4$;

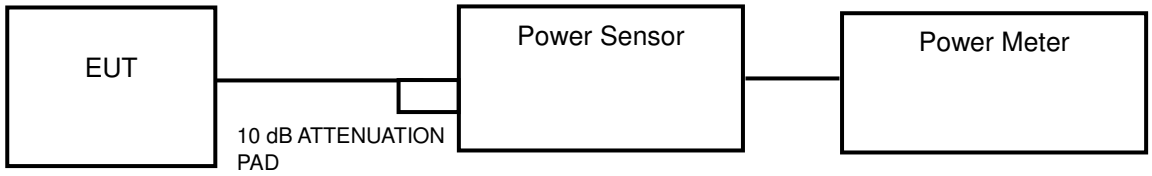
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

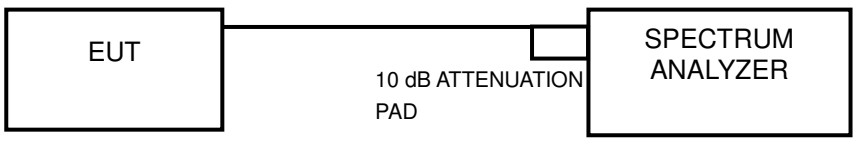
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

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.

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:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	17.70	12.48	24	Pass
44	5220	18.16	12.59	24	Pass
48	5240	18.03	12.56	24	Pass
52	5260	18.41	12.65	24	Pass
60	5300	19.50	12.90	24	Pass
64	5320	17.99	12.55	24	Pass
100	5500	18.03	12.56	24	Pass
116	5580	19.41	12.88	24	Pass
140	5700	18.32	12.63	24	Pass
149	5745	20.04	13.02	30	Pass
157	5785	20.56	13.13	30	Pass
165	5825	20.37	13.09	30	Pass

Note:

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

1. 11 dBm + 10log (23.20) = 24.65 dBm > 24 dBm.
2. 11 dBm + 10log (23.98) = 24.80 dBm > 24 dBm.
3. 11 dBm + 10log (23.05) = 24.63 dBm > 24 dBm.
4. 11 dBm + 10log (23.41) = 24.69 dBm > 24 dBm.
5. 11 dBm + 10log (24.51) = 24.89 dBm > 24 dBm.
6. 11 dBm + 10log (24.59) = 24.91 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	18.24	12.61	24	Pass
44	5220	18.54	12.68	24	Pass
48	5240	18.28	12.62	24	Pass
52	5260	18.84	12.75	24	Pass
60	5300	17.95	12.54	24	Pass
64	5320	18.45	12.66	24	Pass
100	5500	18.37	12.64	24	Pass
116	5580	18.24	12.61	24	Pass
140	5700	19.10	12.81	24	Pass
149	5745	20.00	13.01	30	Pass
157	5785	20.84	13.19	30	Pass
165	5825	20.75	13.17	30	Pass

Note:

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

1. 11 dBm + 10log (25.08) = 24.99 dBm > 24 dBm.
2. 11 dBm + 10log (23.84) = 24.77 dBm > 24 dBm.
3. 11 dBm + 10log (23.22) = 24.66 dBm > 24 dBm.
4. 11 dBm + 10log (27.81) = 25.44 dBm > 24 dBm.
5. 11 dBm + 10log (25.61) = 25.08 dBm > 24 dBm.
6. 11 dBm + 10log (26.51) = 25.23 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	17.62	12.46	24	Pass
46	5230	18.97	12.78	24	Pass
54	5270	18.32	12.63	24	Pass
62	5310	19.19	12.83	24	Pass
102	5510	19.54	12.91	24	Pass
110	5550	18.37	12.64	24	Pass
134	5670	19.45	12.89	24	Pass
151	5755	14.42	11.59	30	Pass
159	5795	13.80	11.40	30	Pass

Note:

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

1. 11 dBm + 10log (53.57) = 28.29 dBm > 24 dBm.
2. 11 dBm + 10log (52.37) = 28.19 dBm > 24 dBm.
3. 11 dBm + 10log (54.13) = 28.09 dBm > 24 dBm.
4. 11 dBm + 10log (51.68) = 28.13 dBm > 24 dBm.
5. 11 dBm + 10log (56.00) = 28.48 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.49
44	5220	24.18
48	5240	22.92
52	5260	23.20
60	5300	23.98
64	5320	23.05
100	5500	23.41
116	5580	24.51
140	5700	24.59

802.11n (HT20)

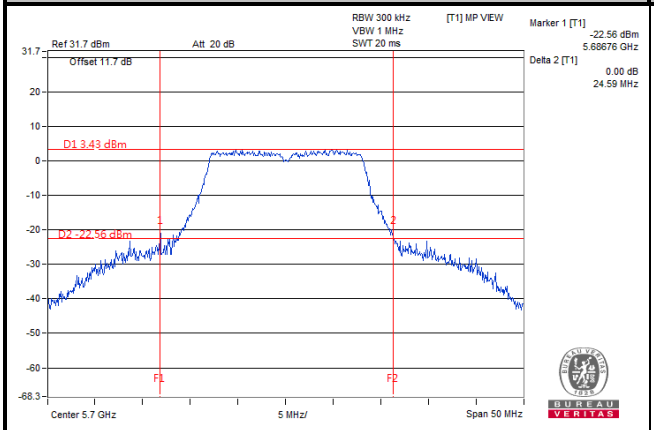
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	24.74
44	5220	24.40
48	5240	23.67
52	5260	25.08
60	5300	23.84
64	5320	23.22
100	5500	27.81
116	5580	25.61
140	5700	26.51

802.11n (HT40)

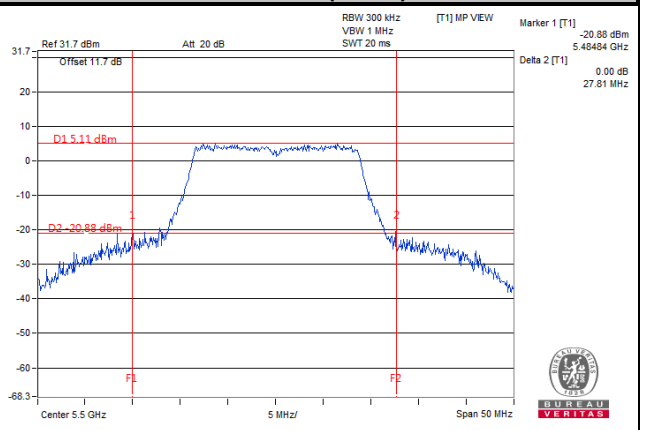
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	48.69
46	5230	49.16
54	5270	53.57
62	5310	52.37
102	5510	54.13
110	5550	51.68
134	5670	56.00

Spectrum Plot of Worst Value

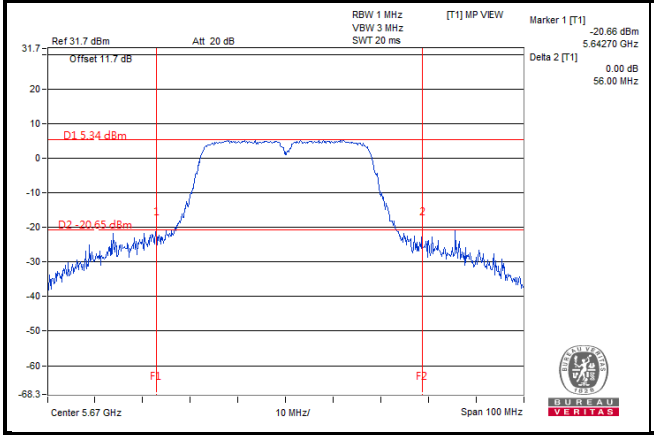
802.11a



802.11n (HT20)



802.11n (HT40)

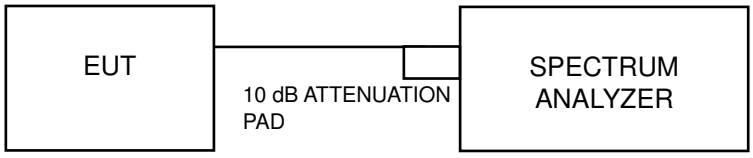


4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 Test Procedures

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

Using method SA-2

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

※For U-NII-3:

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

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

4.4.7 Test Results

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	1.62	0.80	2.42	11	Pass
44	5220	1.83	0.80	2.63	11	Pass
48	5240	1.99	0.80	2.79	11	Pass
52	5260	2.53	0.80	3.33	11	Pass
60	5300	2.46	0.80	3.26	11	Pass
64	5320	2.22	0.80	3.02	11	Pass
100	5500	2.40	0.80	3.20	11	Pass
116	5580	2.34	0.80	3.14	11	Pass
140	5700	2.36	0.80	3.16	11	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	-1.07	0.85	-0.22	11	Pass
44	5220	-0.84	0.85	0.01	11	Pass
48	5240	-0.54	0.85	0.31	11	Pass
52	5260	-0.25	0.85	0.60	11	Pass
60	5300	-0.52	0.85	0.33	11	Pass
64	5320	-0.46	0.85	0.39	11	Pass
100	5500	-0.44	0.85	0.41	11	Pass
116	5580	-0.58	0.85	0.27	11	Pass
140	5700	-0.73	0.85	0.12	11	Pass

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

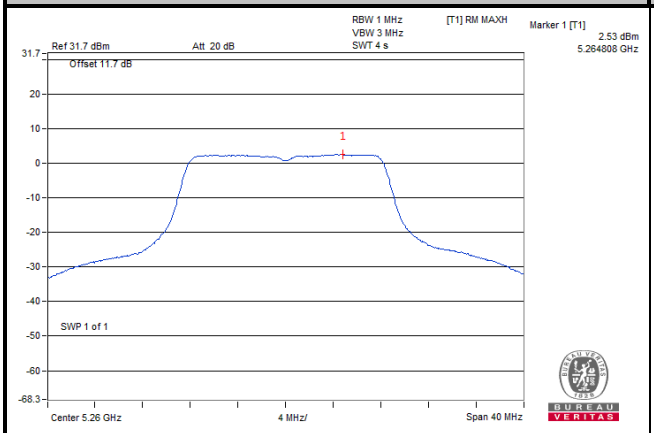
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
38	5190	-2.81	1.65	-1.16	11	Pass
46	5230	-2.65	1.65	-1.00	11	Pass
54	5270	-2.10	1.65	-0.45	11	Pass
62	5310	-2.42	1.65	-0.77	11	Pass
102	5510	-2.04	1.65	-0.39	11	Pass
110	5550	-2.07	1.65	-0.42	11	Pass
134	5670	-2.29	1.65	-0.64	11	Pass

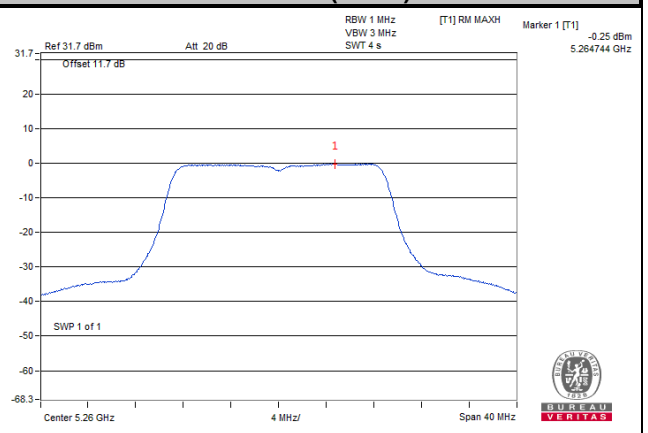
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

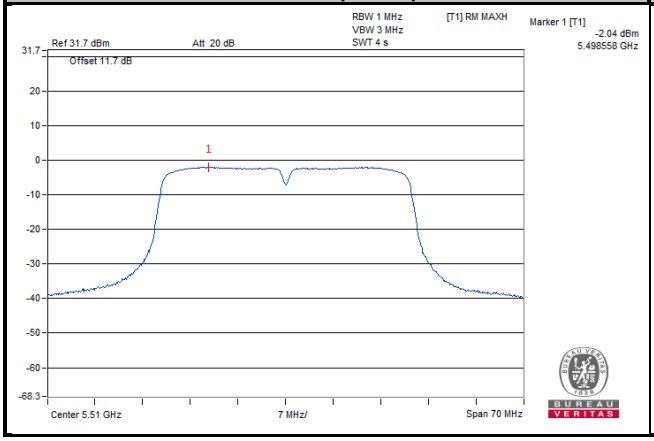
802.11a



802.11n (HT20)



802.11n (HT40)



For U-NII-3 Band

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	-3.78	0.80	-2.98	30	Pass
157	5785	-3.55	0.80	-2.75	30	Pass
165	5825	-3.16	0.80	-2.36	30	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-3.99	0.85	-3.14	30	Pass
157	5785	-3.89	0.85	-3.04	30	Pass
165	5825	-3.43	0.85	-2.58	30	Pass

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

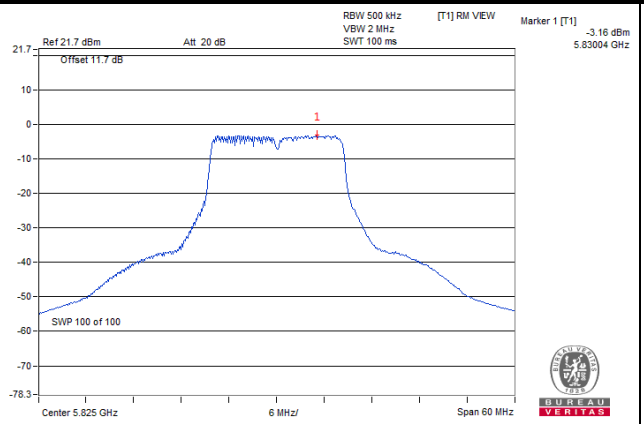
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-7.31	1.65	-5.66	30	Pass
159	5795	-6.92	1.65	-5.27	30	Pass

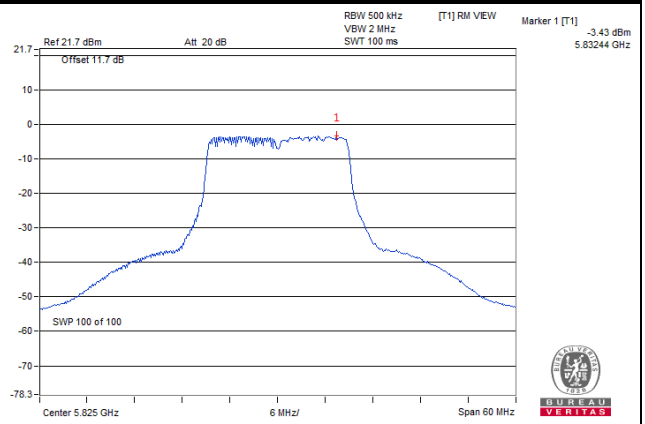
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

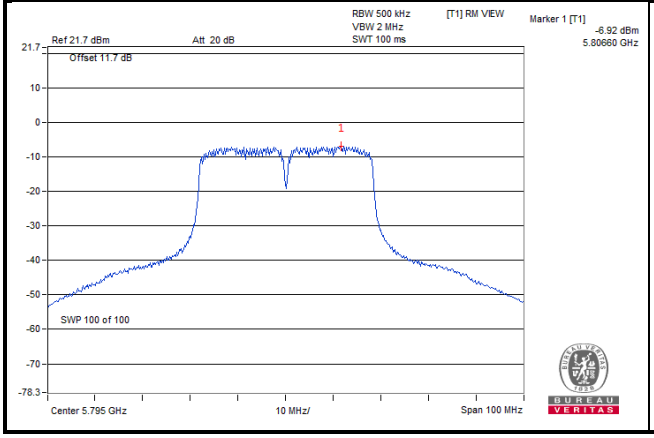
802.11a



802.11n (HT20)



802.11n (HT40)

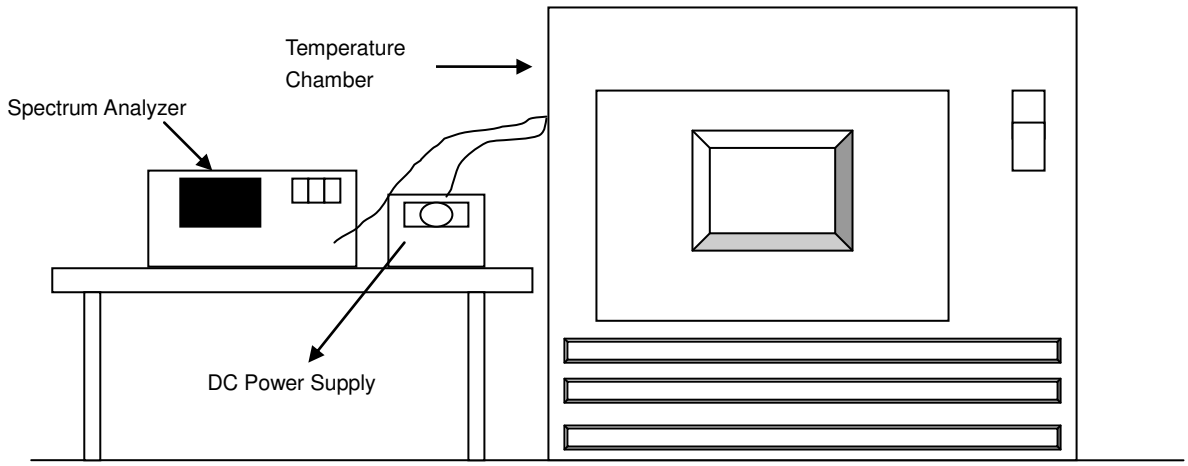


4.5 Frequency Stability

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)
50	3.85	5320.017375	3.266	5320.017685	3.324	5320.017719	3.331	5320.017499	3.289
40	3.85	5320.017154	3.224	5320.016960	3.188	5320.016914	3.179	5320.017144	3.223
30	3.85	5320.018040	3.391	5320.018271	3.434	5320.018502	3.478	5320.018319	3.443
20	3.85	5320.019320	3.632	5320.019460	3.658	5320.019594	3.683	5320.019334	3.634
10	3.85	5320.021306	4.005	5320.020795	3.909	5320.020959	3.940	5320.020772	3.905
0	3.85	5320.019652	3.694	5320.019559	3.677	5320.019348	3.637	5320.019335	3.634
-10	3.85	5320.018165	3.414	5320.017956	3.375	5320.018210	3.423	5320.017745	3.336
-20	3.85	5320.017144	3.223	5320.017078	3.210	5320.017190	3.231	5320.016948	3.186
-30	3.85	5320.016173	3.040	5320.016012	3.010	5320.016426	3.088	5320.016583	3.117

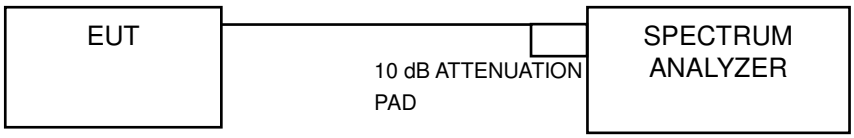
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.60	5320.018467	3.471	5320.018561	3.489	5320.018322	3.444	5320.018185	3.418
	3.85	5320.019320	3.632	5320.019460	3.658	5320.019594	3.683	5320.019334	3.634
	4.20	5320.019861	3.733	5320.019702	3.703	5320.019947	3.749	5320.020172	3.792

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

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.40	0.5	Pass
157	5785	16.40	0.5	Pass
165	5825	16.40	0.5	Pass

802.11n (HT20)

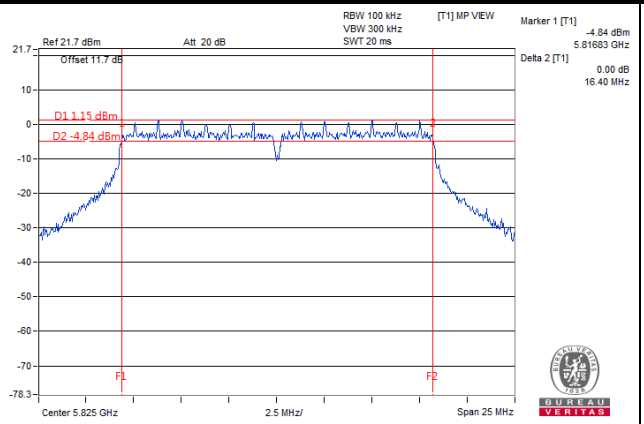
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.63	0.5	Pass
157	5785	17.62	0.5	Pass
165	5825	17.63	0.5	Pass

802.11n (HT40)

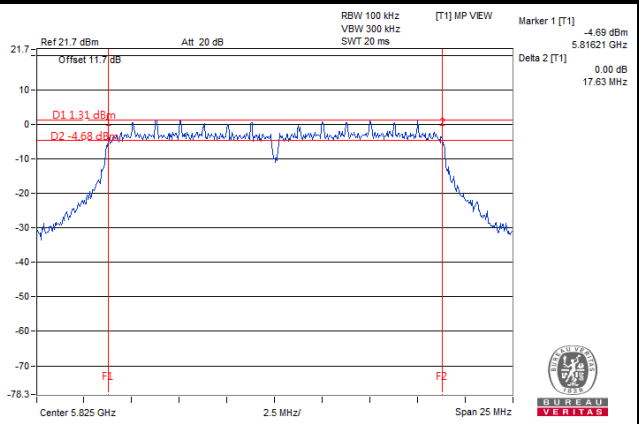
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.28	0.5	Pass
159	5795	35.42	0.5	Pass

Spectrum Plot of Worst Value

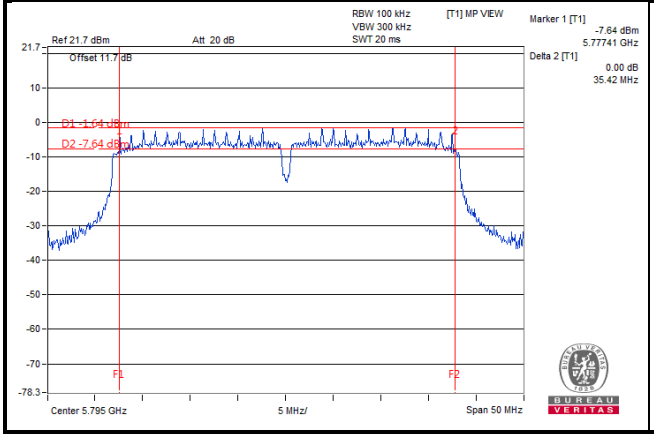
802.11a



802.11n (HT20)



802.11n (HT40)



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

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