FCC Test Report

Report No.:	RF170210C14-3
FCC ID:	MSQASUS-P00J
Test Model:	ASUS_P00J
Received Date:	Feb. 10, 2017
Test Date:	Feb. 23, 2017 ~ Mar. 12, 2017
Issued Date:	Mar. 31, 2017
Applicant:	ASUSTek COMPUTER INC.
Address:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, 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.
Test Location (2):	No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C

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Release Control Record

Issue No.	Description	Date Issued
RF170210C14-3	Original Release	Mar. 31, 2017

1 Certificate of Conformity

Product:	ASUS Tablet
Brand:	ASUS
Test Model:	ASUS_P00J
Sample Status:	Identical Prototype
Applicant:	ASUSTek COMPUTER INC.
Test Date:	Feb. 23, 2017 ~ Mar. 12, 2017
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Mar. 31, 2017

Ivonne Wu / Supervisor

Approved by : _____ , **Date:** Mar. 31, 2017

David Huang / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.83 dB at 0.50507 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.49 dB at 5149.85 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	ASUS Tablet
Brand	ASUS
Test Model	ASUS_P00J
Status of EUT	Identical Prototype
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) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Output Power	20.797 mW for 5180 ~ 5240 MHz 21.281 mW for 5260 ~ 5320 MHz 22.233 mW for 5500 ~ 5700 MHz 25.468 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with -0.19 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 0.51 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 1.03 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -0.9 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 receiver.

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

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

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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 **Y-plane**.
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
-		802.11ac (VHT80)	42	42	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
-		802.11ac (VHT80)	58	58	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
-		802.11ac (VHT80)	106 to 122	106, 122	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
-		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	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	802.11a	100 to 140	140	OFDM	BPSK	6.0
	5745-5825	802.11a	149 to 165	165	OFDM	BPSK	6.0

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5320	802.11n (HT40)	38 to 46	38	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
-		802.11ac (VHT80)	42	42	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
-		802.11ac (VHT80)	58	58	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
-		802.11ac (VHT80)	106 to 122	106, 122	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
-		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
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

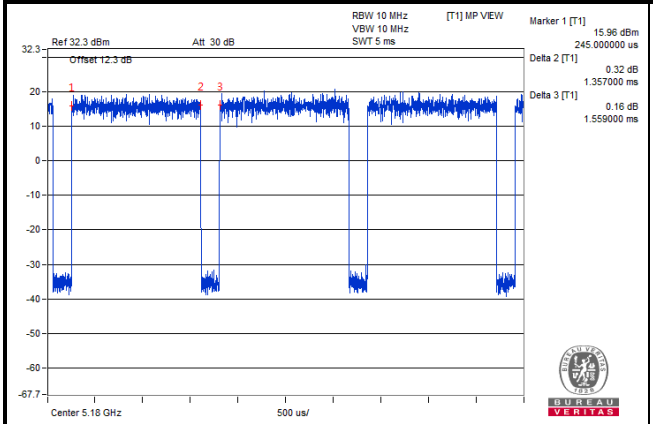
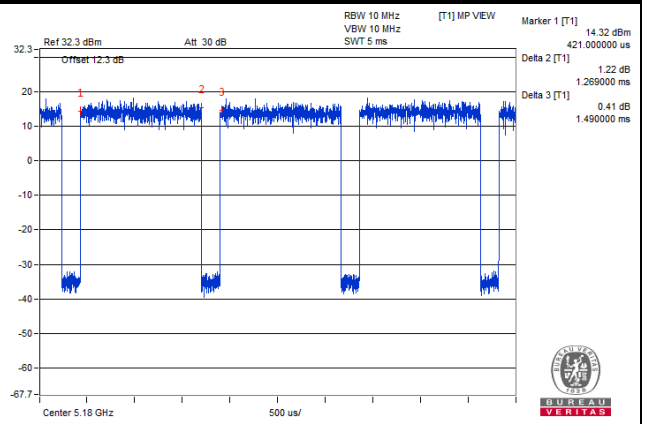
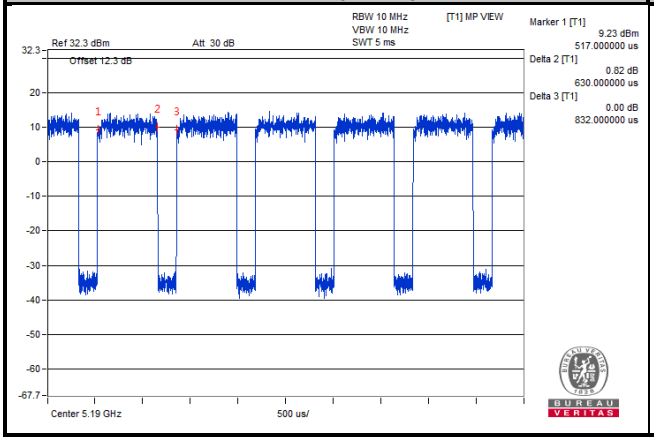
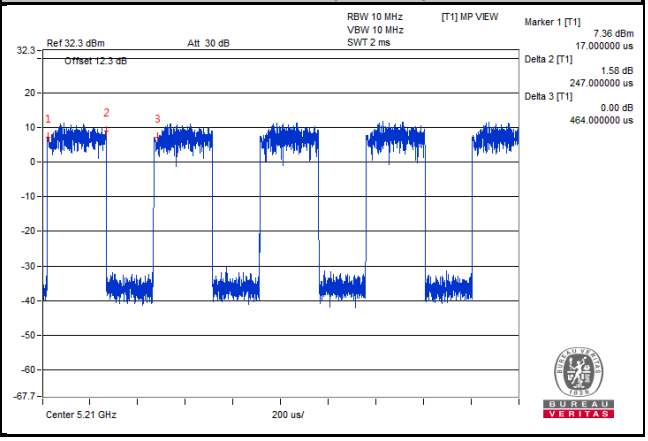
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 1.357/1.559 = 0.870, Duty factor = 10 * log(1/0.870) = 0.60

802.11n (HT20): Duty cycle = 1.269/1.490 = 0.852, Duty factor = 10 * log(1/0.852) = 0.70

802.11n (HT40): Duty cycle = 630/832 = 0.757, Duty factor = 10 * log(1/0.757) = 1.21

802.11ac (VHT80): Duty cycle = 247/464 = 0.532, Duty factor = 10 * log(1/0.532) = 2.74

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

3.4 Description of Support Units

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

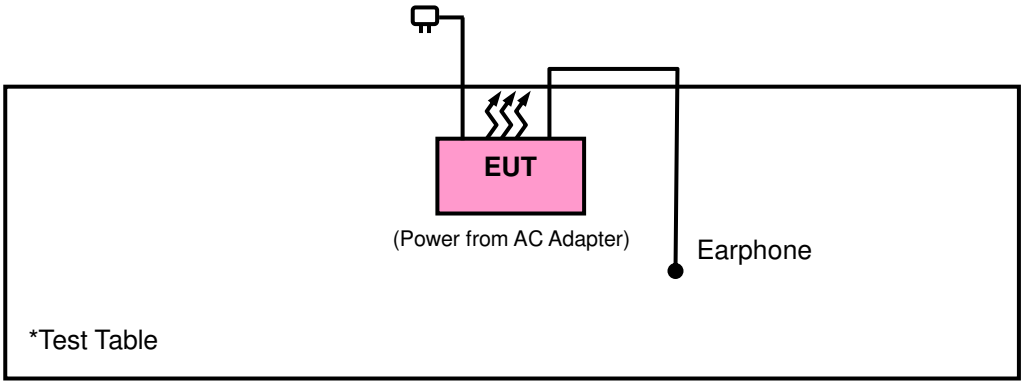
No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Earphone	Funkey	FK-130102	N/A	N/A

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

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Jun. 21, 2016	Jun. 20, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 16, 2016	Dec. 15, 2017
HORN Antenna ETS-Lindgren	3117	00143293	Dec. 29, 2016	Dec. 28, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	310N	187226	Jun. 24, 2016	Jun. 23, 2017
Preamplifier Agilent	83017A	MY39501357	Jun. 24, 2016	Jun. 23, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 24, 2016	Jun. 23, 2017
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017

Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 149147.
5. The IC Site Registration No. is IC7450I-1.

4.1.4 Test Procedures

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

Note:

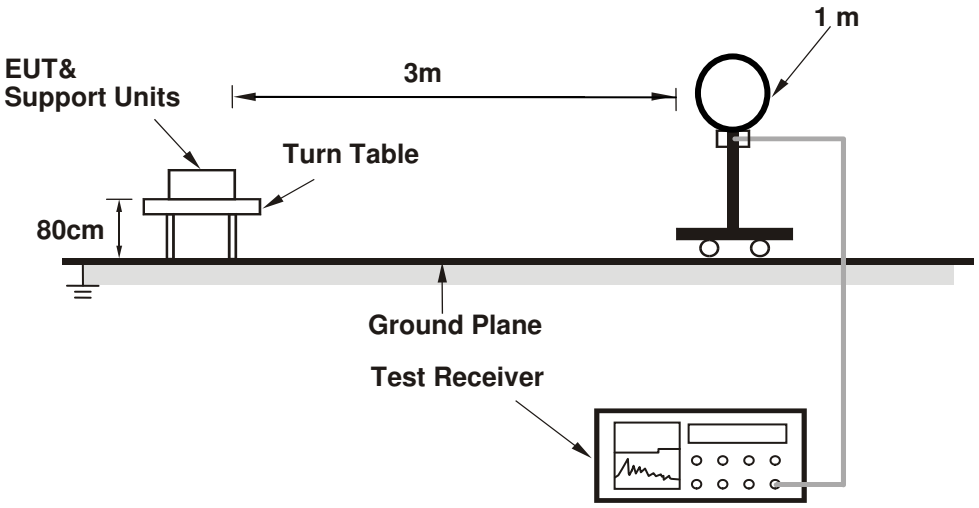
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency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

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 Test Set Up

<Radiated emission below 30MHz>



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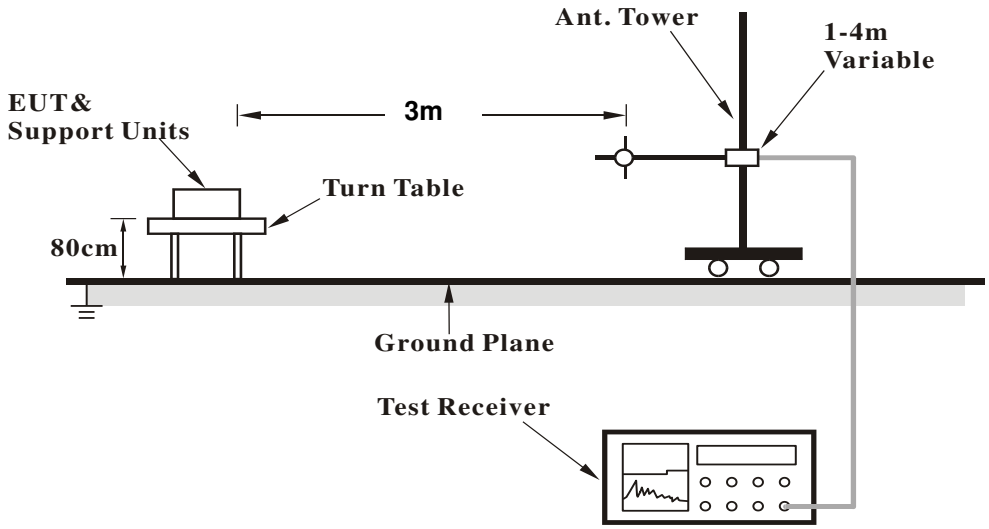
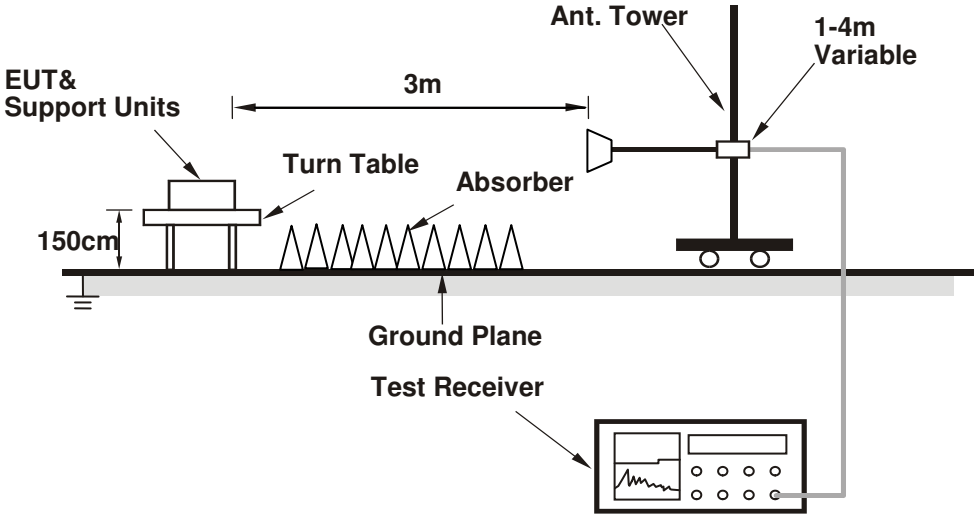


<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data：

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5127.8	45.96	37.74	54	-8.04	34.11	8.1	33.99	107	70	Average
5149.55	65.04	56.79	74	-8.96	34.12	8.13	34	107	70	Peak
5180	97.98	89.67			34.15	8.16	34	107	70	Average
5180	105.17	96.86			34.15	8.16	34	107	70	Peak
10360	47.82	33.52	54	-6.18	37.12	12.3	35.12	158	126	Average
10360	57.52	43.22	74	-16.48	37.12	12.3	35.12	158	126	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5127.95	42.91	34.69	54	-11.09	34.11	8.1	33.99	191	0	Average
5147.9	53.68	45.43	74	-20.32	34.12	8.13	34	191	0	Peak
5180	90.73	82.42			34.15	8.16	34	191	0	Average
5180	97.62	89.31			34.15	8.16	34	191	0	Peak
10360	47.16	32.86	54	-6.84	37.12	12.3	35.12	127	193	Average
10360	55.27	40.97	74	-18.73	37.12	12.3	35.12	127	193	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5108	53.01	44.81	74	-20.99	34.09	8.1	33.99	106	69	Peak
5123.3	42.42	34.2	54	-11.58	34.11	8.1	33.99	106	69	Average
5220	97.8	89.41			34.17	8.22	34	106	69	Average
5220	106.14	97.75			34.17	8.22	34	106	69	Peak
5412.92	42.6	33.87	54	-11.4	34.33	8.44	34.04	106	69	Average
5413.47	53.34	44.61	74	-20.66	34.33	8.44	34.04	106	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5118.05	42.71	34.51	54	-11.29	34.09	8.1	33.99	188	0	Average
5126.6	53.44	45.22	74	-20.56	34.11	8.1	33.99	188	0	Peak
5220	90.79	82.4			34.17	8.22	34	188	0	Average
5220	97.66	89.27			34.17	8.22	34	188	0	Peak
5377.06	53.18	44.52	74	-20.82	34.29	8.41	34.04	188	0	Peak
5456.7	42.85	34.03	54	-11.15	34.36	8.51	34.05	188	0	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5052.5	53.55	45.49	74	-20.45	34.04	8	33.98	128	69	Peak
5146.7	42.44	34.19	54	-11.56	34.12	8.13	34	128	69	Average
5240	98.04	89.6			34.19	8.26	34.01	128	69	Average
5240	105.54	97.1			34.19	8.26	34.01	128	69	Peak
5405.33	52.98	44.26	74	-21.02	34.32	8.44	34.04	128	69	Peak
5439.32	42.93	34.14	54	-11.07	34.35	8.48	34.04	128	69	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5104.4	42.18	34.02	54	-11.82	34.08	8.07	33.99	187	0	Average
5143.55	53.31	45.05	74	-20.69	34.12	8.13	33.99	187	0	Peak
5240	89.81	81.37			34.19	8.26	34.01	187	0	Average
5240	97.58	89.14			34.19	8.26	34.01	187	0	Peak
5419.85	52.8	44.03	74	-21.2	34.33	8.48	34.04	187	0	Peak
5441.19	42.39	33.6	54	-11.61	34.35	8.48	34.04	187	0	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5026.25	52.97	44.94	74	-21.03	34.03	7.97	33.97	127	68	Peak
5115.05	42.15	33.95	54	-11.85	34.09	8.1	33.99	127	68	Average
5260	97.72	89.26			34.21	8.26	34.01	127	68	Average
5260	105.43	96.97			34.21	8.26	34.01	127	68	Peak
5445.59	43.08	34.25	54	-10.92	34.36	8.51	34.04	127	68	Average
5458.68	54.71	45.89	74	-19.29	34.36	8.51	34.05	127	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5119.25	42.09	33.89	54	-11.91	34.09	8.1	33.99	186	2	Average
5135.15	53	44.75	74	-21	34.11	8.13	33.99	186	2	Peak
5260	89.43	80.97			34.21	8.26	34.01	186	2	Average
5260	96.71	88.25			34.21	8.26	34.01	186	2	Peak
5391.69	52.93	44.25	74	-21.07	34.31	8.41	34.04	186	2	Peak
5456.7	42.36	33.54	54	-11.64	34.36	8.51	34.05	186	2	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5098.25	53.3	45.14	74	-20.7	34.08	8.07	33.99	126	69	Peak
5112.8	42.84	34.64	54	-11.16	34.09	8.1	33.99	126	69	Average
5300	98.52	89.98			34.24	8.32	34.02	126	69	Average
5300	106.01	97.47			34.24	8.32	34.02	126	69	Peak
5352.2	46.43	37.8	54	-7.57	34.28	8.38	34.03	126	69	Average
5352.53	54.91	46.28	74	-19.09	34.28	8.38	34.03	126	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5109.8	42.51	34.31	54	-11.49	34.09	8.1	33.99	194	2	Average
5134.25	52.77	44.52	74	-21.23	34.11	8.13	33.99	194	2	Peak
5300	89.03	80.49			34.24	8.32	34.02	194	2	Average
5300	95.55	87.01			34.24	8.32	34.02	194	2	Peak
5446.14	42.82	33.99	54	-11.18	34.36	8.51	34.04	194	2	Average
5450.21	53.39	44.57	74	-20.61	34.36	8.51	34.05	194	2	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	99.6	91.02			34.25	8.35	34.02	126	69	Average
5320	106.16	97.58			34.25	8.35	34.02	126	69	Peak
5350.11	46.3	37.67	54	-7.7	34.28	8.38	34.03	126	69	Average
5350.44	62.02	53.39	74	-11.98	34.28	8.38	34.03	126	69	Peak
10640	46.75	32.02	54	-7.25	37.31	12.71	35.29	117	199	Average
10640	57.72	42.99	74	-16.28	37.31	12.71	35.29	117	199	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	89.74	81.16			34.25	8.35	34.02	194	2	Average
5320	96.91	88.33			34.25	8.35	34.02	194	2	Peak
5447.02	42.56	33.73	54	-11.44	34.36	8.51	34.04	194	2	Average
5458.46	53.52	44.7	74	-20.48	34.36	8.51	34.05	194	2	Peak
10640	46.62	31.89	54	-7.38	37.31	12.71	35.29	141	225	Average
10640	56.67	41.94	74	-17.33	37.31	12.71	35.29	141	225	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5446.96	56.25	47.42	74	-17.75	34.36	8.51	34.04	122	70	Peak
5447.92	46.6	37.77	54	-7.4	34.36	8.51	34.04	122	70	Average
*5470.32	44.5	35.67	54	-9.5	34.37	8.51	34.05	122	70	Average
*5470.96	58.92	50.06	74	-15.08	34.37	8.54	34.05	122	70	Peak
5500	100.47	91.55			34.4	8.57	34.05	122	70	Average
5500	107.38	98.46			34.4	8.57	34.05	122	70	Peak
11000	47.3	32.22	54	-6.7	37.6	12.96	35.48	167	222	Average
11000	58.27	43.19	74	-15.73	37.6	12.96	35.48	167	222	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5374.96	53.03	44.37	74	-20.97	34.29	8.41	34.04	100	81	Peak
5447.92	44.04	35.21	54	-9.96	34.36	8.51	34.04	100	81	Average
*5469.04	42.88	34.05	54	-11.12	34.37	8.51	34.05	100	81	Average
*5470.64	53.48	44.65	74	-20.52	34.37	8.51	34.05	100	81	Peak
5500	92.18	83.26			34.4	8.57	34.05	100	81	Average
5500	99.08	90.16			34.4	8.57	34.05	100	81	Peak
11000	46.85	31.77	54	-7.15	37.6	12.96	35.48	107	162	Average
11000	57.19	42.11	74	-16.81	37.6	12.96	35.48	107	162	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5422.48	53.2	44.43	74	-20.8	34.33	8.48	34.04	122	70	Peak
5438.64	42.67	33.88	54	-11.33	34.35	8.48	34.04	122	70	Average
*5469.52	42.58	33.75	54	-11.42	34.37	8.51	34.05	122	70	Average
*5470.48	52.57	43.74	74	-21.43	34.37	8.51	34.05	122	70	Peak
5580	99.41	90.42			34.47	8.6	34.08	122	70	Average
5580	106.1	97.11			34.47	8.6	34.08	122	70	Peak
*5724.92	42.86	33.7	54	-11.14	34.62	8.65	34.11	122	70	Average
*5725.08	53.31	44.15	74	-20.69	34.62	8.65	34.11	122	70	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5439.76	53.58	44.79	74	-20.42	34.35	8.48	34.04	100	81	Peak
5444.56	42.57	33.78	54	-11.43	34.35	8.48	34.04	100	81	Average
*5468.24	51.75	42.92	74	-22.25	34.37	8.51	34.05	100	81	Peak
*5470.48	42.31	33.48	54	-11.69	34.37	8.51	34.05	100	81	Average
5580	91.46	82.47			34.47	8.6	34.08	100	81	Average
5580	98.2	89.21			34.47	8.6	34.08	100	81	Peak
*5723.96	42.86	33.7	54	-11.14	34.62	8.65	34.11	100	81	Average
*5723.96	52.25	43.09	74	-21.75	34.62	8.65	34.11	100	81	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	99.65	90.52			34.59	8.64	34.1	125	68	Average
5700	106.4	97.27			34.59	8.64	34.1	125	68	Peak
*5724.12	43.98	34.82	54	-10.02	34.62	8.65	34.11	125	68	Average
*5724.28	55.77	46.61	74	-18.23	34.62	8.65	34.11	125	68	Peak
11400	46.89	31.79	54	-7.11	37.84	12.67	35.41	174	85	Average
11400	57.04	41.94	74	-16.96	37.84	12.67	35.41	174	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	91.43	82.3			34.59	8.64	34.1	100	81	Average
5700	98.33	89.2			34.59	8.64	34.1	100	81	Peak
*5725.32	54.72	45.56	74	-19.28	34.62	8.65	34.11	100	81	Peak
*5725.56	43.34	34.18	54	-10.66	34.62	8.65	34.11	100	81	Average
11400	47.16	32.06	54	-6.84	37.84	12.67	35.41	153	215	Average
11400	55.82	40.72	74	-18.18	37.84	12.67	35.41	153	215	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	98.22	89.03			34.64	8.66	34.11	214	68	Average
5745	105.42	96.23			34.64	8.66	34.11	214	68	Peak
11490	47.43	32.31	74	-26.57	37.89	12.62	35.39	169	247	Average
11490	56.16	41.04	74	-17.84	37.89	12.62	35.39	169	247	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	90.66	81.47			34.64	8.66	34.11	110	0	Average
5745	98.1	88.91			34.64	8.66	34.11	110	0	Peak
11490	47.54	32.42	74	-26.46	37.89	12.62	35.39	138	174	Average
11490	56.76	41.64	74	-17.24	37.89	12.62	35.39	138	174	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5571.4	42.47	33.48	54	-11.53	34.47	8.59	34.07	214	68	Average
*5571.4	53.29	44.3	74	-20.71	34.47	8.59	34.07	214	68	Peak
5656.45	53.31	44.22	78.02	-24.71	34.56	8.63	34.1	214	68	Peak
5918.425	52.05	42.67	78.1	-26.05	34.81	8.73	34.16	214	68	Peak
*5945.725	43.18	33.75	54	-10.82	34.85	8.74	34.16	214	68	Average
*5945.725	54.24	44.81	74	-19.76	34.85	8.74	34.16	214	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5637.55	42.7	33.63	54	-11.3	34.54	8.62	34.09	110	0	Average
*5637.55	53.99	44.92	74	-20.01	34.54	8.62	34.09	110	0	Peak
5653.825	52.06	42.97	76.39	-24.33	34.56	8.63	34.1	110	0	Peak
5921.575	50.91	41.51	76.14	-25.23	34.83	8.73	34.16	110	0	Peak
*6005.05	43.38	33.89	54	-10.62	34.9	8.76	34.17	110	0	Average
*6005.05	53.08	43.59	74	-20.92	34.9	8.76	34.17	110	0	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**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	97.59	88.36			34.68	8.68	34.13	226	68	Average
5785	105.05	95.82			34.68	8.68	34.13	226	68	Peak
11570	47.68	32.37	54	-6.32	38	12.68	35.37	129	184	Average
11570	57.36	42.05	74	-16.64	38	12.68	35.37	129	184	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	90.99	81.76			34.68	8.68	34.13	109	0	Average
5785	98.31	89.08			34.68	8.68	34.13	109	0	Peak
11570	47.22	31.91	54	-6.78	38	12.68	35.37	146	308	Average
11570	55.74	40.43	74	-18.26	38	12.68	35.37	146	308	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5647	43.28	34.21	54	-10.72	34.54	8.62	34.09	226	68	Average
*5647	55.13	46.06	74	-18.87	34.54	8.62	34.09	226	68	Peak
5654.875	52.74	43.65	77.04	-24.3	34.56	8.63	34.1	226	68	Peak
5922.1	51.67	42.27	75.81	-24.14	34.83	8.73	34.16	226	68	Peak
*5931.55	41.87	32.47	54	-12.13	34.83	8.73	34.16	226	68	Average
*5931.55	53.65	44.25	74	-20.35	34.83	8.73	34.16	226	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5623.9	42.7	33.65	54	-11.3	34.52	8.61	34.08	109	0	Average
*5623.9	54.36	45.31	74	-19.64	34.52	8.61	34.08	109	0	Peak
5652.25	52.48	43.39	75.4	-22.92	34.56	8.62	34.09	109	0	Peak
5921.575	52.14	42.74	76.14	-24	34.83	8.73	34.16	109	0	Peak
*5974.6	43.22	33.76	54	-10.78	34.88	8.75	34.17	109	0	Average
*5974.6	52.86	43.4	74	-21.14	34.88	8.75	34.17	109	0	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**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	98.27	88.98			34.73	8.69	34.13	216	66	Average
5825	105.46	96.17			34.73	8.69	34.13	216	66	Peak
11650	47.63	32.1	54	-6.37	38.09	12.8	35.36	127	64	Average
11650	55.46	39.93	74	-18.54	38.09	12.8	35.36	127	64	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	91.82	82.53			34.73	8.69	34.13	122	0	Average
5825	100.24	90.95			34.73	8.69	34.13	122	0	Peak
11650	47.37	31.84	54	-6.63	38.09	12.8	35.36	182	114	Average
11650	56.12	40.59	74	-17.88	38.09	12.8	35.36	182	114	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5637.025	43.9	34.83	54	-10.1	34.54	8.62	34.09	216	66	Average
*5637.025	53.32	44.25	74	-20.68	34.54	8.62	34.09	216	66	Peak
5655.4	52.64	43.55	77.37	-24.73	34.56	8.63	34.1	216	66	Peak
5922.1	51.92	42.52	75.81	-23.89	34.83	8.73	34.16	216	66	Peak
*5958.85	43.13	33.68	54	-10.87	34.87	8.74	34.16	216	66	Average
*5958.85	52.78	43.33	74	-21.22	34.87	8.74	34.16	216	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5606.575	42.61	33.58	54	-11.39	34.5	8.61	34.08	122	0	Average
*5606.575	53.88	44.85	74	-20.12	34.5	8.61	34.08	122	0	Peak
5653.3	52.27	43.17	76.06	-23.79	34.56	8.63	34.09	122	0	Peak
5922.625	53.44	44.04	75.48	-22.04	34.83	8.73	34.16	122	0	Peak
*6011.35	43.13	33.63	54	-10.87	34.92	8.76	34.18	122	0	Average
*6011.35	53.33	43.83	74	-20.67	34.92	8.76	34.18	122	0	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5128.55	45.3	37.08	54	-8.7	34.11	8.1	33.99	107	70	Average
5147.75	57.13	48.88	74	-16.87	34.12	8.13	34	107	70	Peak
5180	95.34	87.03			34.15	8.16	34	107	70	Average
5180	102.95	94.64			34.15	8.16	34	107	70	Peak
*10360	48.07	33.77	54	-5.93	37.12	12.3	35.12	159	103	Average
*10360	57.52	43.22	74	-16.48	37.12	12.3	35.12	159	103	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5055.2	53.23	45.13	74	-20.77	34.05	8.03	33.98	191	0	Peak
5128.1	42.68	34.46	54	-11.32	34.11	8.1	33.99	191	0	Average
5180	88.64	80.33			34.15	8.16	34	191	0	Average
5180	95.82	87.51			34.15	8.16	34	191	0	Peak
*10360	47.25	32.95	54	-6.75	37.12	12.3	35.12	172	131	Average
*10360	55.27	40.97	74	-18.73	37.12	12.3	35.12	172	131	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5070.05	52.87	44.77	74	-21.13	34.05	8.03	33.98	106	69	Peak
5121.2	42.35	34.15	54	-11.65	34.09	8.1	33.99	106	69	Average
5220	96.35	87.96			34.17	8.22	34	106	69	Average
5220	103.3	94.91			34.17	8.22	34	106	69	Peak
5416.11	42.47	33.74	54	-11.53	34.33	8.44	34.04	106	69	Average
5457.69	52.73	43.91	74	-21.27	34.36	8.51	34.05	106	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5108.3	52.67	44.47	74	-21.33	34.09	8.1	33.99	188	0	Peak
5128.55	42.22	34	54	-11.78	34.11	8.1	33.99	188	0	Average
5220	88.29	79.9			34.17	8.22	34	188	0	Average
5220	94.95	86.56			34.17	8.22	34	188	0	Peak
5419.41	53.29	44.52	74	-20.71	34.33	8.48	34.04	188	0	Peak
5440.53	42.44	33.65	54	-11.56	34.35	8.48	34.04	188	0	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5135	52.93	44.68	74	-21.07	34.11	8.13	33.99	128	69	Peak
5149.1	42.43	34.18	54	-11.57	34.12	8.13	34	128	69	Average
5240	95.77	87.33			34.19	8.26	34.01	128	69	Average
5240	103.17	94.73			34.19	8.26	34.01	128	69	Peak
5423.92	53.79	45.02	74	-20.21	34.33	8.48	34.04	128	69	Peak
5433.27	42.79	34	54	-11.21	34.35	8.48	34.04	128	69	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5110.55	53.89	45.69	74	-20.11	34.09	8.1	33.99	187	0	Peak
5129.3	42.16	33.94	54	-11.84	34.11	8.1	33.99	187	0	Average
5240	87.38	78.94			34.19	8.26	34.01	187	0	Average
5240	94.66	86.22			34.19	8.26	34.01	187	0	Peak
5440.86	42.38	33.59	54	-11.62	34.35	8.48	34.04	187	0	Average
5456.26	53.09	44.27	74	-20.91	34.36	8.51	34.05	187	0	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5069.6	42.11	34.01	54	-11.89	34.05	8.03	33.98	127	68	Average
5105.15	53.24	45.08	74	-20.76	34.08	8.07	33.99	127	68	Peak
5260	95.19	86.73			34.21	8.26	34.01	127	68	Average
5260	102.34	93.88			34.21	8.26	34.01	127	68	Peak
5452.96	53.58	44.76	74	-20.42	34.36	8.51	34.05	127	68	Peak
5458.79	42.78	33.96	54	-11.22	34.36	8.51	34.05	127	68	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5091.2	52.98	44.81	74	-21.02	34.08	8.07	33.98	186	2	Peak
5133.5	42.23	33.98	54	-11.77	34.11	8.13	33.99	186	2	Average
5260	86.98	78.52			34.21	8.26	34.01	186	2	Average
5260	93.94	85.48			34.21	8.26	34.01	186	2	Peak
5431.62	53.45	44.66	74	-20.55	34.35	8.48	34.04	186	2	Peak
5452.41	42.47	33.65	54	-11.53	34.36	8.51	34.05	186	2	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5074.4	53.69	45.57	74	-20.31	34.07	8.03	33.98	126	69	Peak
5114	42.22	34.02	54	-11.78	34.09	8.1	33.99	126	69	Average
5300	96.22	87.68			34.24	8.32	34.02	126	69	Average
5300	104.43	95.89			34.24	8.32	34.02	126	69	Peak
5351.54	45.33	36.7	54	-8.67	34.28	8.38	34.03	126	69	Average
5351.87	53.4	44.77	74	-20.6	34.28	8.38	34.03	126	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5033.6	52.96	44.9	74	-21.04	34.03	8	33.97	194	2	Peak
5098.85	42.21	34.05	54	-11.79	34.08	8.07	33.99	194	2	Average
5300	86.66	78.12			34.24	8.32	34.02	194	2	Average
5300	94.51	85.97			34.24	8.32	34.02	194	2	Peak
5358.36	53.26	44.63	74	-20.74	34.28	8.38	34.03	194	2	Peak
5446.8	42.34	33.51	54	-11.66	34.36	8.51	34.04	194	2	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	97.66	89.08			34.25	8.35	34.02	126	69	Average
5320	104.76	96.18			34.25	8.35	34.02	126	69	Peak
5350.55	55.73	47.1	74	-18.27	34.28	8.38	34.03	126	69	Peak
5371.78	45.3	36.63	54	-8.7	34.29	8.41	34.03	126	69	Average
10640	46.73	32	54	-7.27	37.31	12.71	35.29	106	159	Average
10640	56.83	42.1	74	-17.17	37.31	12.71	35.29	106	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	87.74	79.16			34.25	8.35	34.02	194	2	Average
5320	94.47	85.89			34.25	8.35	34.02	194	2	Peak
5372.11	42.48	33.81	54	-11.52	34.29	8.41	34.03	194	2	Average
5459.12	52.81	43.99	74	-21.19	34.36	8.51	34.05	194	2	Peak
10640	46.2	31.47	54	-7.8	37.31	12.71	35.29	134	310	Average
10640	56.07	41.34	74	-17.93	37.31	12.71	35.29	134	310	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5448.08	54.67	45.84	74	-19.33	34.36	8.51	34.04	122	70	Peak
5448.56	46.5	37.67	54	-7.5	34.36	8.51	34.04	122	70	Average
*5469.84	55.02	46.19	74	-18.98	34.37	8.51	34.05	122	70	Peak
*5470.96	43.61	34.75	54	-10.39	34.37	8.54	34.05	122	70	Average
5500	99.2	90.28			34.4	8.57	34.05	122	70	Average
5500	106.34	97.42			34.4	8.57	34.05	122	70	Peak
11000	47.19	32.11	54	-6.81	37.6	12.96	35.48	194	346	Average
11000	57.33	42.25	74	-16.67	37.6	12.96	35.48	194	346	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5418.48	53.63	44.9	74	-20.37	34.33	8.44	34.04	100	81	Peak
5448.08	43.66	34.83	54	-10.34	34.36	8.51	34.04	100	81	Average
*5468.88	42.64	33.81	54	-11.36	34.37	8.51	34.05	100	81	Average
*5468.88	52.77	43.94	74	-21.23	34.37	8.51	34.05	100	81	Peak
5500	91.02	82.1			34.4	8.57	34.05	100	81	Average
5500	98.22	89.3			34.4	8.57	34.05	100	81	Peak
11000	47.07	31.99	54	-6.93	37.6	12.96	35.48	137	148	Average
11000	55.69	40.61	74	-18.31	37.6	12.96	35.48	137	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. *: 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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5393.04	42.86	34.15	54	-11.14	34.31	8.44	34.04	125	68	Average
5450.96	53.21	44.39	74	-20.79	34.36	8.51	34.05	125	68	Peak
*5468.88	42.53	33.7	54	-11.47	34.37	8.51	34.05	125	68	Average
*5470.96	52.46	43.6	74	-21.54	34.37	8.54	34.05	125	68	Peak
5580	99.73	90.74			34.47	8.6	34.08	125	68	Average
5580	106.2	97.21			34.47	8.6	34.08	125	68	Peak
*5724.6	52.21	43.05	74	-21.79	34.62	8.65	34.11	125	68	Peak
*5725.24	42.84	33.68	54	-11.16	34.62	8.65	34.11	125	68	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5370.96	42.5	33.83	54	-11.5	34.29	8.41	34.03	100	81	Average
5427.6	53.37	44.6	74	-20.63	34.33	8.48	34.04	100	81	Peak
*5468.08	53.87	45.04	74	-20.13	34.37	8.51	34.05	100	81	Peak
*5469.52	42.43	33.6	54	-11.57	34.37	8.51	34.05	100	81	Average
5580	91.43	82.44			34.47	8.6	34.08	100	81	Average
5580	98.34	89.35			34.47	8.6	34.08	100	81	Peak
*5723.96	52.57	43.41	74	-21.43	34.62	8.65	34.11	100	81	Peak
*5724.84	42.89	33.73	54	-11.11	34.62	8.65	34.11	100	81	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	99.7	90.57			34.59	8.64	34.1	125	68	Average
5700	106.33	97.2			34.59	8.64	34.1	125	68	Peak
*5724.2	44.5	35.34	54	-9.5	34.62	8.65	34.11	125	68	Average
*5724.84	56.08	46.92	74	-17.92	34.62	8.65	34.11	125	68	Peak
11400	47	31.9	54	-7	37.84	12.67	35.41	184	159	Average
11400	55.99	40.89	74	-18.01	37.84	12.67	35.41	184	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	91.29	82.16			34.59	8.64	34.1	100	81	Average
5700	98.63	89.5			34.59	8.64	34.1	100	81	Peak
*5724.68	53.54	44.38	74	-20.46	34.62	8.65	34.11	100	81	Peak
*5724.92	43.53	34.37	54	-10.47	34.62	8.65	34.11	100	81	Average
11400	47.11	32.01	54	-6.89	37.84	12.67	35.41	137	184	Average
11400	57.25	42.15	74	-16.75	37.84	12.67	35.41	137	184	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	94.73	85.54			34.64	8.66	34.11	214	68	Average
5745	103.19	94			34.64	8.66	34.11	214	68	Peak
11490	47.27	32.15	54	-6.73	37.89	12.62	35.39	106	252	Average
11490	55.39	40.27	74	-18.61	37.89	12.62	35.39	106	252	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	87.04	77.85			34.64	8.66	34.11	110	0	Average
5745	95.17	85.98			34.64	8.66	34.11	110	0	Peak
11490	47.59	32.47	54	-6.41	37.89	12.62	35.39	178	136	Average
11490	55.73	40.61	74	-18.27	37.89	12.62	35.39	178	136	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5622.85	42.73	33.68	54	-11.27	34.52	8.61	34.08	214	68	Average
*5622.85	53.61	44.56	74	-20.39	34.52	8.61	34.08	214	68	Peak
5651.725	51.24	42.15	75.08	-23.84	34.56	8.62	34.09	214	68	Peak
5922.625	52.07	42.67	75.48	-23.41	34.83	8.73	34.16	214	68	Peak
*5928.925	43.17	33.77	54	-10.83	34.83	8.73	34.16	214	68	Average
*5928.925	53.04	43.64	74	-20.96	34.83	8.73	34.16	214	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5640.7	42.71	33.64	54	-11.29	34.54	8.62	34.09	110	0	Average
*5640.7	53.54	44.47	74	-20.46	34.54	8.62	34.09	110	0	Peak
5655.925	52.69	43.6	77.7	-25.01	34.56	8.63	34.1	110	0	Peak
5923.15	52.51	43.11	75.15	-22.64	34.83	8.73	34.16	110	0	Peak
*6002.95	43.28	33.79	54	-10.72	34.9	8.76	34.17	110	0	Average
*6002.95	54.4	44.91	74	-19.6	34.9	8.76	34.17	110	0	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**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	94.74	85.51			34.68	8.68	34.13	226	68	Average
5785	103.02	93.79			34.68	8.68	34.13	226	68	Peak
11570	46.83	31.52	54	-7.17	38	12.68	35.37	149	342	Average
11570	54.66	39.35	74	-19.34	38	12.68	35.37	149	342	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	88.07	78.84			34.68	8.68	34.13	109	0	Average
5785	96.67	87.44			34.68	8.68	34.13	109	0	Peak
11570	47.14	31.83	54	-6.86	38	12.68	35.37	158	267	Average
11570	55.65	40.34	74	-18.35	38	12.68	35.37	158	267	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5629.675	42.62	33.57	54	-11.38	34.52	8.62	34.09	226	68	Average
*5629.675	53.34	44.29	74	-20.66	34.52	8.62	34.09	226	68	Peak
5657.5	53.05	43.96	78.68	-25.63	34.56	8.63	34.1	226	68	Peak
5923.15	52.45	43.05	75.15	-22.7	34.83	8.73	34.16	226	68	Peak
*5981.425	43.23	33.77	54	-10.77	34.88	8.75	34.17	226	68	Average
*5981.425	53.83	44.37	74	-20.17	34.88	8.75	34.17	226	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5555.65	42.52	33.55	54	-11.48	34.45	8.59	34.07	109	0	Average
*5555.65	54.56	45.59	74	-19.44	34.45	8.59	34.07	109	0	Peak
5653.3	52.42	43.32	76.06	-23.64	34.56	8.63	34.09	109	0	Peak
5923.15	52.7	43.3	75.15	-22.45	34.83	8.73	34.16	109	0	Peak
*5984.575	43.4	33.94	54	-10.6	34.88	8.75	34.17	109	0	Average
*5984.575	53.86	44.4	74	-20.14	34.88	8.75	34.17	109	0	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**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	95.05	85.76			34.73	8.69	34.13	216	66	Average
5825	102.64	93.35			34.73	8.69	34.13	216	66	Peak
11650	47.48	31.95	54	-6.52	38.09	12.8	35.36	128	179	Average
11650	55.02	39.49	74	-18.98	38.09	12.8	35.36	128	179	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	88.26	78.97			34.73	8.69	34.13	122	0	Average
5825	95.89	86.6			34.73	8.69	34.13	122	0	Peak
11650	46.89	31.36	54	-7.11	38.09	12.8	35.36	127	260	Average
11650	54.97	39.44	74	-19.03	38.09	12.8	35.36	127	260	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5629.15	43.08	34.03	54	-10.92	34.52	8.62	34.09	216	66	Average
*5629.15	54.2	45.15	74	-19.8	34.52	8.62	34.09	216	66	Peak
5654.35	52.91	43.82	76.71	-23.8	34.56	8.63	34.1	216	66	Peak
5921.575	52	42.6	76.14	-24.14	34.83	8.73	34.16	216	66	Peak
*5995.6	43.08	33.59	54	-10.92	34.9	8.76	34.17	216	66	Average
*5995.6	53.71	44.22	74	-20.29	34.9	8.76	34.17	216	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5616.025	42.66	33.61	54	-11.34	34.52	8.61	34.08	122	0	Average
*5616.025	54.5	45.45	74	-19.5	34.52	8.61	34.08	122	0	Peak
5651.725	52	42.91	75.08	-23.08	34.56	8.62	34.09	122	0	Peak
5922.1	53.5	44.1	75.81	-22.31	34.83	8.73	34.16	122	0	Peak
*5935.225	43.16	33.76	54	-10.84	34.83	8.73	34.16	122	0	Average
*5935.225	53.72	44.32	74	-20.28	34.83	8.73	34.16	122	0	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.1	65.54	57.29	74	-8.46	34.12	8.13	34	114	70	Peak
5149.85	50.51	42.26	54	-3.49	34.12	8.13	34	114	70	Average
5190	94.46	86.12			34.15	8.19	34	114	70	Average
5190	101.88	93.54			34.15	8.19	34	114	70	Peak
5443.61	42.42	33.63	54	-11.58	34.35	8.48	34.04	114	70	Average
5453.07	53.5	44.68	74	-20.5	34.36	8.51	34.05	114	70	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.75	57.84	49.59	74	-16.16	34.12	8.13	34	191	0	Peak
5148.8	46.93	38.68	54	-7.07	34.12	8.13	34	191	0	Average
5190	87.4	79.06			34.15	8.19	34	191	0	Average
5190	94.47	86.13			34.15	8.19	34	191	0	Peak
5443.61	42.8	34.01	54	-11.2	34.35	8.48	34.04	191	0	Average
5449.33	53.59	44.76	74	-20.41	34.36	8.51	34.04	191	0	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5085.95	53.74	45.58	74	-20.26	34.07	8.07	33.98	128	69	Peak
5128.25	43.12	34.9	54	-10.88	34.11	8.1	33.99	128	69	Average
5230	95.11	86.71			34.19	8.22	34.01	128	69	Average
5230	101.86	93.46			34.19	8.22	34.01	128	69	Peak
5407.42	53.52	44.8	74	-20.48	34.32	8.44	34.04	128	69	Peak
5437.01	43.04	34.25	54	-10.96	34.35	8.48	34.04	128	69	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5103.95	53.08	44.92	74	-20.92	34.08	8.07	33.99	188	0	Peak
5122.4	42.74	34.54	54	-11.26	34.09	8.1	33.99	188	0	Average
5230	87.81	79.41			34.19	8.22	34.01	188	0	Average
5230	94.71	86.31			34.19	8.22	34.01	188	0	Peak
5431.07	53.06	44.27	74	-20.94	34.35	8.48	34.04	188	0	Peak
5459.45	43.02	34.2	54	-10.98	34.36	8.51	34.05	188	0	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5027.6	53.59	45.56	74	-20.41	34.03	7.97	33.97	112	68	Peak
5071.4	42.21	34.11	54	-11.79	34.05	8.03	33.98	112	68	Average
5270	95.1	86.61			34.21	8.29	34.01	112	68	Average
5270	102.33	93.84			34.21	8.29	34.01	112	68	Peak
5372.33	43.39	34.72	54	-10.61	34.29	8.41	34.03	112	68	Average
5449.44	53.55	44.72	74	-20.45	34.36	8.51	34.04	112	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5045.15	52.56	44.5	74	-21.44	34.04	8	33.98	186	2	Peak
5130.2	42.66	34.44	54	-11.34	34.11	8.1	33.99	186	2	Average
5270	86.26	77.77			34.21	8.29	34.01	186	2	Average
5270	93.24	84.75			34.21	8.29	34.01	186	2	Peak
5360.01	53.21	44.58	74	-20.79	34.28	8.38	34.03	186	2	Peak
5448.12	42.8	33.97	54	-11.2	34.36	8.51	34.04	186	2	Average

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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5120.3	42.94	34.74	54	-11.06	34.09	8.1	33.99	126	69	Average
5136.35	52.89	44.64	74	-21.11	34.11	8.13	33.99	126	69	Peak
5310	95.25	86.7			34.25	8.32	34.02	126	69	Average
5310	102.21	93.66			34.25	8.32	34.02	126	69	Peak
5350.88	50.21	41.58	54	-3.79	34.28	8.38	34.03	126	69	Average
5351.32	63.89	55.26	74	-10.11	34.28	8.38	34.03	126	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5099.45	53.89	45.73	74	-20.11	34.08	8.07	33.99	186	2	Peak
5119.1	42.78	34.58	54	-11.22	34.09	8.1	33.99	186	2	Average
5310	85.2	76.65			34.25	8.32	34.02	186	2	Average
5310	92.3	83.75			34.25	8.32	34.02	186	2	Peak
5351.65	43.13	34.5	54	-10.87	34.28	8.38	34.03	186	2	Average
5457.69	54.38	45.56	74	-19.62	34.36	8.51	34.05	186	2	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458.64	55.03	46.21	74	-18.97	34.36	8.51	34.05	122	70	Peak
5458.96	44.19	35.37	54	-9.81	34.36	8.51	34.05	122	70	Average
*5470.96	46.78	37.92	54	-7.22	34.37	8.54	34.05	122	70	Average
*5470.96	61.06	52.2	74	-12.94	34.37	8.54	34.05	122	70	Peak
5510	95.49	86.58			34.4	8.57	34.06	122	70	Average
5510	102.55	93.64			34.4	8.57	34.06	122	70	Peak
*5724.28	53.27	44.11	74	-20.73	34.62	8.65	34.11	122	70	Peak
*5724.68	43.3	34.14	54	-10.7	34.62	8.65	34.11	122	70	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5391.76	54.22	45.54	74	-19.78	34.31	8.41	34.04	100	81	Peak
5455.92	43.3	34.48	54	-10.7	34.36	8.51	34.05	100	81	Average
*5469.68	56.45	47.62	74	-17.55	34.37	8.51	34.05	100	81	Peak
*5470.32	43.62	34.79	54	-10.38	34.37	8.51	34.05	100	81	Average
5510	87.76	78.85			34.4	8.57	34.06	100	81	Average
5510	94.48	85.57			34.4	8.57	34.06	100	81	Peak
*5725.64	43.11	33.95	54	-10.89	34.62	8.65	34.11	100	81	Average
*5726.04	52.32	43.16	74	-21.68	34.62	8.65	34.11	100	81	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5439.28	53.58	44.79	74	-20.42	34.35	8.48	34.04	122	70	Peak
5447.6	44.51	35.68	54	-9.49	34.36	8.51	34.04	122	70	Average
*5468.56	52.36	43.53	74	-21.64	34.37	8.51	34.05	122	70	Peak
*5468.88	43.23	34.4	54	-10.77	34.37	8.51	34.05	122	70	Average
5550	96.36	87.39			34.45	8.59	34.07	122	70	Average
5550	103.3	94.33			34.45	8.59	34.07	122	70	Peak
*5725.32	51.85	42.69	74	-22.15	34.62	8.65	34.11	122	70	Peak
*5726.04	43.2	34.04	54	-10.8	34.62	8.65	34.11	122	70	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5439.76	53.64	44.85	74	-20.36	34.35	8.48	34.04	100	81	Peak
5454.64	43.23	34.41	54	-10.77	34.36	8.51	34.05	100	81	Average
*5468.24	51.7	42.87	74	-22.3	34.37	8.51	34.05	100	81	Peak
*5469.84	42.99	34.16	54	-11.01	34.37	8.51	34.05	100	81	Average
5550	88.72	79.75			34.45	8.59	34.07	100	81	Average
5550	95.49	86.52			34.45	8.59	34.07	100	81	Peak
*5725.48	52.04	42.88	74	-21.96	34.62	8.65	34.11	100	81	Peak
*5725.96	43.12	33.96	54	-10.88	34.62	8.65	34.11	100	81	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5420.88	53.28	44.51	74	-20.72	34.33	8.48	34.04	122	70	Peak
5445.36	42.83	34.01	54	-11.17	34.35	8.51	34.04	122	70	Average
*5468.4	43.38	34.55	54	-10.62	34.37	8.51	34.05	122	70	Average
*5469.36	52.34	43.51	74	-21.66	34.37	8.51	34.05	122	70	Peak
5670	95.88	86.78			34.57	8.63	34.1	122	70	Average
5670	102.05	92.95			34.57	8.63	34.1	122	70	Peak
*5725.08	53.33	44.17	74	-20.67	34.62	8.65	34.11	122	70	Peak
*5725.48	43.74	34.58	54	-10.26	34.62	8.65	34.11	122	70	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5446.96	43.05	34.22	54	-10.95	34.36	8.51	34.04	100	81	Average
5453.84	54.37	45.55	74	-19.63	34.36	8.51	34.05	100	81	Peak
*5470.16	51.4	42.57	74	-22.6	34.37	8.51	34.05	100	81	Peak
*5470.8	42.89	34.03	54	-11.11	34.37	8.54	34.05	100	81	Average
5670	87.88	78.78			34.57	8.63	34.1	100	81	Average
5670	94.86	85.76			34.57	8.63	34.1	100	81	Peak
*5724.52	43.24	34.08	54	-10.76	34.62	8.65	34.11	100	81	Average
*5725.08	52.37	43.21	74	-21.63	34.62	8.65	34.11	100	81	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 151	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	93.18	83.97			34.66	8.66	34.11	214	68	Average
5755	100.81	91.6			34.66	8.66	34.11	214	68	Peak
11510	47.33	32.22	54	-6.67	37.9	12.6	35.39	147	121	Average
11510	56.45	41.34	74	-17.55	37.9	12.6	35.39	147	121	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	85.76	76.55			34.66	8.66	34.11	110	0	Average
5755	94.26	85.05			34.66	8.66	34.11	110	0	Peak
11510	46.75	31.64	54	-7.25	37.9	12.6	35.39	126	143	Average
11510	55.16	40.05	74	-18.84	37.9	12.6	35.39	126	143	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5518.375	42.64	33.71	54	-11.36	34.42	8.57	34.06	214	68	Average
*5518.375	53.29	44.36	74	-20.71	34.42	8.57	34.06	214	68	Peak
5652.25	54.52	45.43	75.4	-20.88	34.56	8.62	34.09	214	68	Peak
5918.425	51.56	42.18	78.1	-26.54	34.81	8.73	34.16	214	68	Peak
*5949.925	43.43	34	54	-10.57	34.85	8.74	34.16	214	68	Average
*5949.925	52.87	43.44	74	-21.13	34.85	8.74	34.16	214	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5638.075	42.76	33.69	54	-11.24	34.54	8.62	34.09	110	0	Average
*5638.075	53.58	44.51	74	-20.42	34.54	8.62	34.09	110	0	Peak
5652.25	52.19	43.1	75.4	-23.21	34.56	8.62	34.09	110	0	Peak
5920	52.8	43.42	77.12	-24.32	34.81	8.73	34.16	110	0	Peak
*5958.325	43.44	33.99	54	-10.56	34.87	8.74	34.16	110	0	Average
*5958.325	53.74	44.29	74	-20.26	34.87	8.74	34.16	110	0	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**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	93.01	83.77			34.69	8.68	34.13	228	66	Average
5795	100.47	91.23			34.69	8.68	34.13	228	66	Peak
11590	47.43	32.06	54	-6.57	38.02	12.72	35.37	146	230	Average
11590	55.33	39.96	74	-18.67	38.02	12.72	35.37	146	230	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	86.84	77.6			34.69	8.68	34.13	122	0	Average
5795	94.53	85.29			34.69	8.68	34.13	122	0	Peak
11590	47.21	31.84	54	-6.79	38.02	12.72	35.37	167	283	Average
11590	54.94	39.57	74	-19.06	38.02	12.72	35.37	167	283	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5595.025	42.98	33.97	54	-11.02	34.49	8.6	34.08	228	66	Average
*5595.025	53.41	44.4	74	-20.59	34.49	8.6	34.08	228	66	Peak
5653.825	52.47	43.38	76.39	-23.92	34.56	8.63	34.1	228	66	Peak
5921.05	51.06	41.68	76.46	-25.4	34.81	8.73	34.16	228	66	Peak
*5946.775	43.22	33.79	54	-10.78	34.85	8.74	34.16	228	66	Average
*5946.775	53.51	44.08	74	-20.49	34.85	8.74	34.16	228	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5566.675	42.62	33.63	54	-11.38	34.47	8.59	34.07	122	0	Average
*5566.675	53.04	44.05	74	-20.96	34.47	8.59	34.07	122	0	Peak
5653.3	52.73	43.63	76.06	-23.33	34.56	8.63	34.09	122	0	Peak
5922.625	51.99	42.59	75.48	-23.49	34.83	8.73	34.16	122	0	Peak
*5964.625	43.31	33.86	54	-10.69	34.87	8.75	34.17	122	0	Average
*5964.625	53.49	44.04	74	-20.51	34.87	8.75	34.17	122	0	Peak

Remarks:

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

802.11ac (VHT80)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.35	45.36	37.11	54	-8.64	34.12	8.13	34	106	69	Peak
5149.1	60.79	52.54	74	-13.21	34.12	8.13	34	106	69	Peak
5210	90.35	81.99			34.17	8.19	34	106	69	Average
5210	97.8	89.44			34.17	8.19	34	106	69	Peak
5365.73	53.62	44.98	74	-20.38	34.29	8.38	34.03	106	69	Peak
5447.35	43.22	34.39	54	-10.78	34.36	8.51	34.04	106	69	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5141.45	43.18	34.92	54	-10.82	34.12	8.13	33.99	188	1	Average
5142.35	53.51	45.25	74	-20.49	34.12	8.13	33.99	188	1	Peak
5210	82.69	74.33			34.17	8.19	34	188	1	Average
5210	90.05	81.69			34.17	8.19	34	188	1	Peak
5436.13	53.16	44.37	74	-20.84	34.35	8.48	34.04	188	1	Peak
5436.35	43.19	34.4	54	-10.81	34.35	8.48	34.04	188	1	Average

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5042.3	53.59	45.53	74	-20.41	34.04	8	33.98	126	69	Peak
5134.7	42.78	34.53	54	-11.22	34.11	8.13	33.99	126	69	Average
5290	90.26	81.73			34.23	8.32	34.02	126	69	Average
5290	96.62	88.09			34.23	8.32	34.02	126	69	Peak
5350.77	47.22	38.59	54	-6.78	34.28	8.38	34.03	126	69	Average
5368.48	60.8	52.13	74	-13.2	34.29	8.41	34.03	126	69	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5055.5	42.67	34.57	54	-11.33	34.05	8.03	33.98	194	1	Average
5116.85	53.21	45.01	74	-20.79	34.09	8.1	33.99	194	1	Peak
5290	80.82	72.29			34.23	8.32	34.02	194	1	Average
5290	88.26	79.73			34.23	8.32	34.02	194	1	Peak
5411.6	43.03	34.3	54	-10.97	34.33	8.44	34.04	194	1	Average
5432.61	53.19	44.4	74	-20.81	34.35	8.48	34.04	194	1	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5455.44	53.66	44.84	74	-20.34	34.36	8.51	34.05	122	70	Peak
5457.68	44.54	35.72	54	-9.46	34.36	8.51	34.05	122	70	Average
*5469.04	54.71	45.88	74	-19.29	34.37	8.51	34.05	122	70	Peak
*5470.64	45.5	36.67	54	-8.5	34.37	8.51	34.05	122	70	Average
5530	91.9	82.97			34.42	8.58	34.07	122	70	Average
5530	98.63	89.7			34.42	8.58	34.07	122	70	Peak
*5724.52	52.27	43.11	74	-21.73	34.62	8.65	34.11	122	70	Peak
*5725.56	43.39	34.23	54	-10.61	34.62	8.65	34.11	122	70	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5413.52	53.28	44.55	74	-20.72	34.33	8.44	34.04	100	81	Peak
5457.52	43.59	34.77	54	-10.41	34.36	8.51	34.05	100	81	Average
*5468.56	51.71	42.88	74	-22.29	34.37	8.51	34.05	100	81	Peak
*5470.48	43.51	34.68	54	-10.49	34.37	8.51	34.05	100	81	Average
5530	83.3	74.37			34.42	8.58	34.07	100	81	Average
5530	90.37	81.44			34.42	8.58	34.07	100	81	Peak
*5724.04	53.73	44.57	74	-20.27	34.62	8.65	34.11	100	81	Peak
*5725.16	43.33	34.17	54	-10.67	34.62	8.65	34.11	100	81	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5451.6	43.26	34.44	54	-10.74	34.36	8.51	34.05	122	70	Average
5458	54.28	45.46	74	-19.72	34.36	8.51	34.05	122	70	Peak
*5469.52	52.19	43.36	74	-21.81	34.37	8.51	34.05	122	70	Peak
*5470	43.13	34.3	54	-10.87	34.37	8.51	34.05	122	70	Average
5610	91.78	82.75			34.5	8.61	34.08	122	70	Average
5610	98.32	89.29			34.5	8.61	34.08	122	70	Peak
*5725.32	53.04	43.88	74	-20.96	34.62	8.65	34.11	122	70	Peak
*5725.88	43.5	34.34	54	-10.5	34.62	8.65	34.11	122	70	Average
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5372.72	52.53	43.86	74	-21.47	34.29	8.41	34.03	100	81	Peak
5438.16	43.31	34.52	54	-10.69	34.35	8.48	34.04	100	81	Average
*5470.32	43.1	34.27	54	-10.9	34.37	8.51	34.05	100	81	Average
*5470.32	52.16	43.33	74	-21.84	34.37	8.51	34.05	100	81	Peak
5610	83.55	74.52			34.5	8.61	34.08	100	81	Average
5610	90.08	81.05			34.5	8.61	34.08	100	81	Peak
*5724.2	52.1	42.94	74	-21.9	34.62	8.65	34.11	100	81	Peak
*5725.4	43.38	34.22	54	-10.62	34.62	8.65	34.11	100	81	Average

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 155	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	88.99	79.76			34.68	8.67	34.12	216	68	Average
5775	97.82	88.59			34.68	8.67	34.12	216	68	Peak
11550	47.53	32.26	54	-6.47	37.97	12.68	35.38	134	172	Average
11550	55.76	40.49	74	-18.24	37.97	12.68	35.38	134	172	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	81.83	72.6			34.68	8.67	34.12	109	0	Average
5775	89.38	80.15			34.68	8.67	34.12	109	0	Peak
11550	47.57	32.3	54	-6.43	37.97	12.68	35.38	169	238	Average
11550	56.59	41.32	74	-17.41	37.97	12.68	35.38	169	238	Peak

<Ouf of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5562.475	43.01	34.04	54	-10.99	34.45	8.59	34.07	216	68	Average
*5562.475	54.46	45.49	74	-19.54	34.45	8.59	34.07	216	68	Peak
5652.775	52.83	43.73	75.73	-22.9	34.56	8.63	34.09	216	68	Peak
5919.475	53.05	43.67	77.45	-24.4	34.81	8.73	34.16	216	68	Peak
*6016.6	43.52	34.01	54	-10.48	34.92	8.77	34.18	216	68	Average
*6016.6	55	45.49	74	-19	34.92	8.77	34.18	216	68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5582.95	43.09	34.08	54	-10.91	34.49	8.6	34.08	109	0	Average
*5582.95	54.19	45.18	74	-19.81	34.49	8.6	34.08	109	0	Peak
5653.3	51.97	42.87	76.06	-24.09	34.56	8.63	34.09	109	0	Peak
5920	52.88	43.5	77.12	-24.24	34.81	8.73	34.16	109	0	Peak
*5988.25	43.56	34.1	54	-10.44	34.88	8.75	34.17	109	0	Average
*5988.25	54.57	45.11	74	-19.43	34.88	8.75	34.17	109	0	Peak

Remarks:

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

9 kHz ~ 30 MHz DATA:

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

30 MHz ~ 1 GHz WORST-CASE DATA:

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
144.48	24.16	45.38	43.5	-19.34	9.67	1.38	32.27	144	347	Peak
161.76	29.44	49.53	43.5	-14.06	10.65	1.52	32.26	164	276	Peak
180.66	26.85	47.08	43.5	-16.65	10.4	1.61	32.24	180	187	Peak
484.1	20.02	30.64	46	-25.98	18.93	2.56	32.11	121	113	Peak
530.3	21.71	30.56	46	-24.29	20.61	2.7	32.16	154	217	Peak
703.2	25.09	30.93	46	-20.91	23.14	3.11	32.09	125	250	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
30.27	26.09	40.07	40	-13.91	17.55	0.74	32.27	130	220	Peak
46.47	26.3	48.71	40	-13.7	8.91	0.9	32.22	159	263	Peak
153.66	21.22	41.58	43.5	-22.28	10.39	1.52	32.27	180	103	Peak
528.9	21.63	30.48	46	-24.37	20.61	2.7	32.16	158	88	Peak
631.1	23.13	30.27	46	-22.87	22.1	2.93	32.17	127	300	Peak
769	24.55	30.04	46	-21.45	23.4	3.22	32.11	152	130	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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
159.87	29.13	49.08	43.5	-14.37	10.8	1.52	32.27	159	360	Peak
174.99	27.25	47.7	43.5	-16.25	10.18	1.61	32.24	174	354	Peak
288.12	18.07	34.36	46	-27.93	13.81	2.03	32.13	105	104	Peak
621.3	22.5	29.78	46	-23.5	21.96	2.93	32.17	164	75	Peak
717.2	25	30.69	46	-21	23.31	3.11	32.11	180	229	Peak
834.8	25.97	30.81	46	-20.03	23.65	3.38	31.87	197	177	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
46.47	27.49	49.9	40	-12.51	8.91	0.9	32.22	146	247	Peak
89.67	17.5	39.2	43.5	-26	8.9	1.11	31.71	189	174	Peak
151.23	21.12	41.65	43.5	-22.38	10.22	1.52	32.27	152	166	Peak
523.3	20.81	29.55	46	-25.19	20.7	2.7	32.14	124	208	Peak
619.9	22.6	29.89	46	-23.4	21.96	2.93	32.18	119	319	Peak
777.4	25.5	30.83	46	-20.5	23.5	3.27	32.1	135	235	Peak

Remarks:

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

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
89.4	16.19	37.96	43.5	-27.31	8.88	1.11	31.76	189	162	Peak
158.79	28.44	48.45	43.5	-15.06	10.74	1.52	32.27	141	246	Peak
187.14	23.93	44.17	43.5	-19.57	10.4	1.61	32.25	178	177	Peak
454	19.1	30.57	46	-26.9	18.18	2.49	32.14	191	4	Peak
596.8	21.11	29.45	46	-24.89	20.98	2.87	32.19	150	154	Peak
710.9	24.82	30.58	46	-21.18	23.23	3.11	32.1	189	187	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
31.35	28.21	42.91	40	-11.79	16.82	0.74	32.26	147	316	Peak
47.28	29.23	51.9	40	-10.77	8.65	0.9	32.22	109	108	Peak
152.31	21.83	42.3	43.5	-21.67	10.28	1.52	32.27	152	314	Peak
508.6	20.91	30.82	46	-25.09	19.57	2.63	32.11	187	209	Peak
670.3	23.96	29.85	46	-22.04	23.18	3.05	32.12	131	339	Peak
791.4	25.66	30.23	46	-20.34	24.23	3.27	32.07	124	242	Peak

Remarks:

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

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 165	**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**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
143.94	21.7	42.98	43.5	-21.8	9.61	1.38	32.27	169	36	Peak
158.52	29.13	49.2	43.5	-14.37	10.68	1.52	32.27	158	146	Peak
180.93	26.69	46.92	43.5	-16.81	10.4	1.61	32.24	180	195	Peak
537.3	21.11	30.04	46	-24.89	20.48	2.76	32.17	159	345	Peak
663.3	23.73	30.12	46	-22.27	22.75	2.99	32.13	105	111	Peak
785.1	25.64	30.58	46	-20.36	23.87	3.27	32.08	134	45	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
46.47	25.24	47.65	40	-14.76	8.91	0.9	32.22	135	222	Peak
88.86	15.83	37.63	43.5	-27.67	8.85	1.11	31.76	148	158	Peak
158.79	18.94	38.95	43.5	-24.56	10.74	1.52	32.27	177	147	Peak
489	20.27	30.79	46	-25.73	18.96	2.63	32.11	108	78	Peak
583.5	21.1	30	46	-24.9	20.48	2.82	32.2	199	211	Peak
736.1	24.18	29.82	46	-21.82	23.33	3.16	32.13	105	345	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

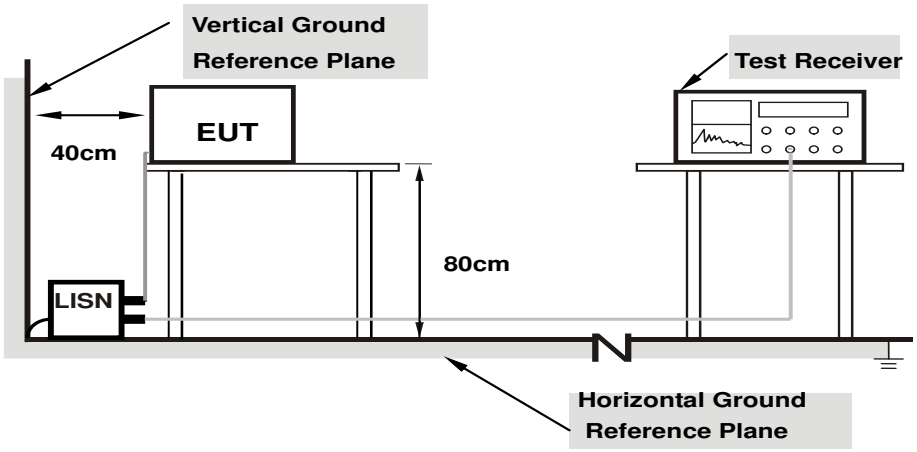
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

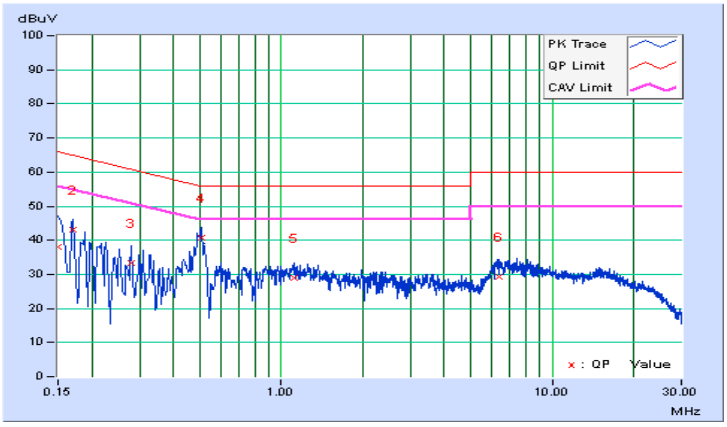
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2017/3/12

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	27.97	11.04	37.98	21.05	66.00	56.00	-28.02	-34.95
2	0.16967	10.02	33.18	20.40	43.20	30.42	64.98	54.98	-21.78	-24.56
3	0.27903	10.07	23.40	10.60	33.47	20.67	60.84	50.84	-27.37	-30.17
4	0.50507	10.13	30.46	22.27	40.59	32.40	56.00	46.00	-15.41	-13.60
5	1.12359	10.21	18.72	11.09	28.93	21.30	56.00	46.00	-27.07	-24.70
6	6.37863	10.54	18.77	11.19	29.31	21.73	60.00	50.00	-30.69	-28.27

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

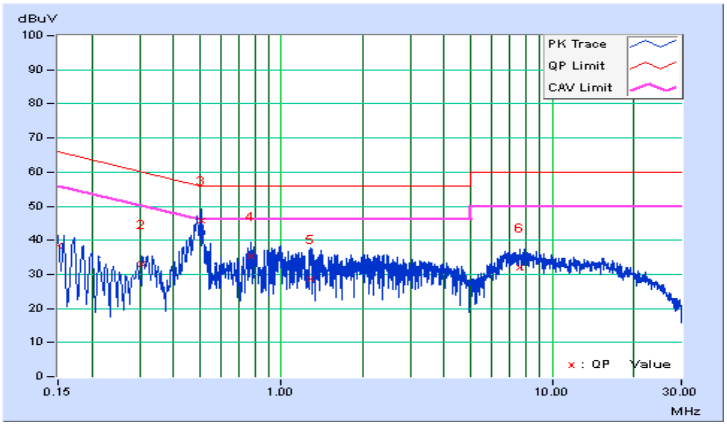


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2017/3/12

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	28.30	14.27	38.33	24.30	66.00	56.00	-27.67	-31.70
2	0.30696	10.09	22.95	15.52	33.04	25.61	60.05	50.05	-27.01	-24.44
3	0.50507	10.14	35.64	26.03	45.78	36.17	56.00	46.00	-10.22	-9.83
4	0.76778	10.18	25.29	15.94	35.47	26.12	56.00	46.00	-20.53	-19.88
5	1.28781	10.23	18.31	10.87	28.54	21.10	56.00	46.00	-27.46	-24.90
6	7.57900	10.65	21.25	13.10	31.90	23.75	60.00	50.00	-28.10	-26.25

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

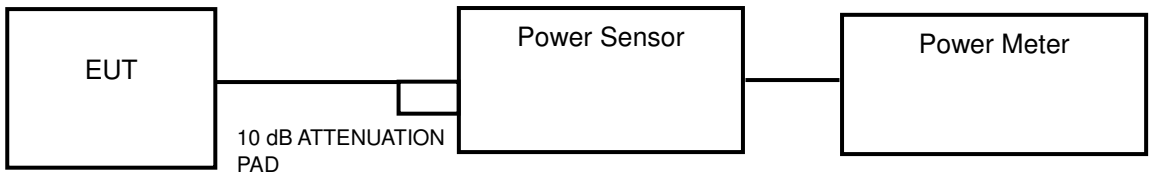
4.3.1 Limits of Transmit Power Measurement

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)

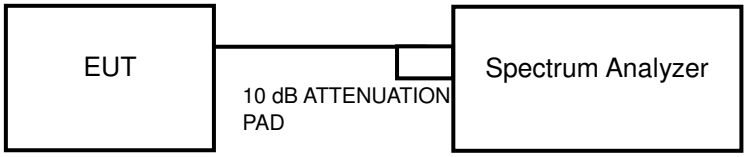
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

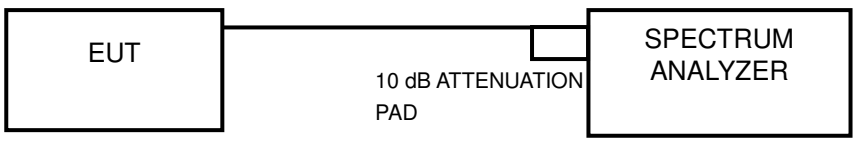
<Power Output Measurement>



or



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<802.11a, 802.11n (HT20), 802.11n (HT40)>

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

<802.11ac (VHT80)>

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

26 dB Bandwidth

1) Set RBW = approximately 1 % of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	20.091	13.03	24	Pass
44	5220	18.493	12.67	24	Pass
48	5240	20.797	13.18	24	Pass
52	5260	20.137	13.04	24	Pass
60	5300	21.281	13.28	24	Pass
64	5320	20.464	13.11	24	Pass
100	5500	22.233	13.47	24	Pass
116	5580	19.815	12.97	24	Pass
140	5700	21.380	13.3	24	Pass
149	5745	23.933	13.79	30	Pass
157	5785	25.468	14.06	30	Pass
165	5825	24.774	13.94	30	Pass

Note:

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

1. 11 dBm + 10log (23.35) = 24.68 dBm > 24 dBm.
2. 11 dBm + 10log (23.61) = 24.73 dBm > 24 dBm.
3. 11 dBm + 10log (23.08) = 24.63 dBm > 24 dBm.
4. 11 dBm + 10log (22.64) = 24.55 dBm > 24 dBm.
5. 11 dBm + 10log (22.73) = 24.57 dBm > 24 dBm.
6. 11 dBm + 10log (22.68) = 24.56 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	12.794	11.07	24	Pass
44	5220	13.490	11.30	24	Pass
48	5240	12.677	11.03	24	Pass
52	5260	1.995	3.00	24	Pass
60	5300	13.677	11.36	24	Pass
64	5320	13.152	11.19	24	Pass
100	5500	18.155	12.59	24	Pass
116	5580	18.408	12.65	24	Pass
140	5700	19.454	12.89	24	Pass
149	5745	14.388	11.58	30	Pass
157	5785	15.171	11.81	30	Pass
165	5825	14.928	11.74	30	Pass

Note:

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

1. 11 dBm + 10log (23.22) = 24.66 dBm > 24 dBm.
2. 11 dBm + 10log (22.83) = 24.59 dBm > 24 dBm.
3. 11 dBm + 10log (22.92) = 24.60 dBm > 24 dBm.
4. 11 dBm + 10log (23.11) = 24.64 dBm > 24 dBm.
5. 11 dBm + 10log (22.81) = 24.58 dBm > 24 dBm.
6. 11 dBm + 10log (23.10) = 24.64 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	19.099	12.81	24	Pass
46	5230	18.493	12.67	24	Pass
54	5270	16.634	12.21	24	Pass
62	5310	18.323	12.63	24	Pass
102	5510	17.498	12.43	24	Pass
110	5550	18.408	12.65	24	Pass
134	5670	18.707	12.72	24	Pass
151	5755	23.496	13.71	30	Pass
159	5795	24.491	13.89	30	Pass

Note:

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

1. 11 dBm + 10log (55.78) = 28.46 dBm > 24 dBm.
2. 11 dBm + 10log (65.93) = 29.19 dBm > 24 dBm.
3. 11 dBm + 10log (45.89) = 27.62 dBm > 24 dBm.
4. 11 dBm + 10log (45.84) = 27.61 dBm > 24 dBm.
5. 11 dBm + 10log (46.25) = 27.65 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	11.561	10.63	24	Pass
58	5290	12.274	10.89	24	Pass
106	5530	11.776	10.71	24	Pass
122	5610	11.376	10.56	24	Pass
155	5775	10.069	10.03	30	Pass

Note:

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

1. 11 dBm + 10log (84.88) = 30.29 dBm > 24 dBm.
2. 11 dBm + 10log (84.71) = 30.28 dBm > 24 dBm.
3. 11 dBm + 10log (84.82) = 30.28 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.63
44	5220	22.49
48	5240	23.60
52	5260	23.35
60	5300	23.61
64	5320	23.08
100	5500	22.64
116	5580	22.73
140	5700	22.68

802.11n (HT20)

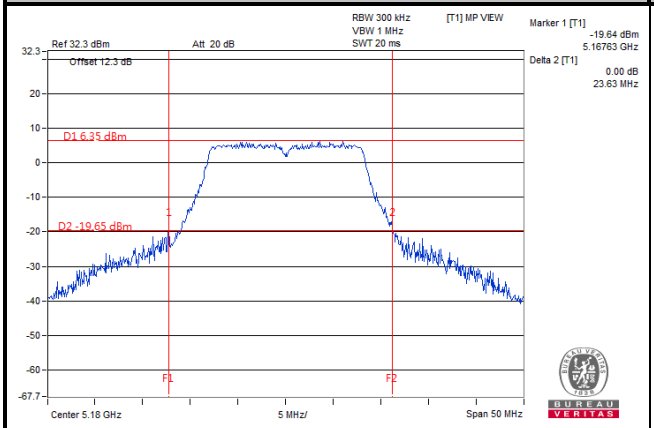
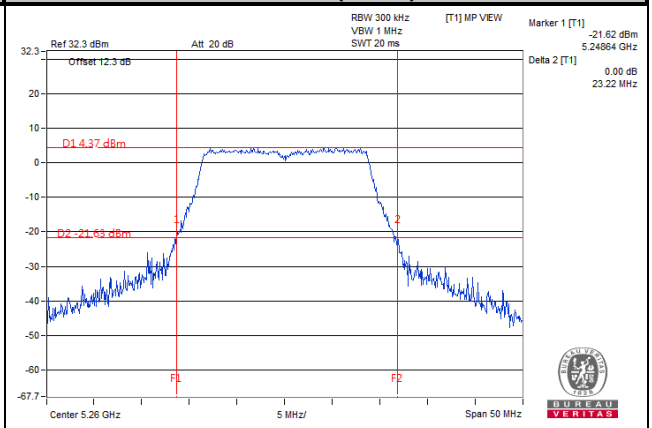
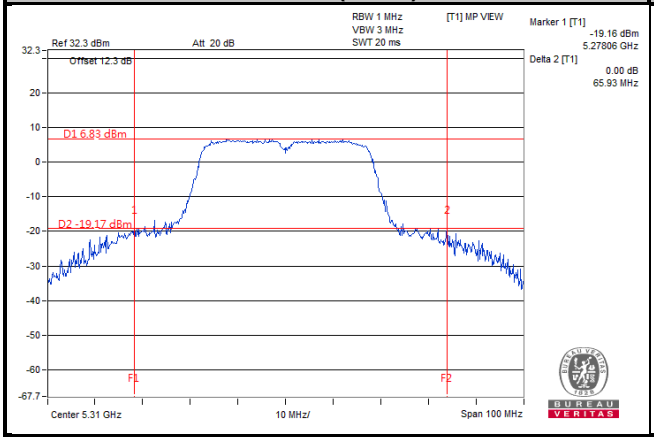
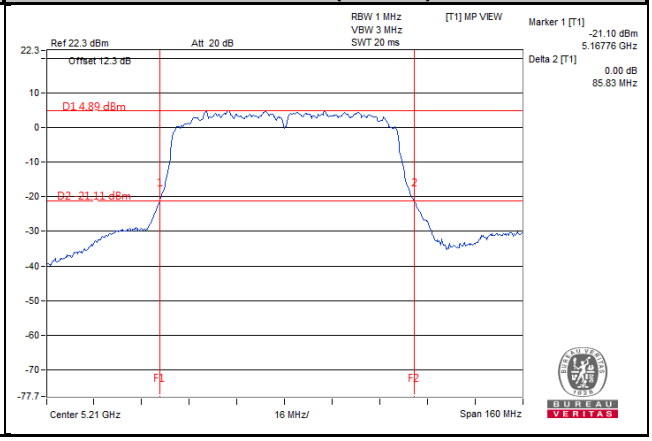
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.05
44	5220	22.97
48	5240	23.00
52	5260	23.22
60	5300	22.83
64	5320	22.92
100	5500	23.11
116	5580	22.81
140	5700	23.10

802.11n (HT40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	48.57
46	5230	53.91
54	5270	55.78
62	5310	65.93
102	5510	45.89
110	5550	45.84
134	5670	46.25

802.11ac (VHT80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
42	5210	85.83
58	5290	84.88
106	5530	84.71
122	5610	84.82

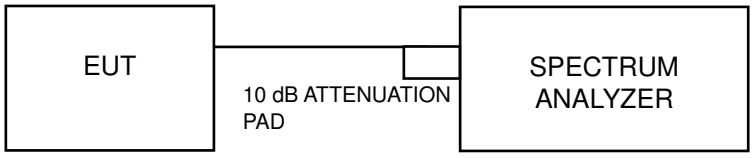
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 Test Procedures

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

Using method SA-2

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

※For U-NII-3:

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/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	2.28	0.60	2.88	11	Pass
44	5220	2.18	0.60	2.78	11	Pass
48	5240	2.97	0.60	3.57	11	Pass
52	5260	3.07	0.60	3.67	11	Pass
60	5300	3.98	0.60	4.58	11	Pass
64	5320	4.12	0.60	4.72	11	Pass
100	5500	4.28	0.60	4.88	11	Pass
116	5580	2.90	0.60	3.50	11	Pass
140	5700	1.46	0.60	2.06	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/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	0.26	0.70	0.96	11	Pass
44	5220	1.16	0.70	1.86	11	Pass
48	5240	0.71	0.70	1.41	11	Pass
52	5260	0.71	0.70	1.41	11	Pass
60	5300	1.62	0.70	2.32	11	Pass
64	5320	1.74	0.70	2.44	11	Pass
100	5500	2.77	0.70	3.47	11	Pass
116	5580	2.27	0.70	2.97	11	Pass
140	5700	0.85	0.70	1.55	11	Pass

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

802.11n (HT40)

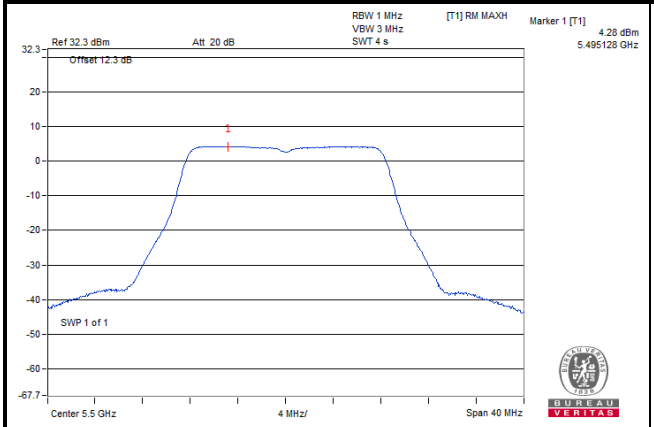
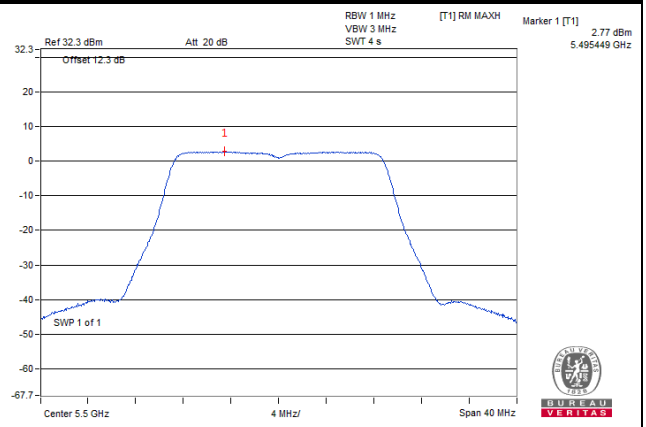
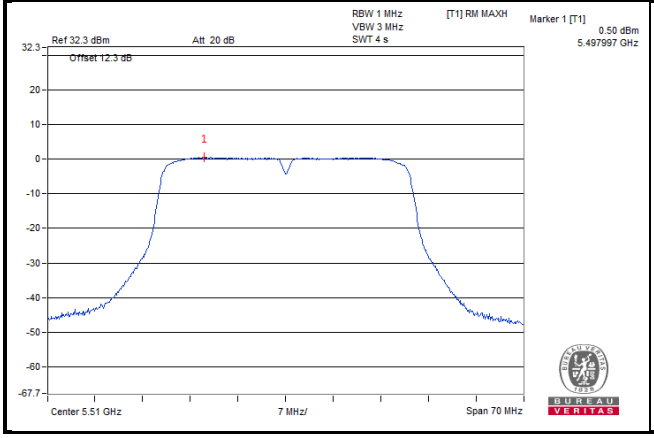
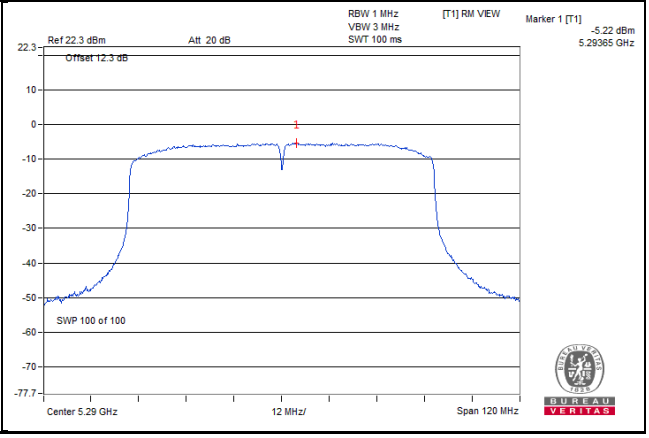
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-2.06	1.21	-0.85	11	Pass
46	5230	-2.16	1.21	-0.95	11	Pass
54	5270	-2.04	1.21	-0.83	11	Pass
62	5310	-2.44	1.21	-1.23	11	Pass
102	5510	0.50	1.21	1.71	11	Pass
110	5550	0.39	1.21	1.60	11	Pass
134	5670	-0.60	1.21	0.61	11	Pass

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

802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
42	5210	-5.87	2.74	-3.13	11	Pass
58	5290	-5.22	2.74	-2.48	11	Pass
106	5530	-6.62	2.74	-3.88	11	Pass
122	5610	-7.40	2.74	-4.66	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)	802.11ac (VHT80)
	

For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-0.97	0.60	-0.37	30	Pass
157	5785	-0.91	0.60	-0.31	30	Pass
165	5825	-0.96	0.60	-0.36	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/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-4.85	0.70	-4.15	30	Pass
157	5785	-4.60	0.70	-3.90	30	Pass
165	5825	-4.77	0.70	-4.07	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/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-7.25	1.21	-6.04	30	Pass
159	5795	-6.72	1.21	-5.51	30	Pass

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

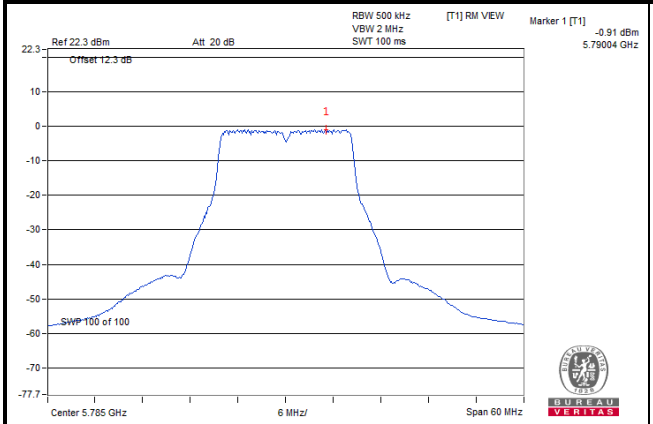
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
155	5775	-13.13	2.74	-10.39	30	Pass

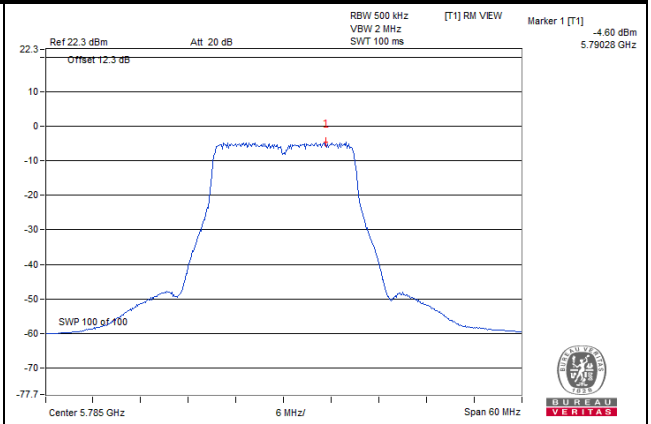
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

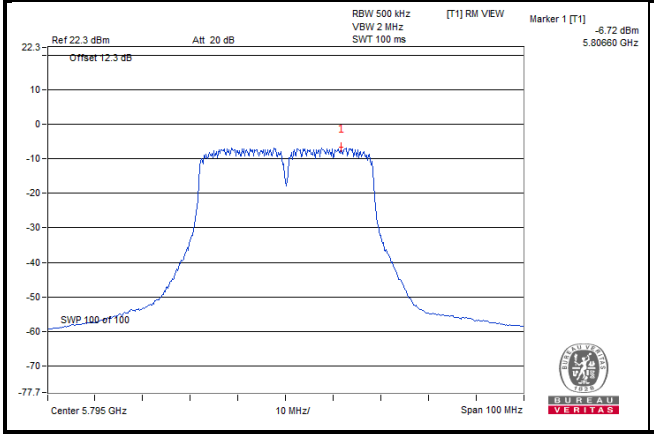
802.11a



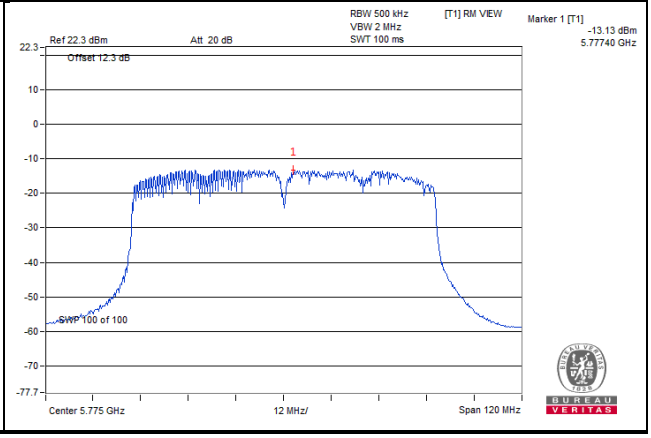
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

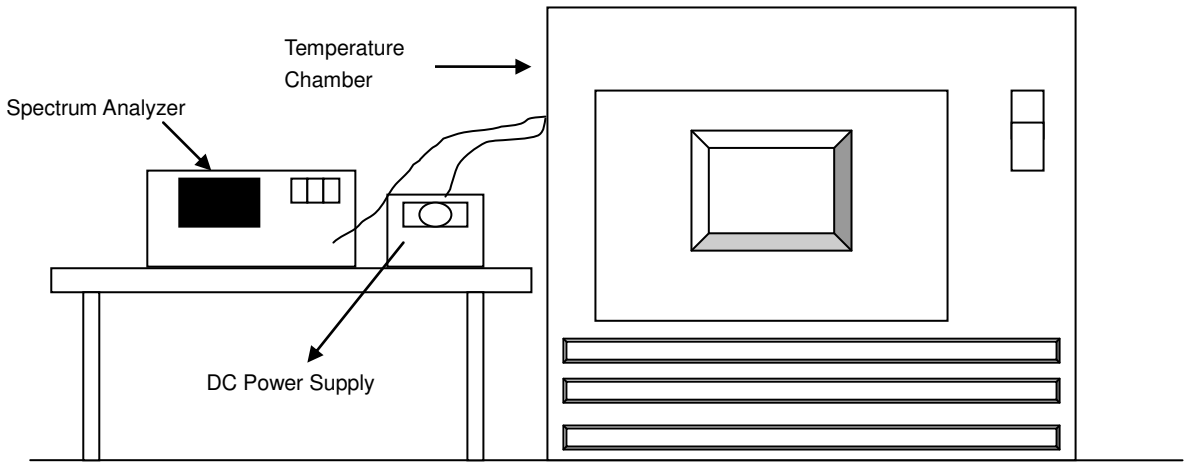


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.85	5319.9915	-0.00016	5319.995	-0.00009	5319.9925	-0.00014	5319.9929	-0.00013
40	3.85	5320.0004	0.00001	5319.9983	-0.00003	5320.0013	0.00002	5319.999	-0.00002
30	3.85	5320.0068	0.00013	5320.0059	0.00011	5320.0069	0.00013	5320.0073	0.00014
20	3.85	5319.9832	-0.00032	5319.9828	-0.00032	5319.981	-0.00036	5319.9842	-0.00030
10	3.85	5320.0001	0.00000	5320.0009	0.00002	5319.9962	-0.00007	5319.9972	-0.00005
0	3.85	5319.9952	-0.00009	5319.9945	-0.00010	5319.9976	-0.00005	5319.9984	-0.00003
-10	3.85	5320.0048	0.00009	5320.0042	0.00008	5320.0073	0.00014	5320.0079	0.00015
-20	3.85	5319.9752	-0.00047	5319.9758	-0.00045	5319.9763	-0.00045	5319.9726	-0.00052
-30	3.85	5320.0039	0.00007	5320.0063	0.00012	5320.009	0.00017	5320.0038	0.00007

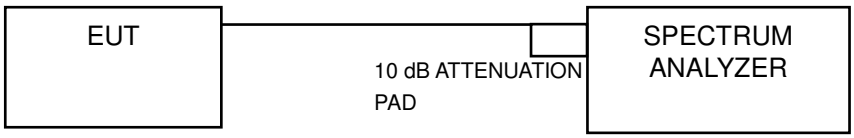
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.4	5319.9838	-0.00030	5319.9835	-0.00031	5319.9807	-0.00036	5319.9841	-0.00030
	3.85	5319.9832	-0.00032	5319.9828	-0.00032	5319.981	-0.00036	5319.9842	-0.00030
	3.6	5319.9838	-0.00030	5319.9829	-0.00032	5319.9817	-0.00034	5319.9846	-0.00029

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	16.41	0.5	Pass
157	5785	16.43	0.5	Pass
165	5825	16.41	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.65	0.5	Pass
157	5785	17.63	0.5	Pass
165	5825	17.65	0.5	Pass

802.11n (HT40)

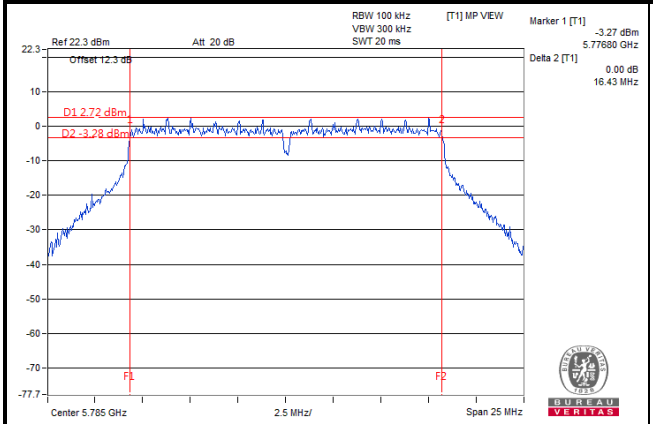
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.41	0.5	Pass
159	5795	35.62	0.5	Pass

802.11ac (VHT80)

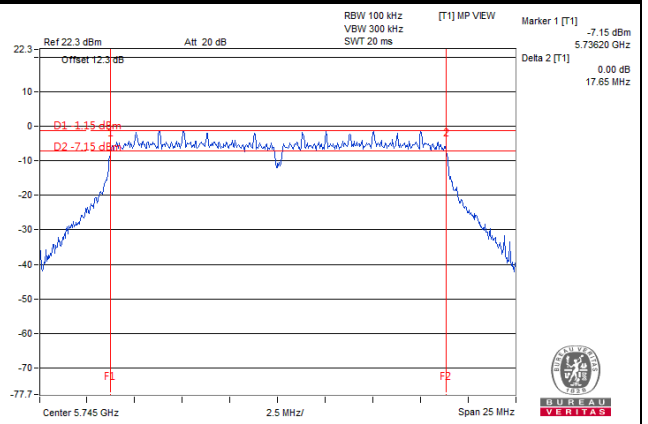
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.25	0.5	Pass

Spectrum Plot of Worst Value

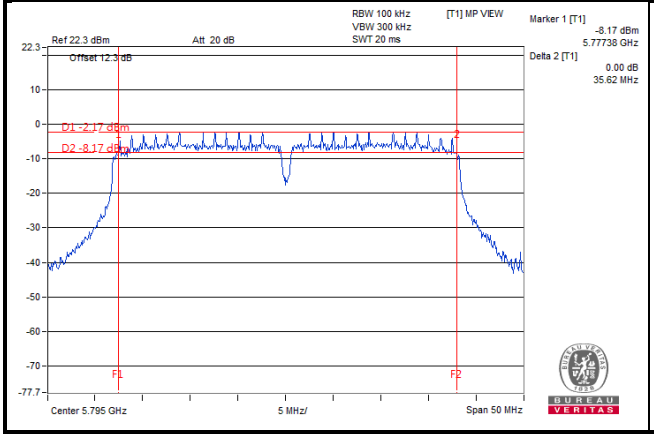
802.11a



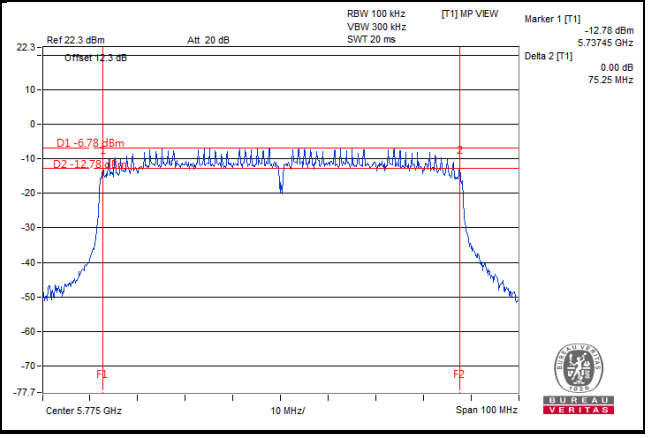
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

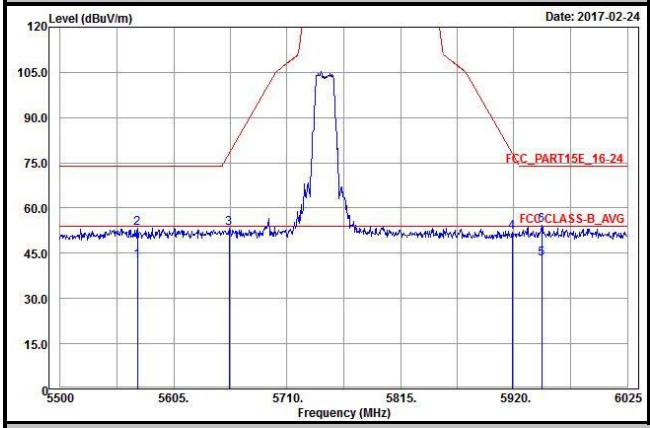
Please refer to the attached file (Test Setup Photo).

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

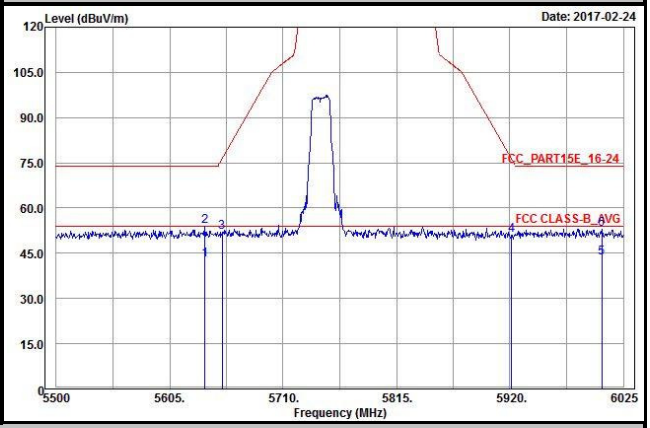
802.11a

Ch 149

Horizontal

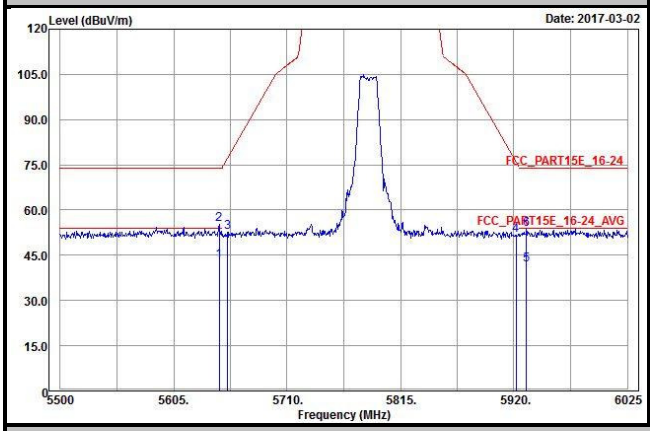


Vertical

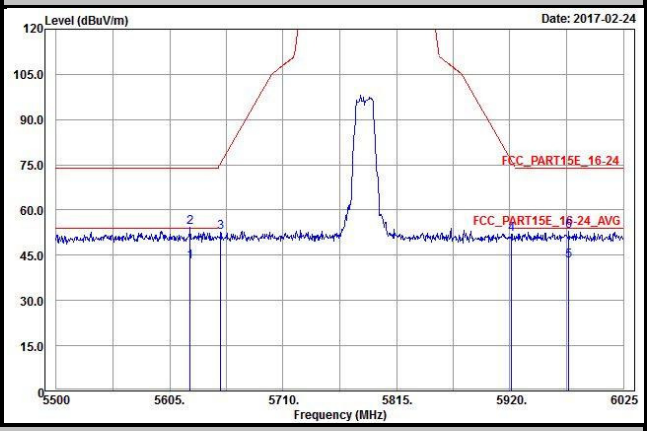


Ch 157

Horizontal

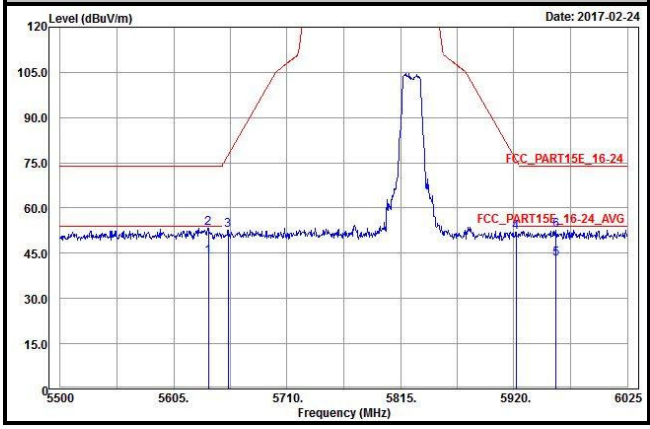


Vertical

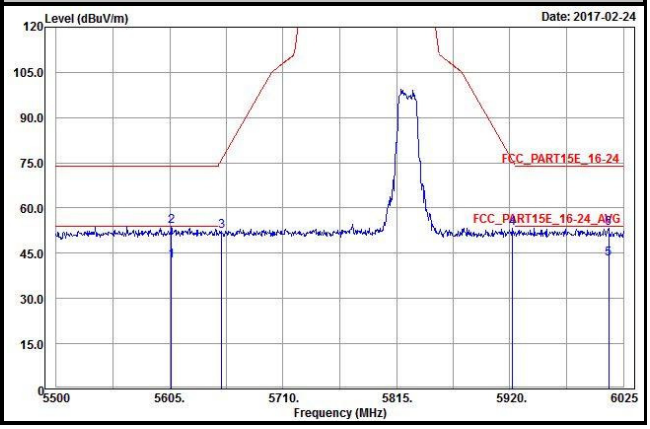


Ch 165

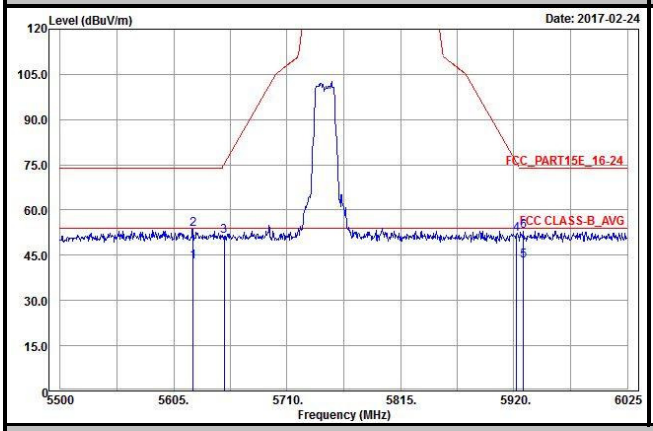
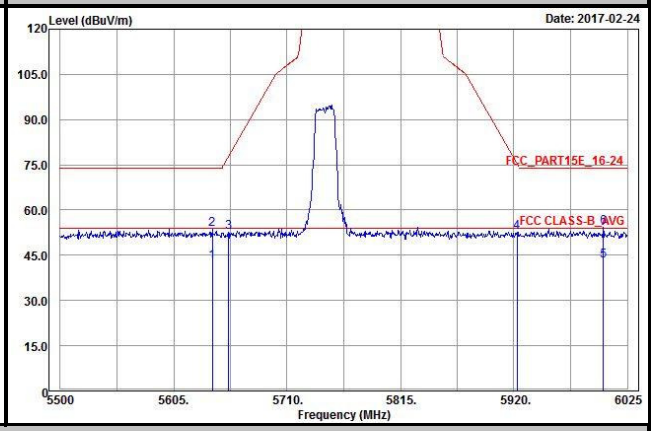
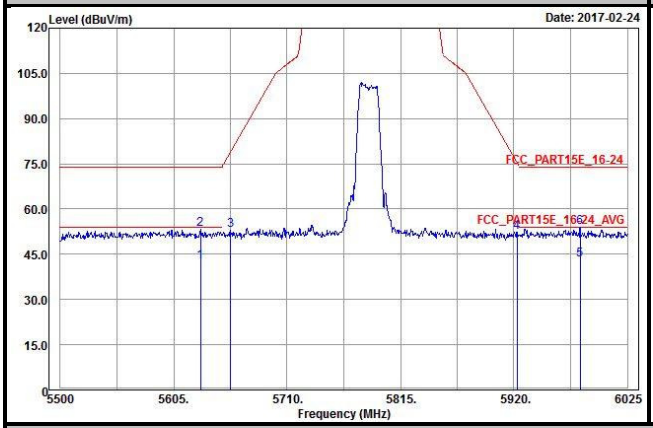
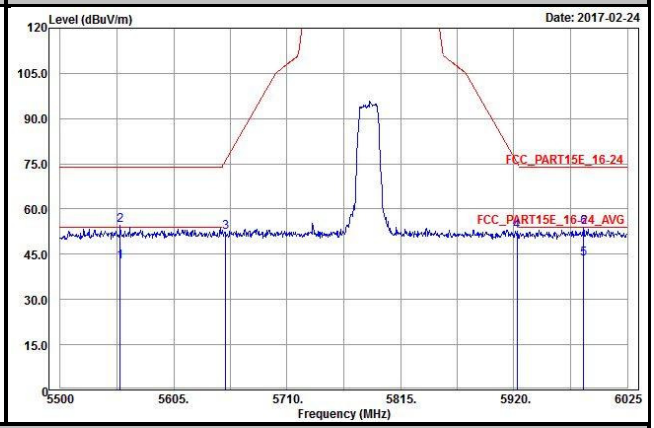
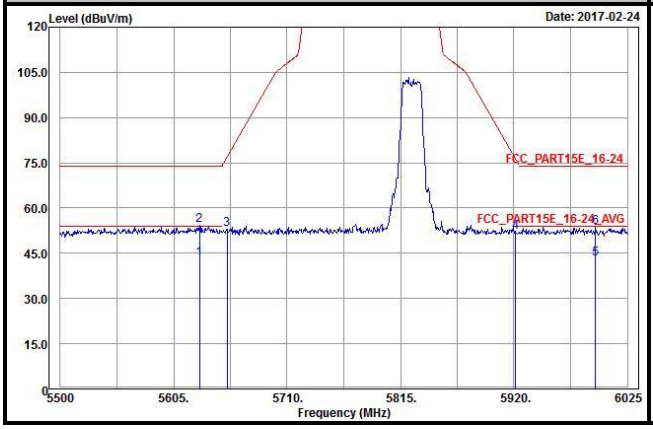
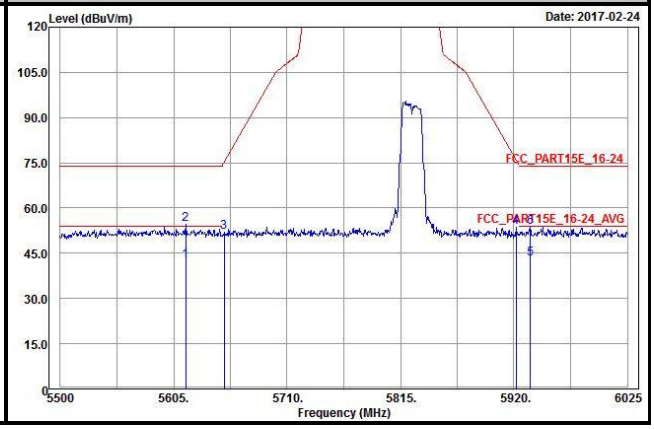
Horizontal



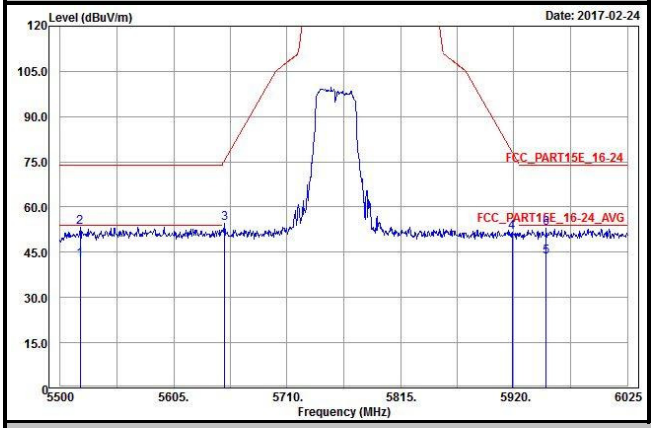
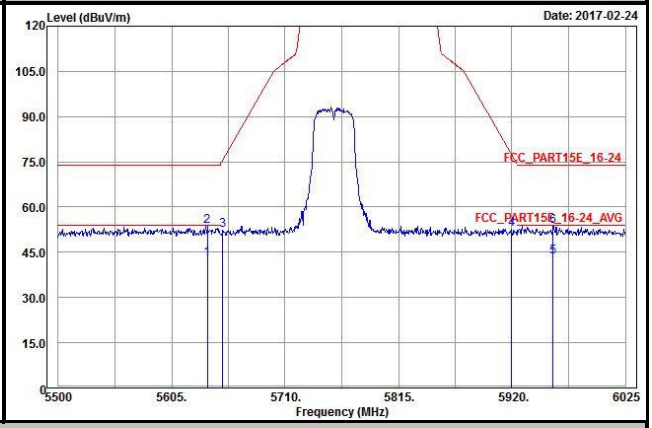
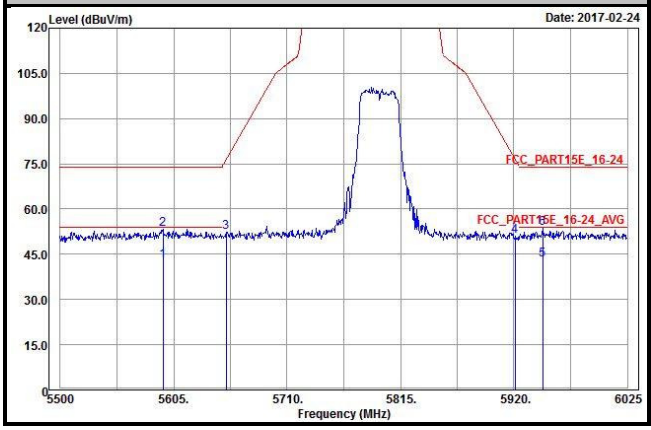
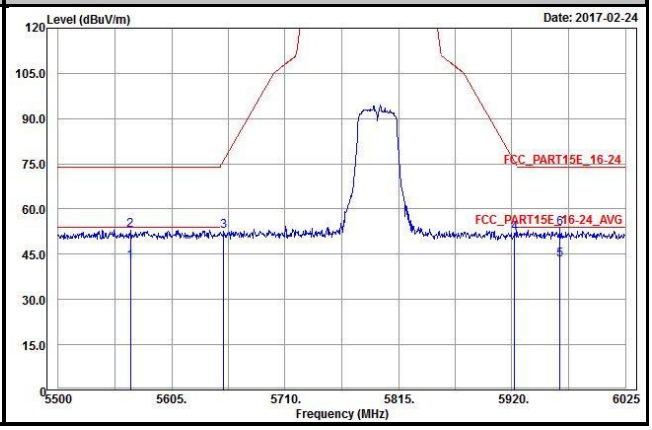
Vertical



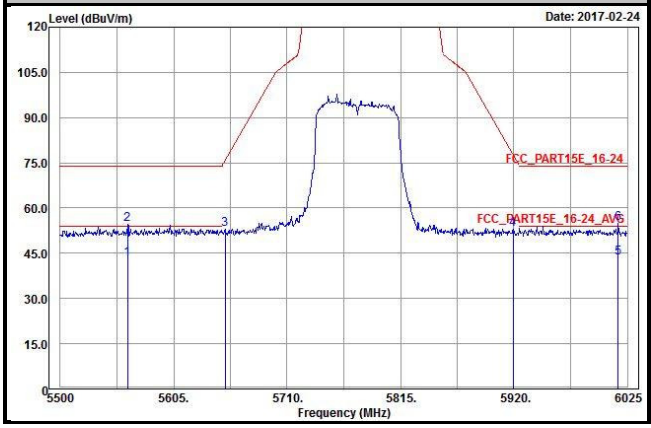
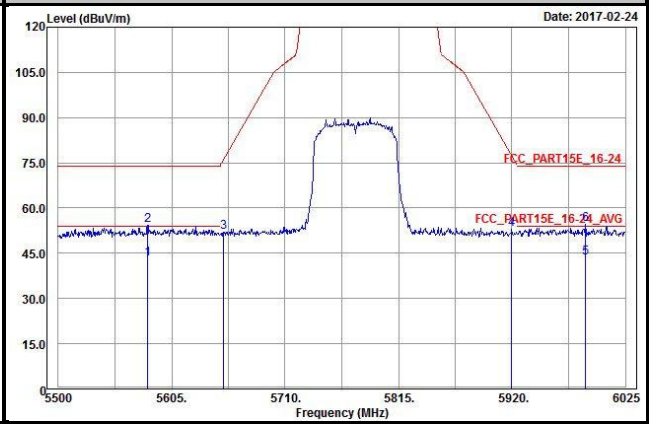
802.11n (HT20)

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

802.11n (HT40)

Ch 151	
Horizontal	Vertical
	
Ch 159	
Horizontal	Vertical
	

802.11ac (VHT80)

Ch 155	
Horizontal	Vertical
	

Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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