FCC Test Report

Report No.: RF160315C17-3

FCC ID: 2AFWMLEX522

Test Model: Le X522

Received Date: Mar. 15, 2016

Test Date: Mar. 25, 2016 ~ May 10, 2016

Issued Date: May 19, 2016

Applicant: Lemobile Information Technology (Beijing) Co., Ltd.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Table of Contents

Release Control Record **4**

1 Certificate of Conformity **5**

2 Summary of Test Results **6**

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information **7**

3.1 General Description of EUT 7
3.2 Description of Test Modes 9
3.2.1 Test Mode Applicability and Tested Channel Detail 11
3.3 Duty Cycle of Test Signal 13
3.4 Description of Support Units 17
3.4.1 Configuration of System under Test 17
3.5 General Description of Applied Standards 17

4 Test Types and Results **18**

4.1 Radiated Emission and Bandedge Measurement 18
4.1.1 Limits of Radiated Emission and Bandedge Measurement 18
4.1.2 Limits of Unwanted Emission Out of the Restricted Bands 18
4.1.3 Test Instruments 19
4.1.4 Test Procedures 20
4.1.5 Deviation from Test Standard 20
4.1.6 Test Set Up 21
4.1.7 EUT Operating Conditions 21
4.1.8 Test Results 22
4.2 Conducted Emission Measurement 64
4.2.1 Limits of Conducted Emission Measurement 64
4.2.2 Test Instruments 64
4.2.3 Test Procedures 65
4.2.4 Deviation from Test Standard 65
4.2.5 Test Setup 65
4.2.6 EUT Operating Conditions 65
4.2.7 Test Results 66
4.3 Transmit Power Measurment 68
4.3.1 Limits of Transmit Power Measurement 68
4.3.2 Test Setup 68
4.3.3 Test Instruments 69
4.3.4 Test Procedure 69
4.3.5 Deviation fromTest Standard 69
4.3.6 EUT Operating Conditions 69
4.3.7 Test Result 70
4.4 Peak Power Spectral Density Measurement 80
4.4.1 Limits of Peak Power Spectral Density Measurement 80
4.4.2 Test Setup 80
4.4.3 Test Instruments 80
4.4.4 Test Procedures 80
4.4.5 Deviation from Test Standard 81
4.4.6 EUT Operating Conditions 81
4.4.7 Test Results 81
4.5 Frequency Stability 86
4.5.1 Limit of Frequency Stability Measurement 86
4.5.2 Test Setup 86
4.5.3 Test Instruments 86
4.5.4 Test Procedure 86
4.5.5 Deviation from Test Standard 86

4.5.6 EUT Operating Condition 86
4.5.7 Test Results 87
4.6 6 dB Bandwidth Measurment 88
4.6.1 Limits of 6 dB Bandwidth Measurement 88
4.6.2 Test Setup 88
4.6.3 Test Instruments 88
4.6.4 Test Procedure 88
4.6.5 Deviation from Test Standard 88
4.6.6 EUT Operating Condition 88
4.6.7 Test Results 89

5 Pictures of Test Arrangements 91

Appendix – Information on the Testing Laboratories 92

Release Control Record

Issue No.	Description	Date Issued
RF160315C17-3	Original Release	May 19, 2016

1 Certificate of Conformity

Product: Mobile Phone

Brand: LeEco

Test Model: Le X522

Sample Status: Identical Prototype

Applicant: Lemobile Information Technology (Beijing) Co., Ltd.

Test Date: Mar. 25, 2016 ~ May 10, 2016

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by : Vera Huang , **Date:** May 19, 2016

Vera Huang / Specialist

Approved by : Stanley Wu , **Date:** May 19, 2016

Stanley Wu / Assistant Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.67 dB at 0.54882 MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -8.77 dB at 5454 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

2.1 Measurement Uncertainty

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

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

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Mobile Phone
Brand	LeEco
Test Model	Le X522
Power Supply Rating	12 Vdc (adapter) 3.83 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, 802.11ac (VHT20) 2 for 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11ac (VHT20) 2 for 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11ac (VHT20) 5 for 802.11ac (VHT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11ac (VHT20) 2 for 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	23.88 mW for 5180 ~ 5240 MHz 24.43 mW for 5260 ~ 5320 MHz 23.66 mW for 5500 ~ 5700 MHz 24.60 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with -2.7 dBi gain (5180 ~ 5240 MHz) PIFA antenna with -3 dBi gain (5260 ~ 5320 MHz) PIFA antenna with -3.2 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -3.3 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT provides one completed transmitter and one receiver.

Modulation Mode	Tx Function
802.11a	1TX
802.11ac (VHT20)	1TX
802.11ac (VHT40)	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 contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Dongyang	EQ-24BUS	I/P: 100-240Vac, 50/60Hz, 800mA O/P: 12Vdc, 2000mA / 3.6-8 Vdc, 3000mA
Adapter 2	Kunxing	EQ-24BUS	I/P: 100-240Vac, 50/60Hz, 800mA O/P: 12Vdc, 2000mA / 3.6-8 Vdc, 3000mA
Battery	SCUD	LTF21A	3.83Vdc, 3000mAh
Earphone	LE	400501000017	1m non-shielded cable w/o core
USB Cable	LE	408100002809	1m shielded cable w/o core

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

3.2 Description of Test Modes

FOR 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11ac (VHT20):

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

2 channels are provided for 802.11ac (VHT40):

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, 802.11ac (VHT20):

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

2 channels are provided for 802.11ac (VHT40):

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, 802.11ac (VHT20):

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 802.11ac (VHT40):

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, 802.11ac (VHT20):

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

2 channels are provided for 802.11ac (VHT40):

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 **Z-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
-		802.11ac (VHT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	42	42	OFDM	BPSK	V0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11ac (VHT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	V0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11ac (VHT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	V0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11ac (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	155	155	OFDM	BPSK	V0

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	44	OFDM	BPSK	6.0
-	5260-5320	802.11n (HT20)	52 to 64	64	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100	OFDM	BPSK	6.0
-	5745-5825	802.11a	149 to 165	149	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)
-	5260-5320	802.11n (HT20)	52 to 64	64	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
-		802.11ac (VHT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	42	42	OFDM	BPSK	V0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11ac (VHT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	V0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11ac (VHT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	V0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11ac (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	155	155	OFDM	BPSK	V0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	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	3.83 Vdc	Taylor Liu

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

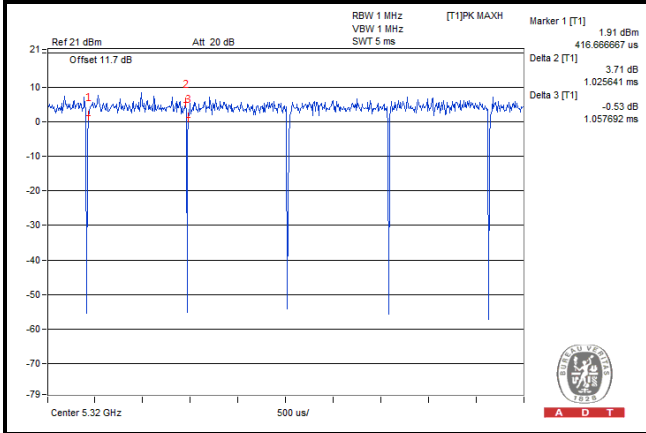
802.11a: Duty cycle = 1.025/1.057 = 0.970, Duty factor = 10 * log(1/0.970) = 0.13

802.11ac (VHT20): Duty cycle = 961.53/993.58 = 0.968, Duty factor = 10 * log(1/0.968) = 0.14

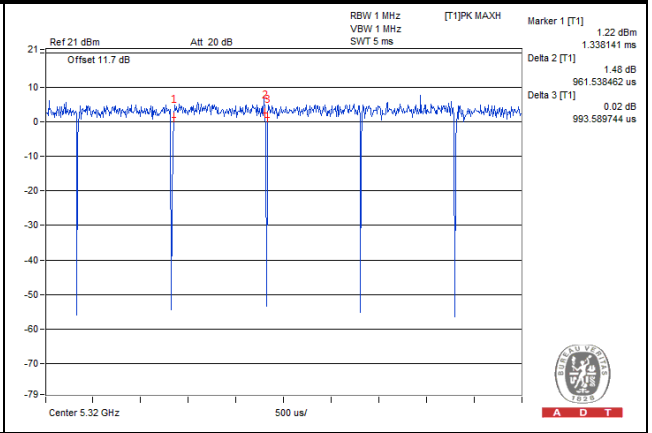
802.11ac (VHT40): Duty cycle = 448.71/512.82 = 0.875, Duty factor = 10 * log(1/0.875) = 0.58

802.11ac (VHT80): Duty cycle = 216.34/264.42 = 0.818, Duty factor = 10 * log(1/0.818) = 0.87

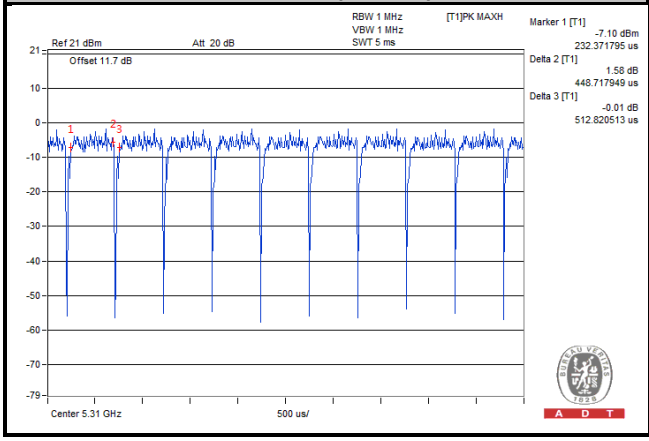
802.11a



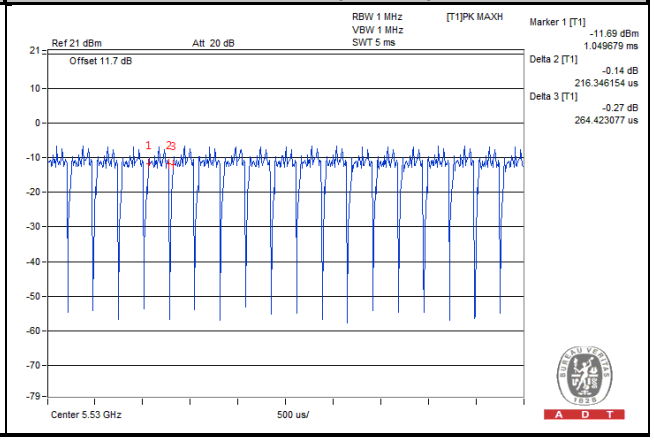
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



MODULATION TYPE: QPSK

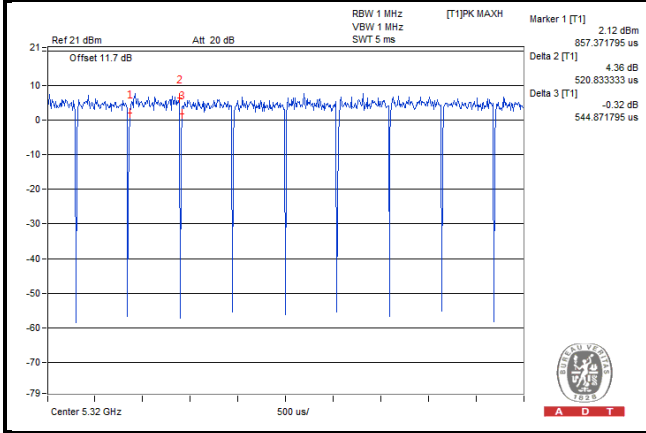
802.11a: Duty cycle = 520.83/544.87 = 0.956, Duty factor = 10 * log(1/0.956) = 0.20

802.11ac (VHT20): Duty cycle = 488.78/528.84 = 0.924, Duty factor = 10 * log(1/0.924) = 0.34

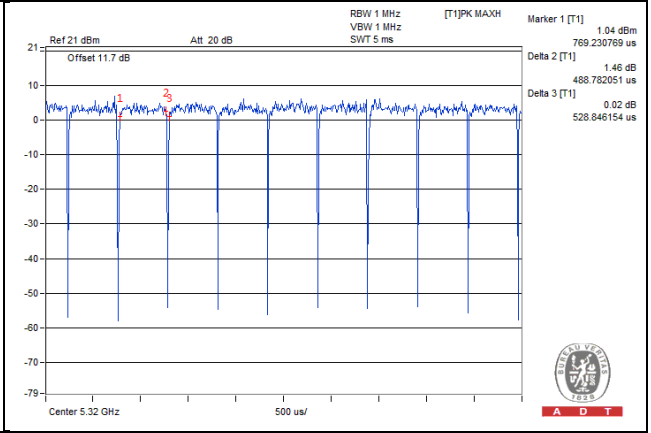
802.11ac (VHT40): Duty cycle = 232.37/288.46 = 0.806, Duty factor = 10 * log(1/0.806) = 0.94

802.11ac (VHT80): Duty cycle = 110.57/168.26 = 0.657, Duty factor = 10 * log(1/0.657) = 1.82

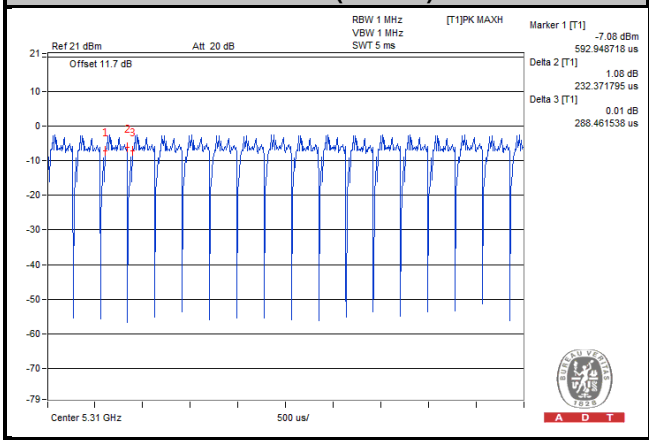
802.11a



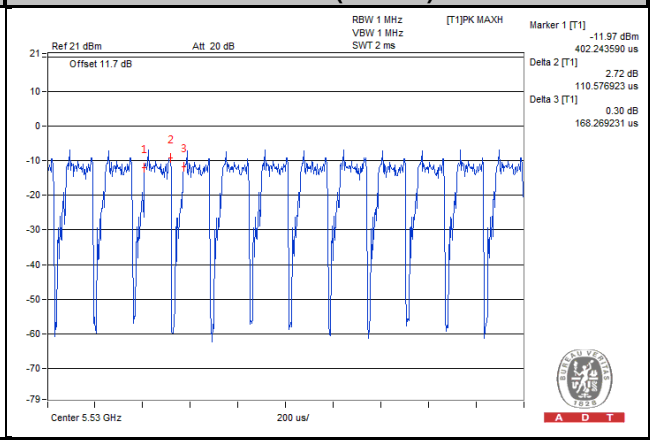
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



MODULATION TYPE: 16QAM

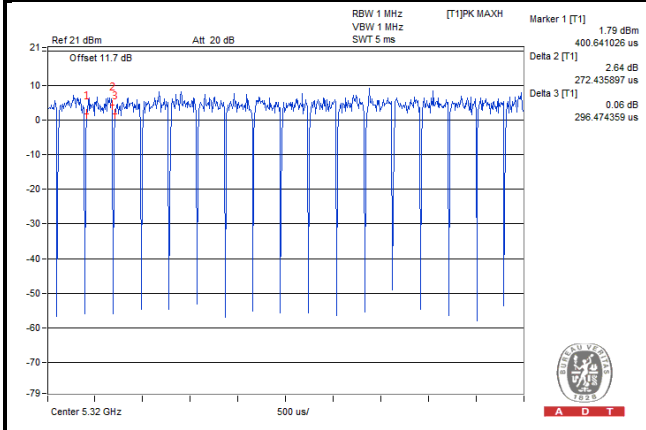
802.11a: Duty cycle = 272.43/296.47 = 0.919, Duty factor = 10 * log(1/0.919) = 0.37

802.11ac (VHT20): Duty cycle = 256.41/288.46 = 0.889, Duty factor = 10 * log(1/0.889) = 0.51

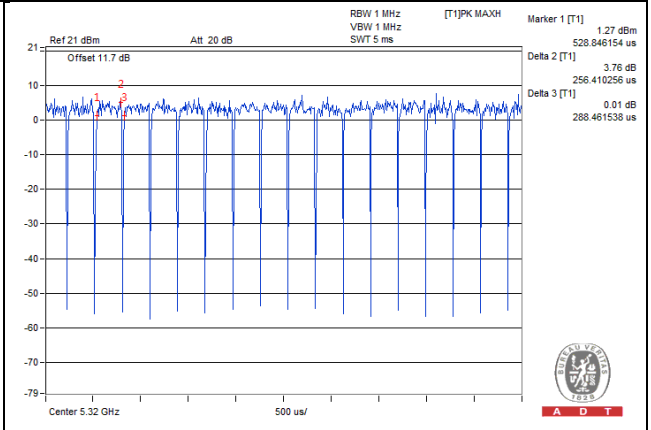
802.11ac (VHT40): Duty cycle = 123.39/176.28 = 0.700, Duty factor = 10 * log(1/0.700) = 1.55

802.11ac (VHT80): Duty cycle = 65.70/113.78 = 0.577, Duty factor = 10 * log(1/0.577) = 2.39

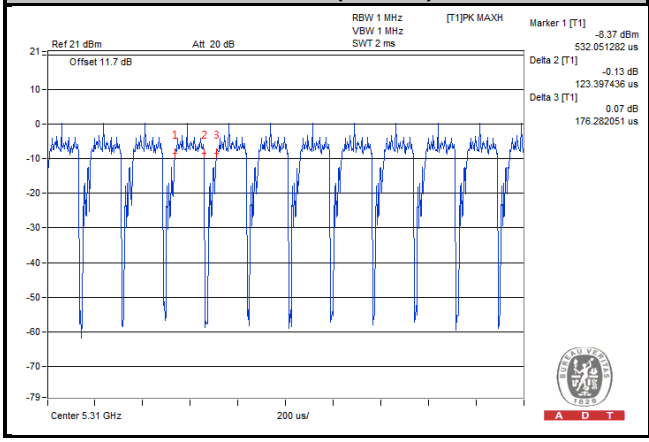
802.11a



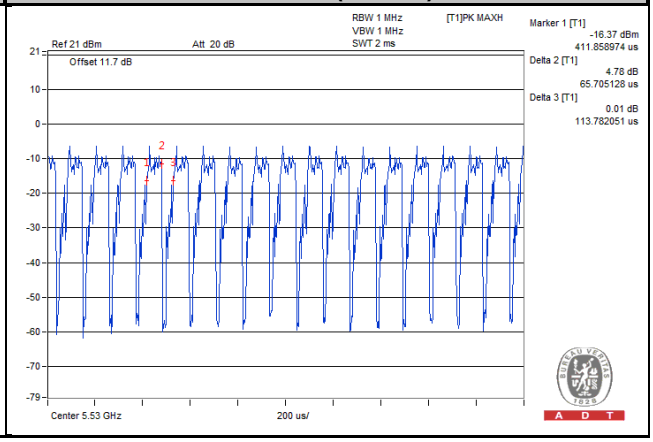
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



MODULATION TYPE: 64QAM

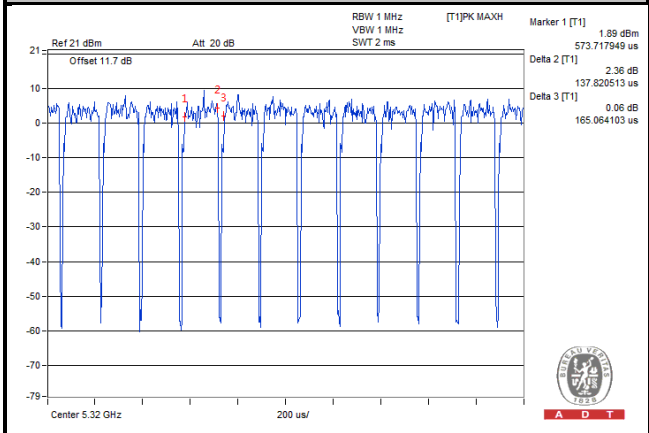
802.11a: Duty cycle = 137.82/165.06 = 0.835, Duty factor = 10 * log(1/0.835) = 0.78

802.11ac (VHT20): Duty cycle = 147.43/173.07 = 0.852, Duty factor = 10 * log(1/0.852) = 0.70

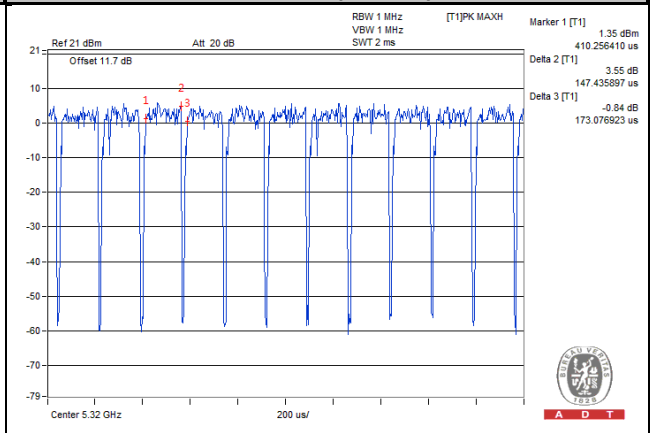
802.11ac (VHT40): Duty cycle = 65.705/121.79 = 0.540, Duty factor = 10 * log(1/0.540) = 2.68

802.11ac (VHT80): Duty cycle = 36.858/91.346 = 0.403, Duty factor = 10 * log(1/0.403) = 3.95

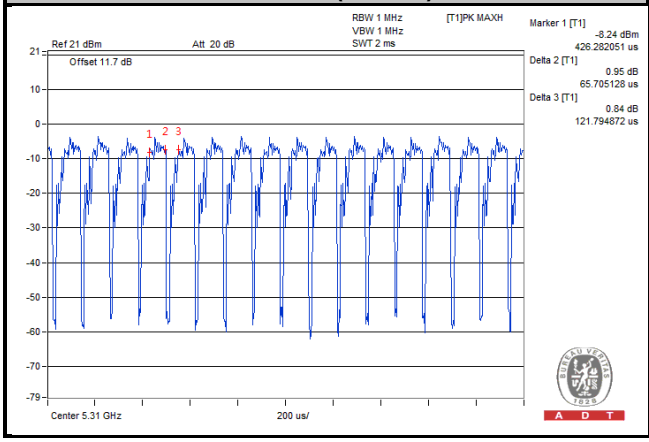
802.11a



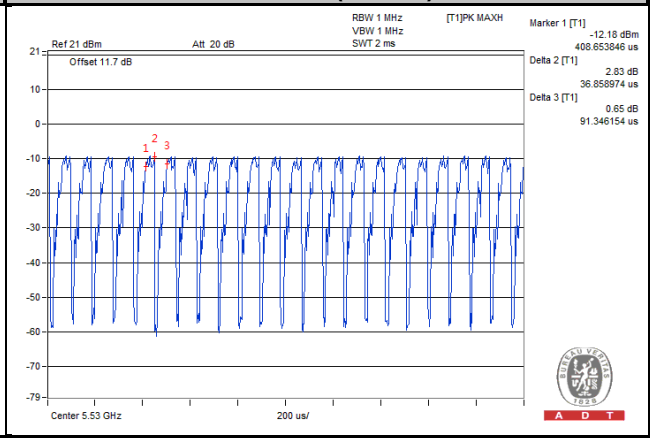
802.11ac (VHT20)



802.11ac (VHT40)



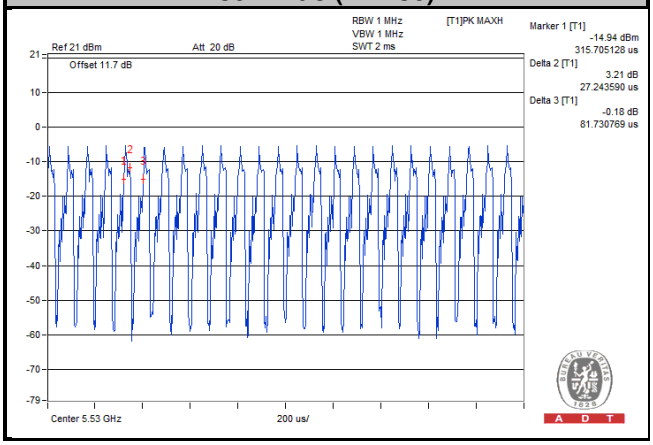
802.11ac (VHT80)



MODULATION TYPE: 256QAM

802.11ac (VHT80): Duty cycle = 27.243/81.730 = 0.333, Duty factor = 10 * log(1/0.333) = 4.78

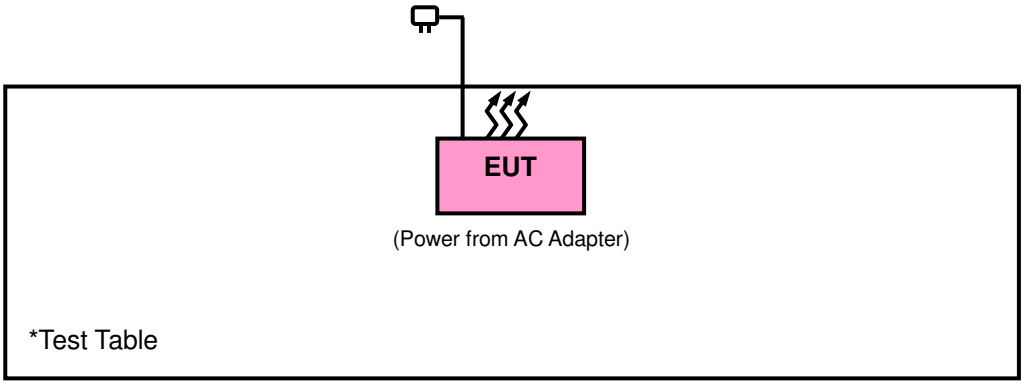
802.11ac (VHT80)



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01r02
644545 D01 Guidance for IEEE 802 11ac v01r02
ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limit	
789033 D02 General UNII Test Procedures New Rules v01r02	Field Strength at 3 m	
	PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Applicable To	**EIRP Limit**	**Equivalent Field Strength at 3 m**
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) *1 PK: -17 (dBm/MHz) *2	PK: 68.2 (dBµV/m) *1 PK: 78.2 (dBµV/m) *2

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

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

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	May 19, 2015	May 18, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2015	Dec. 16, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna ETS-Lindgren	3117	00143293	Jan. 04, 2016	Jan. 03, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 04, 2016	Jan. 03, 2017
Loop Antenna	EM-6879	269	Jul. 31, 2015	Jul. 30, 2016
Agilent Communications Tester-Wireless	8960 Series 10	MY53201073	Jul. 03, 2015	Jul. 02, 2017
Preamplifier Agilent	310N	187226	Jun. 29, 2015	Jun. 28, 2016
Preamplifier Agilent	83017A	MY39501357	Jun. 29, 2015	Jun. 28, 2016
Power Meter Anritsu	ML2495A	1232002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor Anritsu	MA2411B	1207325	Sep. 21, 2015	Sep. 20, 2016
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 27, 2015	Jun. 26, 2016
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 27, 2015	Jun. 26, 2016
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

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:

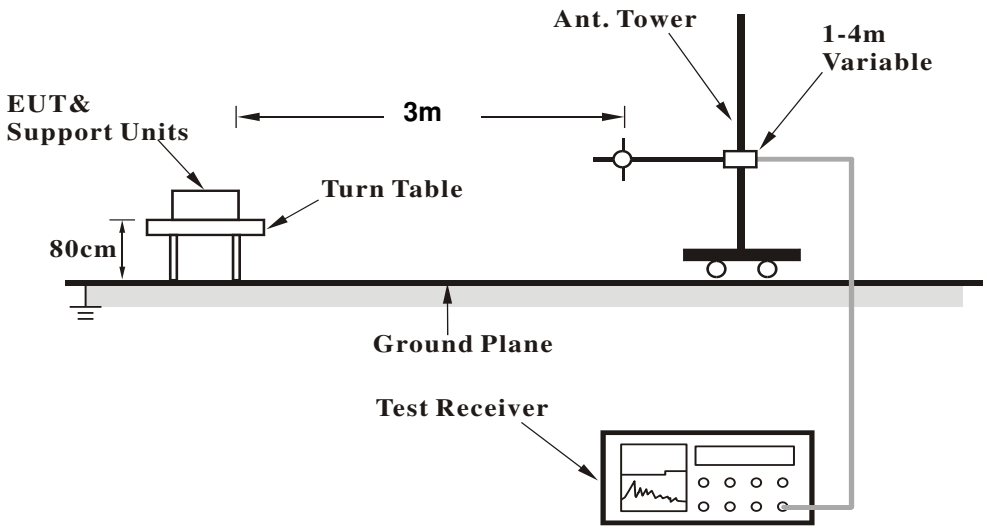
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.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

4.1.5 Deviation from Test Standard

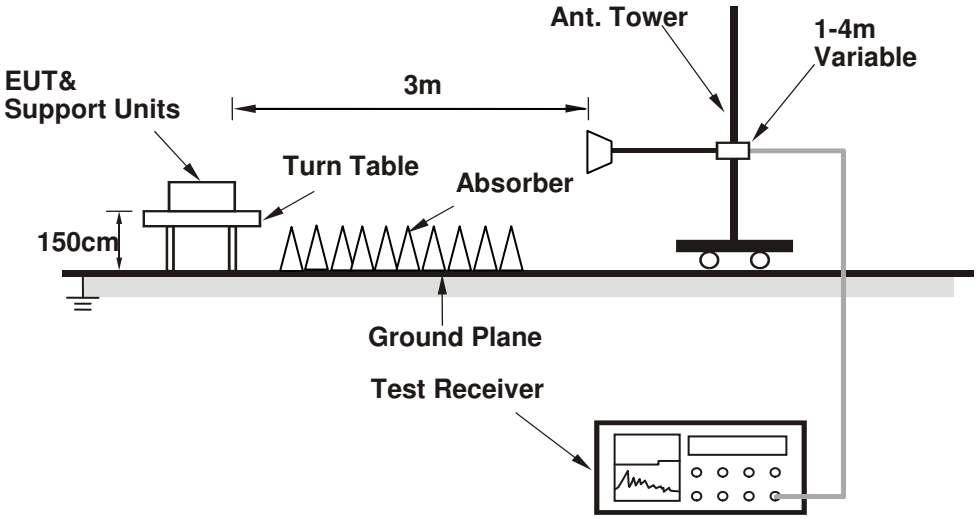
No deviation.

4.1.6 Test Set Up

<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data：

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5090	42.62	34.45	54	-11.38	34.08	8.07	33.98	105	156	Average
5090	57.26	49.09	74	-16.74	34.08	8.07	33.98	105	156	Peak
5180	92.25	83.94			34.15	8.16	34	105	156	Average
5180	100.15	91.84			34.15	8.16	34	105	156	Peak
5454	42.44	33.62	54	-11.56	34.36	8.51	34.05	105	156	Average
5454	57.67	48.85	74	-16.33	34.36	8.51	34.05	105	156	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5096	42.49	34.33	54	-11.51	34.08	8.07	33.99	144	333	Average
5096	56.3	48.14	74	-17.7	34.08	8.07	33.99	144	333	Peak
5180	92.48	84.17			34.15	8.16	34	144	333	Average
5180	100.48	92.17			34.15	8.16	34	144	333	Peak
5454	42.72	33.9	54	-11.28	34.36	8.51	34.05	144	333	Average
5454	56.42	47.6	74	-17.58	34.36	8.51	34.05	144	333	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5012	43.66	35.65	54	-10.34	34.01	7.97	33.97	105	157	Average
5012	56.37	48.36	74	-17.63	34.01	7.97	33.97	105	157	Peak
5220	92.97	84.58			34.17	8.22	34	105	157	Average
5220	101.11	92.72			34.17	8.22	34	105	157	Peak
5350	44.19	35.56	54	-9.81	34.28	8.38	34.03	105	157	Average
5350	56.82	48.19	74	-17.18	34.28	8.38	34.03	105	157	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5130	42.04	33.82	54	-11.96	34.11	8.1	33.99	144	333	Average
5130	56.1	47.88	74	-17.9	34.11	8.1	33.99	144	333	Peak
5220	93.2	84.81			34.17	8.22	34	144	333	Average
5220	101.29	92.9			34.17	8.22	34	144	333	Peak
5414	42.44	33.71	54	-11.56	34.33	8.44	34.04	144	333	Average
5414	56.65	47.92	74	-17.35	34.33	8.44	34.04	144	333	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5144	43.07	34.82	54	-10.93	34.12	8.13	34	104	158	Average
5144	56.2	47.95	74	-17.8	34.12	8.13	34	104	158	Peak
5240	93.25	84.81			34.19	8.26	34.01	104	158	Average
5240	100.03	91.59			34.19	8.26	34.01	104	158	Peak
5434	42.76	33.97	54	-11.24	34.35	8.48	34.04	104	158	Average
5434	57.05	48.26	74	-16.95	34.35	8.48	34.04	104	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5140	42.13	33.87	54	-11.87	34.12	8.13	33.99	143	333	Average
5140	56.12	47.86	74	-17.88	34.12	8.13	33.99	143	333	Peak
5240	93.66	85.22			34.19	8.26	34.01	143	333	Average
5240	100.29	91.85			34.19	8.26	34.01	143	333	Peak
5440	42.55	33.76	54	-11.45	34.35	8.48	34.04	143	333	Average
5440	57.24	48.45	74	-16.76	34.35	8.48	34.04	143	333	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5084	42.31	34.15	54	-11.69	34.07	8.07	33.98	105	161	Average
5084	57.33	49.17	74	-16.67	34.07	8.07	33.98	105	161	Peak
5260	93.68	85.22			34.21	8.26	34.01	105	161	Average
5260	100.91	92.45			34.21	8.26	34.01	105	161	Peak
5454	42.61	33.79	54	-11.39	34.36	8.51	34.05	105	161	Average
5454	57.21	48.39	74	-16.79	34.36	8.51	34.05	105	161	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5068	42.39	34.29	54	-11.61	34.05	8.03	33.98	101	357	Average
5068	57.63	49.53	74	-16.37	34.05	8.03	33.98	101	357	Peak
5260	94.96	86.5			34.21	8.26	34.01	101	357	Average
5260	102.25	93.79			34.21	8.26	34.01	101	357	Peak
5454	42.61	33.79	54	-11.39	34.36	8.51	34.05	101	357	Average
5454	58.1	49.28	74	-15.9	34.36	8.51	34.05	101	357	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5088	42.27	34.11	54	-11.73	34.07	8.07	33.98	105	161	Average
5088	57.66	49.5	74	-16.34	34.07	8.07	33.98	105	161	Peak
5300	94.58	86.04			34.24	8.32	34.02	105	161	Average
5300	102.47	93.93			34.24	8.32	34.02	105	161	Peak
5412	44.23	35.5	54	-9.77	34.33	8.44	34.04	105	161	Average
5412	58.33	49.6	74	-15.67	34.33	8.44	34.04	105	161	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5066	42.31	34.21	54	-11.69	34.05	8.03	33.98	101	328	Average
5066	56.95	48.85	74	-17.05	34.05	8.03	33.98	101	328	Peak
5300	96.13	87.59			34.24	8.32	34.02	101	328	Average
5300	103.61	95.07			34.24	8.32	34.02	101	328	Peak
5352	43.42	34.79	54	-10.58	34.28	8.38	34.03	101	328	Average
5352	57.24	48.61	74	-16.76	34.28	8.38	34.03	101	328	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5052	42.2	34.14	54	-11.8	34.04	8	33.98	152	162	Average
5052	56.5	48.44	74	-17.5	34.04	8	33.98	152	162	Peak
5320	95.39	86.81			34.25	8.35	34.02	152	162	Average
5320	102.31	93.73			34.25	8.35	34.02	152	162	Peak
5350	44.41	35.78	54	-9.59	34.28	8.38	34.03	152	162	Average
5350	57.71	49.08	74	-16.29	34.28	8.38	34.03	152	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5116	42.24	34.04	54	-11.76	34.09	8.1	33.99	100	329	Average
5116	57.25	49.05	74	-16.75	34.09	8.1	33.99	100	329	Peak
5320	96.33	87.75			34.25	8.35	34.02	100	329	Average
5320	104.04	95.46			34.25	8.35	34.02	100	329	Peak
5454	45.16	36.34	54	-8.84	34.36	8.51	34.05	100	329	Average
5454	57.67	48.85	74	-16.33	34.36	8.51	34.05	100	329	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5446	44.55	35.72	54	-9.45	34.36	8.51	34.04	100	159	Average
5446	57.39	48.56	74	-16.61	34.36	8.51	34.04	100	159	Peak
5470	55.67	46.84	68.2	-12.53	34.37	8.51	34.05	100	159	Peak
5500	94.96	86.04			34.4	8.57	34.05	100	159	Average
5500	101.62	92.7			34.4	8.57	34.05	100	159	Peak
5725	55.27	46.11	68.2	-12.93	34.62	8.65	34.11	100	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5422	43.93	35.16	54	-10.07	34.33	8.48	34.04	155	350	Average
5422	57.2	48.43	74	-16.8	34.33	8.48	34.04	155	350	Peak
5470	56.83	48	68.2	-11.37	34.37	8.51	34.05	155	350	Peak
5500	96.6	87.68			34.4	8.57	34.05	155	350	Average
5500	104.04	95.12			34.4	8.57	34.05	155	350	Peak
5724	56.69	47.53	68.2	-11.51	34.62	8.65	34.11	155	350	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5424	42.53	33.76	54	-11.47	34.33	8.48	34.04	144	164	Average
5424	59.92	51.15	74	-14.08	34.33	8.48	34.04	144	164	Peak
5470	56.46	47.63	68.2	-11.74	34.37	8.51	34.05	144	164	Peak
5580	94.43	85.44			34.47	8.6	34.08	144	164	Average
5580	102.89	93.9			34.47	8.6	34.08	144	164	Peak
5725	56.12	46.96	68.2	-12.08	34.62	8.65	34.11	144	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5454	42.68	33.86	54	-11.32	34.36	8.51	34.05	153	340	Average
5454	59.17	50.35	74	-14.83	34.36	8.51	34.05	153	340	Peak
5470	57.11	48.28	68.2	-11.09	34.37	8.51	34.05	153	340	Peak
5580	96.58	87.59			34.47	8.6	34.08	153	340	Average
5580	104.94	95.95			34.47	8.6	34.08	153	340	Peak
5725	56.92	47.76	68.2	-11.28	34.62	8.65	34.11	153	340	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5448	42.65	33.82	54	-11.35	34.36	8.51	34.04	128	182	Average
5448	57.53	48.7	74	-16.47	34.36	8.51	34.04	128	182	Peak
5470	56.68	47.85	68.2	-11.52	34.37	8.51	34.05	128	182	Peak
5700	95.91	86.78			34.59	8.64	34.1	128	182	Average
5700	103.05	93.92			34.59	8.64	34.1	128	182	Peak
5725	56.94	47.78	68.2	-11.26	34.62	8.65	34.11	128	182	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5436	42.63	33.84	54	-11.37	34.35	8.48	34.04	111	330	Average
5436	57.36	48.57	74	-16.64	34.35	8.48	34.04	111	330	Peak
5470	57.51	48.68	68.2	-10.69	34.37	8.51	34.05	111	330	Peak
5700	98.13	89			34.59	8.64	34.1	111	330	Average
5700	105.56	96.43			34.59	8.64	34.1	111	330	Peak
5725	56.13	46.97	68.2	-12.07	34.62	8.65	34.11	111	330	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5708	57.8	48.65	68.2	-10.4	34.61	8.65	34.11	113	171	Peak
*5724	59.09	49.93	78.2	-19.11	34.62	8.65	34.11	113	171	Peak
5745	93.11	83.92			34.64	8.66	34.11	113	171	Average
5745	100.8	91.61			34.64	8.66	34.11	113	171	Peak
*5860	57.14	47.82	78.2	-21.06	34.76	8.7	34.14	113	171	Peak
*5870	56.37	47.04	68.2	-11.83	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5710	57.14	47.99	68.2	-11.06	34.61	8.65	34.11	110	330	Peak
*5724	68.63	59.47	78.2	-9.57	34.62	8.65	34.11	110	330	Peak
5745	98.77	89.58			34.64	8.66	34.11	110	330	Average
5745	105.26	96.07			34.64	8.66	34.11	110	330	Peak
*5860	56.62	47.3	78.2	-21.58	34.76	8.7	34.14	110	330	Peak
*5870	56.73	47.4	68.2	-11.47	34.76	8.71	34.14	110	330	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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	57.72	48.57	68.2	-10.48	34.61	8.65	34.11	113	171	Peak
*5716	57.08	47.93	78.2	-21.12	34.61	8.65	34.11	113	171	Peak
5785	93.68	84.45			34.68	8.68	34.13	113	171	Average
5785	100.12	90.89			34.68	8.68	34.13	113	171	Peak
*5856	56.44	47.12	78.2	-21.76	34.76	8.7	34.14	113	171	Peak
*5868	57.21	47.88	68.2	-10.99	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5712	57.99	48.84	68.2	-10.21	34.61	8.65	34.11	110	330	Peak
*5718	58.6	49.44	78.2	-19.6	34.62	8.65	34.11	110	330	Peak
5785	98.25	89.02			34.68	8.68	34.13	110	330	Average
5785	105.96	96.73			34.68	8.68	34.13	110	330	Peak
*5854	58.39	49.07	78.2	-19.81	34.76	8.7	34.14	110	330	Peak
*5862	58.31	48.98	68.2	-9.89	34.76	8.71	34.14	110	330	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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5706	56.62	47.47	68.2	-11.58	34.61	8.65	34.11	145	171	Peak
*5724	57.39	48.23	78.2	-20.81	34.62	8.65	34.11	145	171	Peak
5825	93.38	84.09			34.73	8.69	34.13	145	171	Average
5825	100.13	90.84			34.73	8.69	34.13	145	171	Peak
*5858	56.96	47.64	78.2	-21.24	34.76	8.7	34.14	145	171	Peak
*5866	56.55	47.22	68.2	-11.65	34.76	8.71	34.14	145	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5708	57.25	48.1	68.2	-10.95	34.61	8.65	34.11	109	330	Peak
*5718	55.84	46.68	78.2	-22.36	34.62	8.65	34.11	109	330	Peak
5825	98.39	89.1			34.73	8.69	34.13	109	330	Average
5825	105.42	96.13			34.73	8.69	34.13	109	330	Peak
*5858	58.05	48.73	78.2	-20.15	34.76	8.7	34.14	109	330	Peak
*5862	55.84	46.51	68.2	-12.36	34.76	8.71	34.14	109	330	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

802.11ac (VHT20)

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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5062	42.31	34.21	54	-11.69	34.05	8.03	33.98	105	156	Average
5062	56.62	48.52	74	-17.38	34.05	8.03	33.98	105	156	Peak
5180	91.21	82.9			34.15	8.16	34	105	156	Average
5180	97.97	89.66			34.15	8.16	34	105	156	Peak
5398	42.36	33.64	54	-11.64	34.32	8.44	34.04	105	156	Average
5398	57.14	48.42	74	-16.86	34.32	8.44	34.04	105	156	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5106	42.78	34.61	54	-11.22	34.09	8.07	33.99	144	333	Average
5106	57.41	49.24	74	-16.59	34.09	8.07	33.99	144	333	Peak
5180	91.35	83.04			34.15	8.16	34	144	333	Average
5180	99.48	91.17			34.15	8.16	34	144	333	Peak
5396	42.47	33.75	54	-11.53	34.32	8.44	34.04	144	333	Average
5396	57.51	48.79	74	-16.49	34.32	8.44	34.04	144	333	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5106	42.05	33.88	54	-11.95	34.09	8.07	33.99	105	157	Average
5106	56.05	47.88	74	-17.95	34.09	8.07	33.99	105	157	Peak
5220	91.8	83.41			34.17	8.22	34	105	157	Average
5220	98.84	90.45			34.17	8.22	34	105	157	Peak
5460	42.52	33.7	54	-11.48	34.36	8.51	34.05	105	157	Average
5460	58.35	49.53	74	-15.65	34.36	8.51	34.05	105	157	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5050	42.11	34.05	54	-11.89	34.04	8	33.98	143	331	Average
5050	56.64	48.58	74	-17.36	34.04	8	33.98	143	331	Peak
5220	92.11	83.72			34.17	8.22	34	143	331	Average
5220	99.26	90.87			34.17	8.22	34	143	331	Peak
5420	42.49	33.72	54	-11.51	34.33	8.48	34.04	143	331	Average
5420	57.54	48.77	74	-16.46	34.33	8.48	34.04	143	331	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5086	42.06	33.9	54	-11.94	34.07	8.07	33.98	104	158	Average
5086	56.41	48.25	74	-17.59	34.07	8.07	33.98	104	158	Peak
5240	92.36	83.92			34.19	8.26	34.01	104	158	Average
5240	99.58	91.14			34.19	8.26	34.01	104	158	Peak
5438	42.47	33.68	54	-11.53	34.35	8.48	34.04	104	158	Average
5438	56.67	47.88	74	-17.33	34.35	8.48	34.04	104	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5042	42.11	34.05	54	-11.89	34.04	8	33.98	143	333	Average
5042	56.36	48.3	74	-17.64	34.04	8	33.98	143	333	Peak
5240	92.46	84.02			34.19	8.26	34.01	143	333	Average
5240	99.58	91.14			34.19	8.26	34.01	143	333	Peak
5404	42.54	33.82	54	-11.46	34.32	8.44	34.04	143	333	Average
5404	57.4	48.68	74	-16.6	34.32	8.44	34.04	143	333	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5106	42.31	34.14	54	-11.69	34.09	8.07	33.99	105	161	Average
5106	57.49	49.32	74	-16.51	34.09	8.07	33.99	105	161	Peak
5260	92.71	84.25			34.21	8.26	34.01	105	161	Average
5260	100.49	92.03			34.21	8.26	34.01	105	161	Peak
5400	42.48	33.76	54	-11.52	34.32	8.44	34.04	105	161	Average
5400	57	48.28	74	-17	34.32	8.44	34.04	105	161	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5042	42.23	34.17	54	-11.77	34.04	8	33.98	101	357	Average
5042	56.55	48.49	74	-17.45	34.04	8	33.98	101	357	Peak
5260	93.89	85.43			34.21	8.26	34.01	101	357	Average
5260	101.79	93.33			34.21	8.26	34.01	101	357	Peak
5392	42.44	33.76	54	-11.56	34.31	8.41	34.04	101	357	Average
5392	57.21	48.53	74	-16.79	34.31	8.41	34.04	101	357	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5032	42.06	34	54	-11.94	34.03	8	33.97	104	158	Average
5032	57.07	49.01	74	-16.93	34.03	8	33.97	104	158	Peak
5300	93.12	84.58			34.24	8.32	34.02	104	158	Average
5300	100.56	92.02			34.24	8.32	34.02	104	158	Peak
5426	44.35	35.58	54	-9.65	34.33	8.48	34.04	104	158	Average
5426	57.77	49	74	-16.23	34.33	8.48	34.04	104	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5096	42.3	34.14	54	-11.7	34.08	8.07	33.99	101	328	Average
5096	57	48.84	74	-17	34.08	8.07	33.99	101	328	Peak
5300	95.02	86.48			34.24	8.32	34.02	101	328	Average
5300	102.25	93.71			34.24	8.32	34.02	101	328	Peak
5458	43.65	34.83	54	-10.35	34.36	8.51	34.05	101	328	Average
5458	57.79	48.97	74	-16.21	34.36	8.51	34.05	101	328	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5116	42.34	34.14	54	-11.66	34.09	8.1	33.99	152	162	Average
5116	57.11	48.91	74	-16.89	34.09	8.1	33.99	152	162	Peak
5320	94.13	85.55			34.25	8.35	34.02	152	162	Average
5320	101.61	93.03			34.25	8.35	34.02	152	162	Peak
5446	44.57	35.74	54	-9.43	34.36	8.51	34.04	152	162	Average
5446	57.66	48.83	74	-16.34	34.36	8.51	34.04	152	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5122	42.26	34.06	54	-11.74	34.09	8.1	33.99	100	329	Average
5122	57.19	48.99	74	-16.81	34.09	8.1	33.99	100	329	Peak
5320	95.34	86.76			34.25	8.35	34.02	100	329	Average
5320	102.41	93.83			34.25	8.35	34.02	100	329	Peak
5454	**45.23**	**36.41**	**54**	**-8.77**	**34.36**	**8.51**	**34.05**	**100**	**329**	**Average**
5454	57.72	48.9	74	-16.28	34.36	8.51	34.05	100	329	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5420	44.43	35.66	54	-9.57	34.33	8.48	34.04	100	159	Average
5420	57.27	48.5	74	-16.73	34.33	8.48	34.04	100	159	Peak
5470	57.21	48.38	68.2	-10.99	34.37	8.51	34.05	100	159	Peak
5500	93.84	84.92			34.4	8.57	34.05	100	159	Average
5500	100.6	91.68			34.4	8.57	34.05	100	159	Peak
5725	55.76	46.6	68.2	-12.44	34.62	8.65	34.11	100	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5408	43.72	35	54	-10.28	34.32	8.44	34.04	155	350	Average
5408	57.33	48.61	74	-16.67	34.32	8.44	34.04	155	350	Peak
5470	57.3	48.47	68.2	-10.9	34.37	8.51	34.05	155	350	Peak
5500	95.47	86.55			34.4	8.57	34.05	155	350	Average
5500	103.03	94.11			34.4	8.57	34.05	155	350	Peak
5725	56.02	46.86	68.2	-12.18	34.62	8.65	34.11	155	350	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5444	42.6	33.81	54	-11.4	34.35	8.48	34.04	144	164	Average
5444	57.87	49.08	74	-16.13	34.35	8.48	34.04	144	164	Peak
5470	56.94	48.11	68.2	-11.26	34.37	8.51	34.05	144	164	Peak
5580	92.39	83.4			34.47	8.6	34.08	144	164	Average
5580	100.1	91.11			34.47	8.6	34.08	144	164	Peak
5725	55.45	46.29	68.2	-12.75	34.62	8.65	34.11	144	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.63	33.81	54	-11.37	34.36	8.51	34.05	153	340	Average
5460	57.27	48.45	74	-16.73	34.36	8.51	34.05	153	340	Peak
5470	55.31	46.48	68.2	-12.89	34.37	8.51	34.05	153	340	Peak
5580	95.52	86.53			34.47	8.6	34.08	153	340	Average
5580	102.95	93.96			34.47	8.6	34.08	153	340	Peak
5725	56.95	47.79	68.2	-11.25	34.62	8.65	34.11	153	340	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5438	42.6	33.81	54	-11.4	34.35	8.48	34.04	128	182	Average
5438	57.59	48.8	74	-16.41	34.35	8.48	34.04	128	182	Peak
5470	57.55	48.72	68.2	-10.65	34.37	8.51	34.05	128	182	Peak
5700	94.31	85.18			34.59	8.64	34.1	128	182	Average
5700	101.39	92.26			34.59	8.64	34.1	128	182	Peak
5725	57.49	48.33	68.2	-10.71	34.62	8.65	34.11	128	182	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5450	42.74	33.92	54	-11.26	34.36	8.51	34.05	111	330	Average
5450	58.89	50.07	74	-15.11	34.36	8.51	34.05	111	330	Peak
5470	56.22	47.39	68.2	-11.98	34.37	8.51	34.05	111	330	Peak
5700	97.19	88.06			34.59	8.64	34.1	111	330	Average
5700	104.3	95.17			34.59	8.64	34.1	111	330	Peak
5725	56.92	47.76	68.2	-11.28	34.62	8.65	34.11	111	330	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5712	56.69	47.54	68.2	-11.51	34.61	8.65	34.11	113	171	Peak
*5724	57.14	47.98	78.2	-21.06	34.62	8.65	34.11	113	171	Peak
5745	91.94	82.75			34.64	8.66	34.11	113	171	Average
5745	99.2	90.01			34.64	8.66	34.11	113	171	Peak
*5858	57.21	47.89	78.2	-20.99	34.76	8.7	34.14	113	171	Peak
*5868	57.66	48.33	68.2	-10.54	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5708	56.66	47.51	68.2	-11.54	34.61	8.65	34.11	110	330	Peak
*5724	65.56	56.4	78.2	-12.64	34.62	8.65	34.11	110	330	Peak
5745	97.96	88.77			34.64	8.66	34.11	110	330	Average
5745	104.53	95.34			34.64	8.66	34.11	110	330	Peak
*5860	56.89	47.57	78.2	-21.31	34.76	8.7	34.14	110	330	Peak
*5870	57.76	48.43	68.2	-10.44	34.76	8.71	34.14	110	330	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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5710	56.07	46.92	68.2	-12.13	34.61	8.65	34.11	113	171	Peak
*5716	56.49	47.34	78.2	-21.71	34.61	8.65	34.11	113	171	Peak
5785	92.24	83.01			34.68	8.68	34.13	113	171	Average
5785	99.89	90.66			34.68	8.68	34.13	113	171	Peak
*5858	56.64	47.32	78.2	-21.56	34.76	8.7	34.14	113	171	Peak
*5868	56.63	47.3	68.2	-11.57	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	56.87	47.72	68.2	-11.33	34.61	8.65	34.11	128	330	Peak
*5716	56.7	47.55	78.2	-21.5	34.61	8.65	34.11	128	330	Peak
5785	97.41	88.18			34.68	8.68	34.13	128	330	Average
5785	104.9	95.67			34.68	8.68	34.13	128	330	Peak
*5858	56.94	47.62	78.2	-21.26	34.76	8.7	34.14	128	330	Peak
*5866	56.97	47.64	68.2	-11.23	34.76	8.71	34.14	128	330	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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5706	56.81	47.66	68.2	-11.39	34.61	8.65	34.11	145	171	Peak
*5720	56.29	47.13	78.2	-21.91	34.62	8.65	34.11	145	171	Peak
5825	92.17	82.88			34.73	8.69	34.13	145	171	Average
5825	99.3	90.01			34.73	8.69	34.13	145	171	Peak
*5856	57.84	48.52	78.2	-20.36	34.76	8.7	34.14	145	171	Peak
*5868	55.92	46.59	68.2	-12.28	34.76	8.71	34.14	145	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5714	56.1	46.95	68.2	-12.1	34.61	8.65	34.11	109	330	Peak
*5716	56.4	47.25	78.2	-21.8	34.61	8.65	34.11	109	330	Peak
5825	97.31	88.02			34.73	8.69	34.13	109	330	Average
5825	104.32	95.03			34.73	8.69	34.13	109	330	Peak
*5856	58.87	49.55	78.2	-19.33	34.76	8.7	34.14	109	330	Peak
*5870	58.49	49.16	68.2	-9.71	34.76	8.71	34.14	109	330	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

802.11ac (VHT40)

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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5106	42.67	34.5	54	-11.33	34.09	8.07	33.99	105	156	Average
5106	55.99	47.82	74	-18.01	34.09	8.07	33.99	105	156	Peak
5190	86.78	78.44			34.15	8.19	34	105	156	Average
5190	94.54	86.2			34.15	8.19	34	105	156	Peak
5410	42.94	34.22	54	-11.06	34.32	8.44	34.04	105	156	Average
5410	57.45	48.73	74	-16.55	34.32	8.44	34.04	105	156	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5090	42.41	34.24	54	-11.59	34.08	8.07	33.98	144	333	Average
5090	57.26	49.09	74	-16.74	34.08	8.07	33.98	144	333	Peak
5190	86.19	77.85			34.15	8.19	34	144	333	Average
5190	94.44	86.1			34.15	8.19	34	144	333	Peak
5438	42.94	34.15	54	-11.06	34.35	8.48	34.04	144	333	Average
5438	57.36	48.57	74	-16.64	34.35	8.48	34.04	144	333	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.94	34.69	54	-11.06	34.12	8.13	34	104	158	Average
5150	57.58	49.33	74	-16.42	34.12	8.13	34	104	158	Peak
5230	86.68	78.28			34.19	8.22	34.01	104	158	Average
5230	93.91	85.51			34.19	8.22	34.01	104	158	Peak
5424	42.97	34.2	54	-11.03	34.33	8.48	34.04	104	158	Average
5424	57.34	48.57	74	-16.66	34.33	8.48	34.04	104	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5122	42.49	34.29	54	-11.51	34.09	8.1	33.99	143	333	Average
5122	56.77	48.57	74	-17.23	34.09	8.1	33.99	143	333	Peak
5230	86.92	78.52			34.19	8.22	34.01	143	333	Average
5230	93.65	85.25			34.19	8.22	34.01	143	333	Peak
5458	43.03	34.21	54	-10.97	34.36	8.51	34.05	143	333	Average
5458	56.97	48.15	74	-17.03	34.36	8.51	34.05	143	333	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 54	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5056	42.53	34.43	54	-11.47	34.05	8.03	33.98	105	161	Average
5056	56.93	48.83	74	-17.07	34.05	8.03	33.98	105	161	Peak
5270	87.39	78.9			34.21	8.29	34.01	105	161	Average
5270	94.87	86.38			34.21	8.29	34.01	105	161	Peak
5436	42.99	34.2	54	-11.01	34.35	8.48	34.04	105	161	Average
5436	57.89	49.1	74	-16.11	34.35	8.48	34.04	105	161	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5092	42.73	34.56	54	-11.27	34.08	8.07	33.98	101	357	Average
5092	57.32	49.15	74	-16.68	34.08	8.07	33.98	101	357	Peak
5270	88.09	79.6			34.21	8.29	34.01	101	357	Average
5270	95.37	86.88			34.21	8.29	34.01	101	357	Peak
5430	43.27	34.48	54	-10.73	34.35	8.48	34.04	101	357	Average
5430	56.55	47.76	74	-17.45	34.35	8.48	34.04	101	357	Peak

Remarks:

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

EUT Test Condition		Measurement Detail	
Channel	Channel 62	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5030	42.66	34.6	54	-11.34	34.03	8	33.97	152	162	Average
5030	57.59	49.53	74	-16.41	34.03	8	33.97	152	162	Peak
5310	87.79	79.24			34.25	8.32	34.02	152	162	Average
5310	95.92	87.37			34.25	8.32	34.02	152	162	Peak
5438	43.07	34.28	54	-10.93	34.35	8.48	34.04	152	162	Average
5438	58.44	49.65	74	-15.56	34.35	8.48	34.04	152	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5096	42.69	34.53	54	-11.31	34.08	8.07	33.99	100	329	Average
5096	57.51	49.35	74	-16.49	34.08	8.07	33.99	100	329	Peak
5310	90.17	81.62			34.25	8.32	34.02	100	329	Average
5310	97.39	88.84			34.25	8.32	34.02	100	329	Peak
5430	43.23	34.44	54	-10.77	34.35	8.48	34.04	100	329	Average
5430	57.91	49.12	74	-16.09	34.35	8.48	34.04	100	329	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5372	43.04	34.37	54	-10.96	34.29	8.41	34.03	100	164	Average
5372	56.54	47.87	74	-17.46	34.29	8.41	34.03	100	164	Peak
5470	54.9	46.07	68.2	-13.3	34.37	8.51	34.05	100	164	Peak
5510	87.97	79.06			34.4	8.57	34.06	100	164	Average
5510	94.66	85.75			34.4	8.57	34.06	100	164	Peak
5725	55.39	46.23	68.2	-12.81	34.62	8.65	34.11	100	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5422	43.05	34.28	54	-10.95	34.33	8.48	34.04	155	350	Average
5422	56.73	47.96	74	-17.27	34.33	8.48	34.04	155	350	Peak
5470	55.94	47.11	68.2	-12.26	34.37	8.51	34.05	155	350	Peak
5510	89.73	80.82			34.4	8.57	34.06	155	350	Average
5510	96.53	87.62			34.4	8.57	34.06	155	350	Peak
5725	55.98	46.82	68.2	-12.22	34.62	8.65	34.11	155	350	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5434	43.16	34.37	54	-10.84	34.35	8.48	34.04	144	164	Average
5434	58.12	49.33	74	-15.88	34.35	8.48	34.04	144	164	Peak
5470	57.68	48.85	68.2	-10.52	34.37	8.51	34.05	144	164	Peak
5550	87.37	78.4			34.45	8.59	34.07	144	164	Average
5550	94.94	85.97			34.45	8.59	34.07	144	164	Peak
5725	57.43	48.27	68.2	-10.77	34.62	8.65	34.11	144	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5352	43.03	34.4	54	-10.97	34.28	8.38	34.03	153	327	Average
5352	57.3	48.67	74	-16.7	34.28	8.38	34.03	153	327	Peak
5470	56.6	47.77	68.2	-11.6	34.37	8.51	34.05	153	327	Peak
5550	89.43	80.46			34.45	8.59	34.07	153	327	Average
5550	96.88	87.91			34.45	8.59	34.07	153	327	Peak
5725	55.61	46.45	68.2	-12.59	34.62	8.65	34.11	153	327	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458	42.99	34.17	54	-11.01	34.36	8.51	34.05	128	221	Average
5458	58.12	49.3	74	-15.88	34.36	8.51	34.05	128	221	Peak
5470	57.07	48.24	68.2	-11.13	34.37	8.51	34.05	128	221	Peak
5670	86.22	77.12			34.57	8.63	34.1	128	221	Average
5670	93.92	84.82			34.57	8.63	34.1	128	221	Peak
5725	57.4	48.24	68.2	-10.8	34.62	8.65	34.11	128	221	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5434	42.98	34.19	54	-11.02	34.35	8.48	34.04	111	330	Average
5434	57.16	48.37	74	-16.84	34.35	8.48	34.04	111	330	Peak
5470	55.1	46.27	68.2	-13.1	34.37	8.51	34.05	111	330	Peak
5670	90.08	80.98			34.57	8.63	34.1	111	330	Average
5670	97.21	88.11			34.57	8.63	34.1	111	330	Peak
5725	56.34	47.18	68.2	-11.86	34.62	8.65	34.11	111	330	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5710	57.31	48.16	68.2	-10.89	34.61	8.65	34.11	113	171	Peak
*5724	57.6	48.44	78.2	-20.6	34.62	8.65	34.11	113	171	Peak
5755	85.97	76.76			34.66	8.66	34.11	113	171	Average
5755	93.48	84.27			34.66	8.66	34.11	113	171	Peak
*5856	57.13	47.81	78.2	-21.07	34.76	8.7	34.14	113	171	Peak
*5870	57.13	47.8	68.2	-11.07	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5712	56.31	47.16	68.2	-11.89	34.61	8.65	34.11	110	330	Peak
*5724	62.71	53.55	78.2	-15.49	34.62	8.65	34.11	110	330	Peak
5755	91.23	82.02			34.66	8.66	34.11	110	330	Average
5755	97.98	88.77			34.66	8.66	34.11	110	330	Peak
*5852	56.72	47.42	78.2	-21.48	34.74	8.7	34.14	110	330	Peak
*5870	56.53	47.2	68.2	-11.67	34.76	8.71	34.14	110	330	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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5708	56.32	47.17	68.2	-11.88	34.61	8.65	34.11	113	171	Peak
*5718	56.38	47.22	78.2	-21.82	34.62	8.65	34.11	113	171	Peak
5795	86.27	77.03			34.69	8.68	34.13	113	171	Average
5795	93.59	84.35			34.69	8.68	34.13	113	171	Peak
*5856	57.05	47.73	78.2	-21.15	34.76	8.7	34.14	113	171	Peak
*5862	56.59	47.26	68.2	-11.61	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5706	56.34	47.19	68.2	-11.86	34.61	8.65	34.11	128	330	Peak
*5720	56.39	47.23	78.2	-21.81	34.62	8.65	34.11	128	330	Peak
5795	91.07	81.83			34.69	8.68	34.13	128	330	Average
5795	98.64	89.4			34.69	8.68	34.13	128	330	Peak
*5856	56.39	47.07	78.2	-21.81	34.76	8.7	34.14	128	330	Peak
*5866	56.53	47.2	68.2	-11.67	34.76	8.71	34.14	128	330	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5098	43.17	35.01	54	-10.83	34.08	8.07	33.99	105	158	Average
5098	57.36	49.2	74	-16.64	34.08	8.07	33.99	105	158	Peak
5210	82.6	74.24			34.17	8.19	34	105	158	Average
5210	89.45	81.09			34.17	8.19	34	105	158	Peak
5434	43.93	35.14	54	-10.07	34.35	8.48	34.04	105	158	Average
5434	56.88	48.09	74	-17.12	34.35	8.48	34.04	105	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5096	43.28	35.12	54	-10.72	34.08	8.07	33.99	143	331	Average
5096	56.42	48.26	74	-17.58	34.08	8.07	33.99	143	331	Peak
5210	82.71	74.35			34.17	8.19	34	143	331	Average
5210	90.35	81.99			34.17	8.19	34	143	331	Peak
5440	43.66	34.87	54	-10.34	34.35	8.48	34.04	143	331	Average
5440	57.16	48.37	74	-16.84	34.35	8.48	34.04	143	331	Peak

Remarks:

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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5066	43.47	35.37	54	-10.53	34.05	8.03	33.98	104	158	Average
5066	57.09	48.99	74	-16.91	34.05	8.03	33.98	104	158	Peak
5290	85.33	76.8			34.23	8.32	34.02	104	158	Average
5290	92.56	84.03			34.23	8.32	34.02	104	158	Peak
5376	44.17	35.51	54	-9.83	34.29	8.41	34.04	104	158	Average
5376	56.92	48.26	74	-17.08	34.29	8.41	34.04	104	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5094	43.61	35.45	54	-10.39	34.08	8.07	33.99	100	329	Average
5094	56.91	48.75	74	-17.09	34.08	8.07	33.99	100	329	Peak
5290	85.68	77.15			34.23	8.32	34.02	100	329	Average
5290	93.52	84.99			34.23	8.32	34.02	100	329	Peak
5358	43.95	35.32	54	-10.05	34.28	8.38	34.03	100	329	Average
5358	58.24	49.61	74	-15.76	34.28	8.38	34.03	100	329	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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5426	43.91	35.14	54	-10.09	34.33	8.48	34.04	100	159	Average
5426	57.16	48.39	74	-16.84	34.33	8.48	34.04	100	159	Peak
5470	57.12	48.29	68.2	-11.08	34.37	8.51	34.05	100	159	Peak
5530	83.14	74.21			34.42	8.58	34.07	100	159	Average
5530	90	81.07			34.42	8.58	34.07	100	159	Peak
5725	55.91	46.75	68.2	-12.29	34.62	8.65	34.11	100	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5424	43.65	34.88	54	-10.35	34.33	8.48	34.04	155	327	Average
5424	58.11	49.34	74	-15.89	34.33	8.48	34.04	155	327	Peak
5470	57.17	48.34	68.2	-11.03	34.37	8.51	34.05	155	327	Peak
5530	85.84	76.91			34.42	8.58	34.07	155	327	Average
5530	93.04	84.11			34.42	8.58	34.07	155	327	Peak
5725	56.52	47.36	68.2	-11.68	34.62	8.65	34.11	155	327	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5420	44.24	35.47	54	-9.76	34.33	8.48	34.04	110	164	Average
5420	57.2	48.43	74	-16.8	34.33	8.48	34.04	110	164	Peak
5470	55.89	47.06	68.2	-12.31	34.37	8.51	34.05	110	164	Peak
5610	83.05	74.02			34.5	8.61	34.08	110	164	Average
5610	90.74	81.71			34.5	8.61	34.08	110	164	Peak
5725	54.95	45.79	68.2	-13.25	34.62	8.65	34.11	110	164	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5438	43.72	34.93	54	-10.28	34.35	8.48	34.04	153	327	Average
5438	57.68	48.89	74	-16.32	34.35	8.48	34.04	153	327	Peak
5470	56.09	47.26	68.2	-12.11	34.37	8.51	34.05	153	327	Peak
5610	86.1	77.07			34.5	8.61	34.08	153	327	Average
5610	93.39	84.36			34.5	8.61	34.08	153	327	Peak
5725	56.81	47.65	68.2	-11.39	34.62	8.65	34.11	153	327	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. 5470 MHz & 5725 MHz: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5708	57.61	48.46	68.2	-10.59	34.61	8.65	34.11	113	171	Peak
*5724	57.66	48.5	78.2	-20.54	34.62	8.65	34.11	113	171	Peak
5775	83.5	74.27			34.68	8.67	34.12	113	171	Average
5775	90.59	81.36			34.68	8.67	34.12	113	171	Peak
*5858	57.53	48.21	78.2	-20.67	34.76	8.7	34.14	113	171	Peak
*5864	56.81	47.48	68.2	-11.39	34.76	8.71	34.14	113	171	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5710	56.49	47.34	68.2	-11.71	34.61	8.65	34.11	128	330	Peak
*5718	57.89	48.73	78.2	-20.31	34.62	8.65	34.11	128	330	Peak
5775	88.35	79.12			34.68	8.67	34.12	128	330	Average
5775	95.06	85.83			34.68	8.67	34.12	128	330	Peak
*5858	57.3	47.98	78.2	-20.9	34.76	8.7	34.14	128	330	Peak
*5866	57.15	47.82	68.2	-11.05	34.76	8.71	34.14	128	330	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:

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 44	**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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
88.32	26.59	48.46	43.5	-16.91	8.83	1.11	31.81	159	35	Peak
154.47	30.58	50.94	43.5	-12.92	10.39	1.52	32.27	164	349	Peak
192.54	26.37	46.52	43.5	-17.13	10.51	1.61	32.27	120	27	Peak
300	35	51.21	46	-11	13.9	2.03	32.14	150	300	Peak
484.8	22.97	33.51	46	-23.03	18.94	2.63	32.11	189	111	Peak
695.5	24.89	30.73	46	-21.11	23.14	3.11	32.09	175	95	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
85.62	27.69	49.85	40	-12.31	8.69	1.11	31.96	127	178	Peak
155.82	28.1	48.34	43.5	-15.4	10.51	1.52	32.27	102	101	Peak
194.43	22.97	43.02	43.5	-20.53	10.62	1.61	32.28	194	263	Peak
300.7	29.12	45.23	46	-16.88	13.99	2.03	32.13	138	203	Peak
536.6	25.88	34.77	46	-20.12	20.52	2.76	32.17	177	159	Peak
672.4	25.61	31.28	46	-20.39	23.4	3.05	32.12	135	214	Peak

Remarks:

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

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
155.82	30.21	50.45	43.5	-13.29	10.51	1.52	32.27	105	8	Peak
186.87	26.79	47.03	43.5	-16.71	10.4	1.61	32.25	130	136	Peak
238.98	28.33	46.08	46	-17.67	12.54	1.85	32.14	125	360	Peak
307	34.4	50.09	46	-11.6	14.33	2.11	32.13	177	307	Peak
345.5	28.12	41.86	46	-17.88	16.14	2.19	32.07	120	28	Peak
665.4	25.15	31.32	46	-20.85	22.97	2.99	32.13	150	140	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
31.62	30.05	45	40	-9.95	16.57	0.74	32.26	165	274	Peak
86.43	27.43	49.5	40	-12.57	8.73	1.11	31.91	133	333	Peak
155.82	27.69	47.93	43.5	-15.81	10.51	1.52	32.27	155	82	Peak
300	29.39	45.6	46	-16.61	13.9	2.03	32.14	193	248	Peak
435.1	24.85	36.69	46	-21.15	17.84	2.49	32.17	145	90	Peak
579.3	26.34	35.49	46	-19.66	20.23	2.82	32.2	122	225	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 100	**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)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
91.29	26.92	48.56	43.5	-16.58	9.02	1.11	31.77	105	8	Peak
137.46	23.45	45.05	43.5	-20.05	9.28	1.38	32.26	111	244	Peak
220.35	28.47	47.32	46	-17.53	11.72	1.65	32.22	197	115	Peak
314.7	34.13	49.45	46	-11.87	14.68	2.11	32.11	134	299	Peak
425.3	24.16	36.2	46	-21.84	17.73	2.41	32.18	185	3	Peak
743.8	24.49	30.2	46	-21.51	23.27	3.16	32.14	166	185	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
48.09	25.47	48.39	40	-14.53	8.4	0.9	32.22	109	148	Peak
76.44	26.28	49.1	40	-13.72	8.29	1.11	32.22	105	170	Peak
195.24	22.65	42.64	43.5	-20.85	10.68	1.61	32.28	122	236	Peak
314	28.14	43.47	46	-17.86	14.68	2.11	32.12	139	281	Peak
531.7	25.85	34.74	46	-20.15	20.57	2.7	32.16	105	258	Peak
673.1	26.36	32.03	46	-19.64	23.4	3.05	32.12	136	191	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 149	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
100.47	24.6	45.88	43.5	-18.9	9.7	1.28	32.26	155	100	Peak
160.41	28.06	48.01	43.5	-15.44	10.8	1.52	32.27	108	152	Peak
219.27	28.81	47.71	46	-17.19	11.67	1.65	32.22	118	178	Peak
307.7	34.02	49.71	46	-11.98	14.33	2.11	32.13	130	307	Peak
351.1	28.07	41.55	46	-17.93	16.4	2.19	32.07	129	177	Peak
790	26.34	31.09	46	-19.66	24.05	3.27	32.07	179	288	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emissino Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
76.71	26.5	49.31	40	-13.5	8.3	1.11	32.22	171	1	Peak
186.87	22.88	43.12	43.5	-20.62	10.4	1.61	32.25	104	161	Peak
246	25.6	43.03	46	-20.4	12.83	1.85	32.11	125	255	Peak
307	28.32	44.01	46	-17.68	14.33	2.11	32.13	133	21	Peak
425.3	25.57	37.61	46	-20.43	17.73	2.41	32.18	180	194	Peak
792.1	25.77	30.34	46	-20.23	24.23	3.27	32.07	106	130	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

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

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

4.2.3 Test Procedures

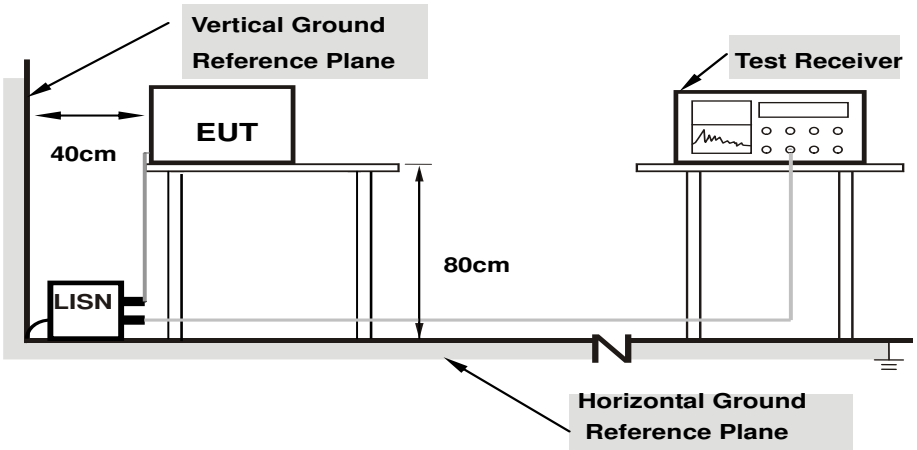
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

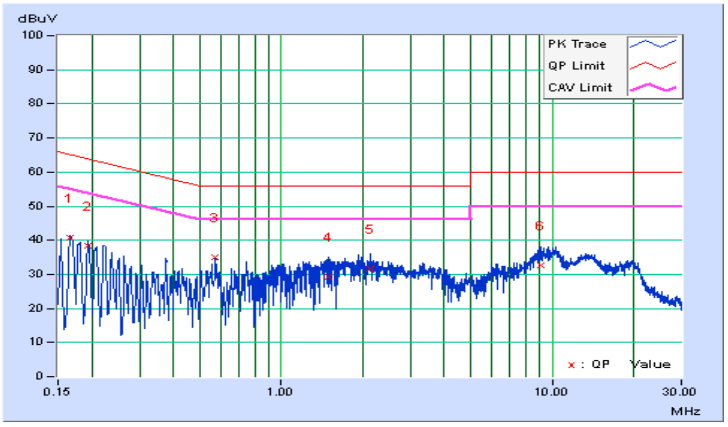
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/5/10

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	0.16569	10.02	30.66	17.85	40.68	27.87	65.17	55.17	-24.49	-27.30
2	0.19305	10.03	28.50	15.60	38.53	25.63	63.90	53.90	-25.38	-28.28
3	0.57166	10.14	24.96	16.51	35.10	26.65	56.00	46.00	-20.90	-19.35
4	1.49895	10.23	19.09	7.85	29.32	18.08	56.00	46.00	-26.68	-27.92
5	2.12455	10.28	21.52	12.07	31.80	22.35	56.00	46.00	-24.20	-23.65
6	9.04134	10.68	22.07	13.41	32.75	24.09	60.00	50.00	-27.25	-25.91

Remarks:

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

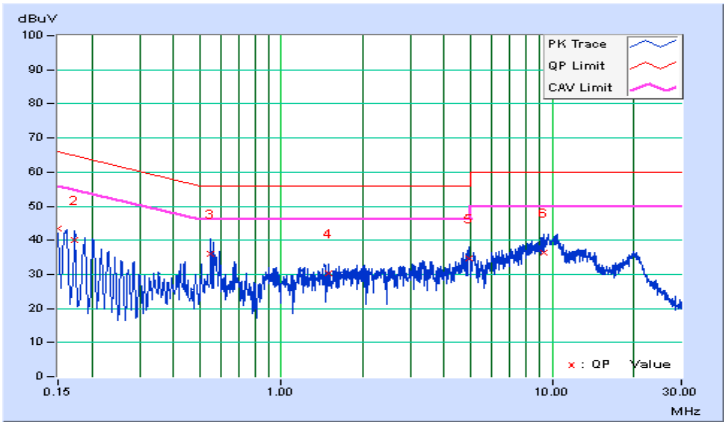


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Toby Tian	Test Date	2016/5/10

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	33.35	21.80	43.38	31.83	66.00	56.00	-22.62	-24.17
2	0.17346	10.03	30.18	17.66	40.21	27.69	64.79	54.79	-24.58	-27.10
3	**0.54882**	**10.15**	**25.88**	**19.18**	**36.03**	**29.33**	**56.00**	**46.00**	**-19.97**	**-16.67**
4	1.49113	10.24	19.94	14.24	30.18	24.48	56.00	46.00	-25.82	-21.52
5	4.93975	10.49	24.11	14.66	34.60	25.15	56.00	46.00	-21.40	-20.85
6	9.29549	10.76	25.68	18.71	36.44	29.47	60.00	50.00	-23.56	-20.53

Remarks:

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



4.3 Transmit Power Measurment

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	√		250 mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250 mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

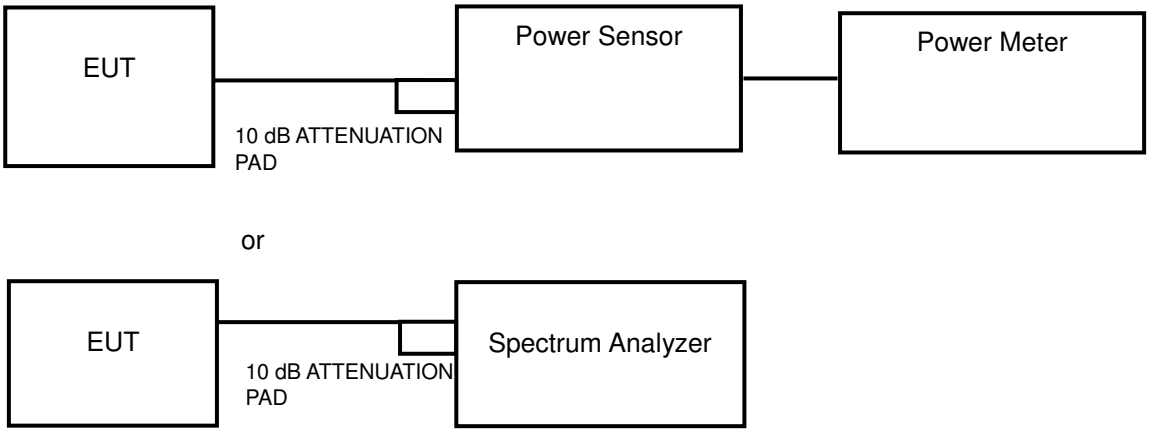
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

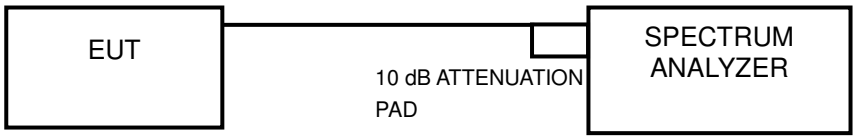
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth/Occupied 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, 802.11ac (VHT20), 802.11ac (VHT40)>

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 %.

Occupied Bandwidth

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 300 kHz VBW. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

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	23.12	13.64	24	Pass
44	5220	23.88	13.78	24	Pass
48	5240	23.55	13.72	24	Pass
52	5260	24.43	13.88	24	Pass
60	5300	23.33	13.68	24	Pass
64	5320	23.71	13.75	24	Pass
100	5500	23.39	13.69	24	Pass
116	5580	23.66	13.74	24	Pass
140	5700	23.50	13.71	24	Pass
149	5745	23.99	13.80	30	Pass
157	5785	24.60	13.91	30	Pass
165	5825	23.17	13.65	30	Pass

Note:

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

1. 11 dBm + 10log (22.87) = 24.59 dBm > 24 dBm.
2. 11 dBm + 10log (22.53) = 24.53 dBm > 24 dBm.
3. 11 dBm + 10log (23.00) = 24.62 dBm > 24 dBm.
4. 11 dBm + 10log (22.52) = 24.53 dBm > 24 dBm.
5. 11 dBm + 10log (22.84) = 24.59 dBm > 24 dBm.
6. 11 dBm + 10log (22.69) = 24.56 dBm > 24 dBm.

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	19.01	12.79	24	Pass
44	5220	19.36	12.87	24	Pass
48	5240	19.14	12.82	24	Pass
52	5260	19.72	12.95	24	Pass
60	5300	19.10	12.81	24	Pass
64	5320	18.79	12.74	24	Pass
100	5500	19.32	12.86	24	Pass
116	5580	19.68	12.94	24	Pass
140	5700	19.54	12.91	24	Pass
149	5745	19.36	12.87	30	Pass
157	5785	19.41	12.88	30	Pass
165	5825	19.01	12.79	30	Pass

Note:

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

1. 11 dBm + 10log (22.78) = 24.58 dBm > 24 dBm.
2. 11 dBm + 10log (22.68) = 24.56 dBm > 24 dBm.
3. 11 dBm + 10log (22.53) = 24.53 dBm > 24 dBm.
4. 11 dBm + 10log (22.99) = 24.62 dBm > 24 dBm.
5. 11 dBm + 10log (22.87) = 24.59 dBm > 24 dBm.
6. 11 dBm + 10log (22.97) = 24.61 dBm > 24 dBm.

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	9.62	9.83	24	Pass
46	5230	9.79	9.91	24	Pass
54	5270	9.66	9.85	24	Pass
62	5310	9.91	9.96	24	Pass
102	5510	9.71	9.87	24	Pass
110	5550	9.51	9.78	24	Pass
134	5670	9.33	9.70	24	Pass
151	5755	9.42	9.74	30	Pass
159	5795	9.73	9.88	30	Pass

Note:

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

1. 11 dBm + 10log (45.01) = 27.53 dBm > 24 dBm.
2. 11 dBm + 10log (45.26) = 27.56 dBm > 24 dBm.
3. 11 dBm + 10log (45.11) = 27.54 dBm > 24 dBm.
4. 11 dBm + 10log (45.23) = 27.55 dBm > 24 dBm.
5. 11 dBm + 10log (45.01) = 27.53 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	5.13	7.10	24	Pass
58	5290	5.27	7.22	24	Pass
106	5530	4.89	6.89	24	Pass
122	5610	4.73	6.75	24	Pass
155	5775	5.14	7.11	30	Pass

Note:

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

1. 11 dBm + 10log (85.81) = 30.34 dBm > 24 dBm.
2. 11 dBm + 10log (85.15) = 30.30 dBm > 24 dBm.
3. 11 dBm + 10log (84.86) = 30.29 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	22.78
44	5220	22.67
48	5240	22.87
52	5260	22.87
60	5300	22.53
64	5320	23.00
100	5500	22.52
116	5580	22.84
140	5700	22.69

802.11ac (VHT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.03
44	5220	22.92
48	5240	22.97
52	5260	22.78
60	5300	22.68
64	5320	22.53
100	5500	22.99
116	5580	22.87
140	5700	22.97

802.11ac (VHT40)

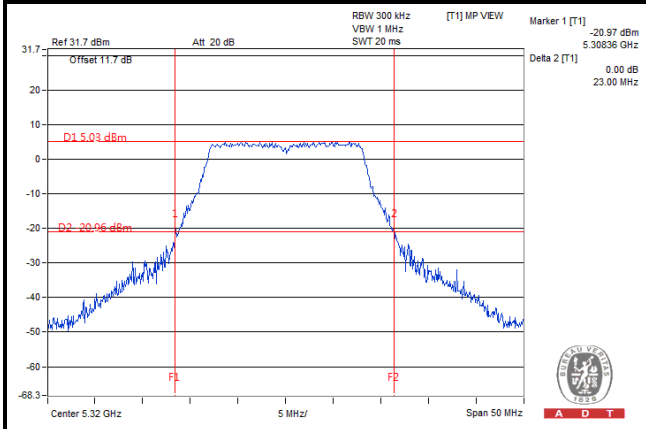
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	45.23
46	5230	45.21
54	5270	45.01
62	5310	45.26
102	5510	45.11
110	5550	45.23
134	5670	45.01

802.11ac (VHT80)

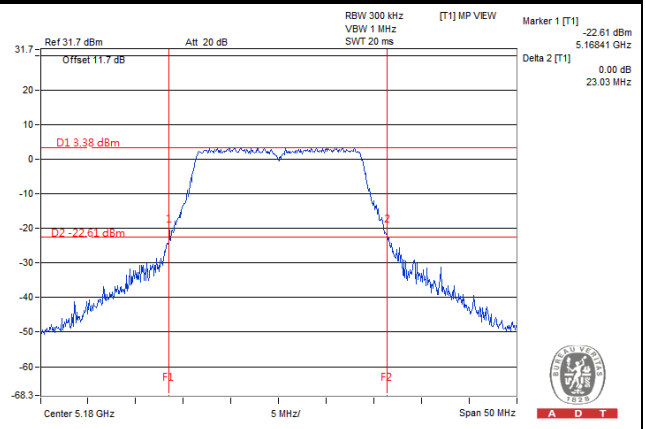
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
42	5210	85.42
58	5290	85.81
106	5530	85.15
122	5610	84.86

Spectrum Plot of Worst Value

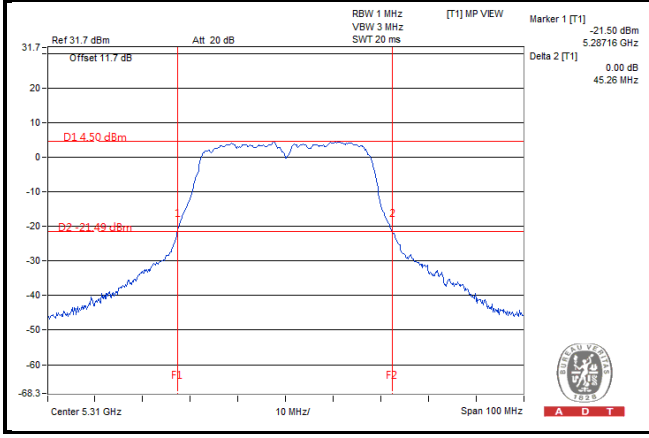
802.11a



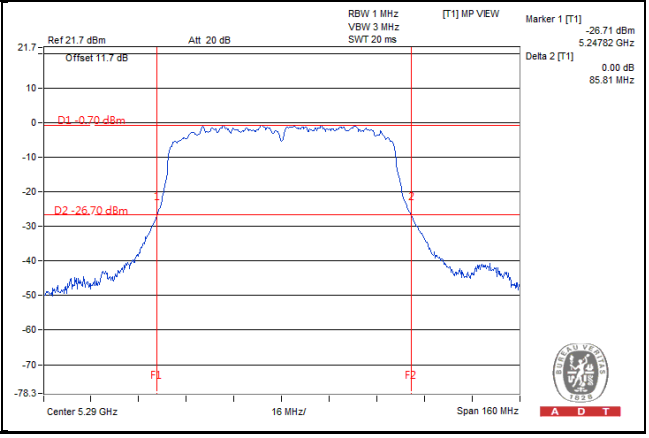
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Occupied Bandwidth

5180~5240 MHz, 5260~5320 MHz, 5500~5700 MHz

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	17.25	Pass
44	5220	17.35	Pass
48	5240	17.30	Pass
52	5260	17.30	Pass
60	5300	17.25	Pass
64	5320	17.25	Pass
100	5500	17.25	Pass
116	5580	17.25	Pass
140	5700	17.25	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	18.26	Pass
44	5220	18.22	Pass
48	5240	18.22	Pass
52	5260	18.26	Pass
60	5300	18.22	Pass
64	5320	18.22	Pass
100	5500	18.22	Pass
116	5580	18.22	Pass
140	5700	18.22	Pass

802.11ac (VHT40)

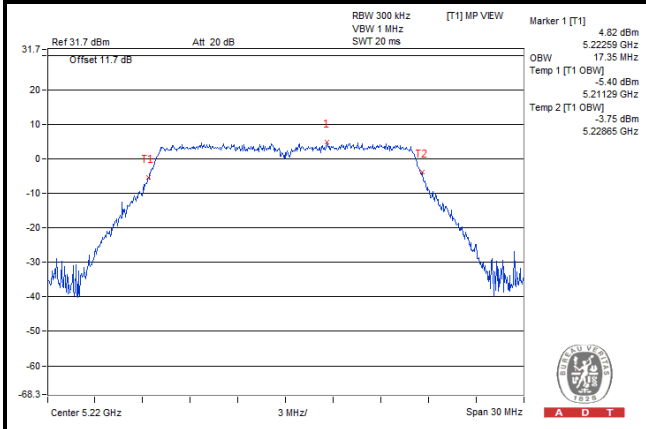
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
38	5190	37.05	Pass
46	5230	37.05	Pass
54	5270	37.05	Pass
62	5310	37.05	Pass
102	5510	37.05	Pass
110	5550	37.05	Pass
134	5670	37.05	Pass

802.11ac (VHT80)

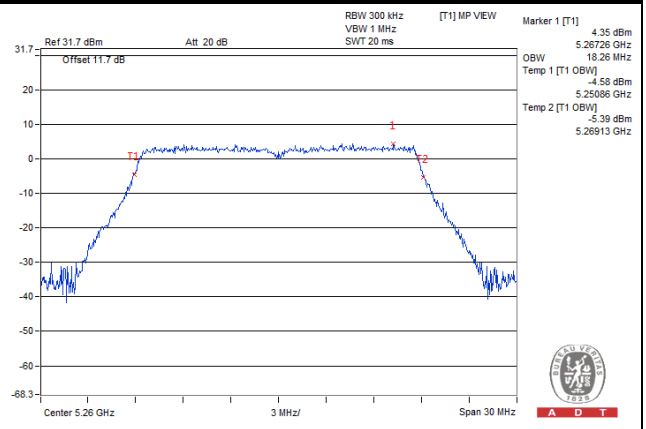
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
42	5210	75.00	Pass
58	5290	75.00	Pass
106	5530	75.00	Pass
122	5610	75.16	Pass

Spectrum Plot of Worst Value

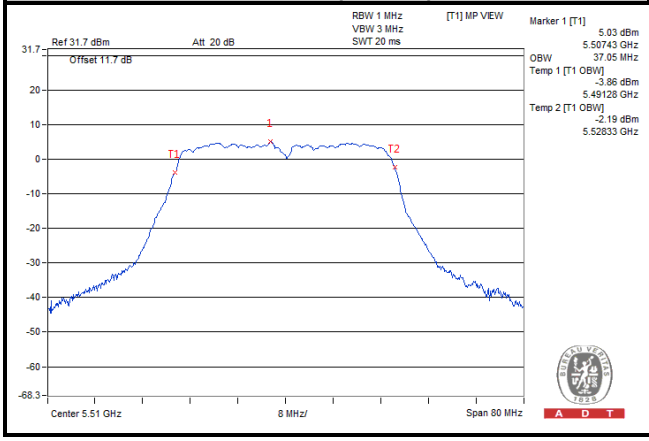
802.11a



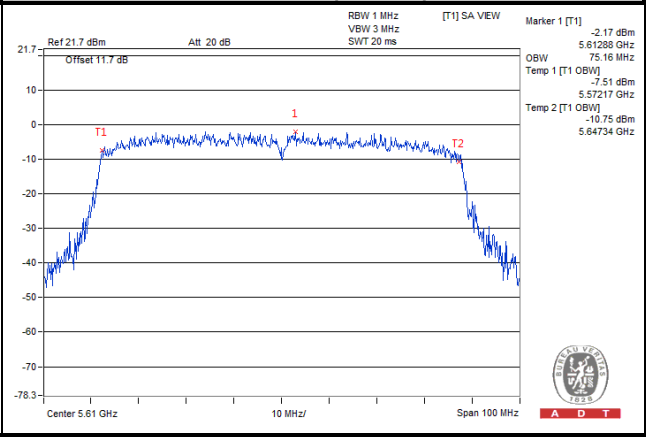
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



5745~5825 MHz

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
149	5745	16.97	Pass
157	5785	16.90	Pass
165	5825	17.00	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
149	5745	18.02	Pass
157	5785	18.05	Pass
165	5825	18.10	Pass

802.11ac (VHT40)

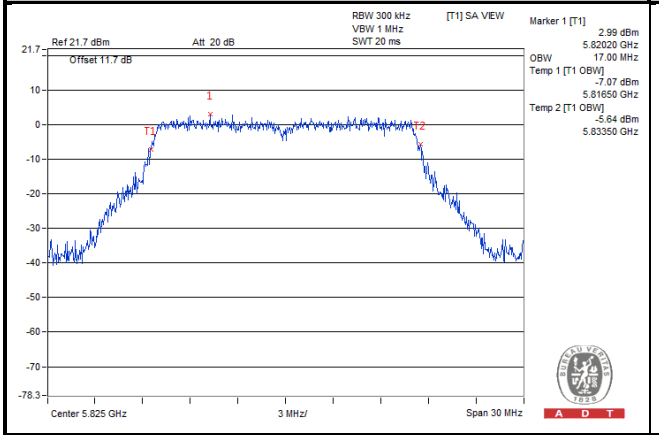
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
151	5755	36.53	Pass
159	5795	36.50	Pass

802.11ac (VHT80)

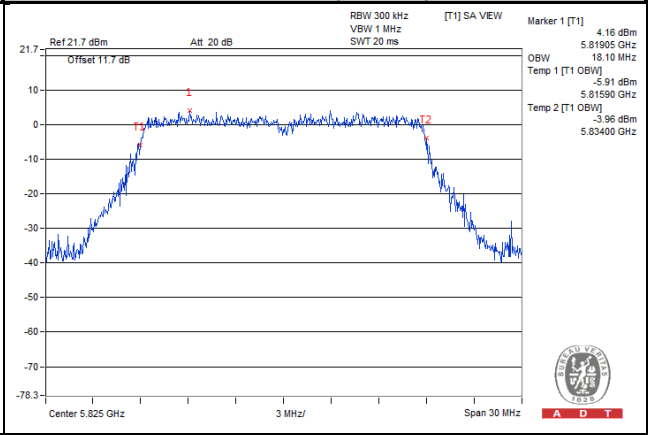
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
155	5775	74.83	Pass

Spectrum Plot of Worst Value

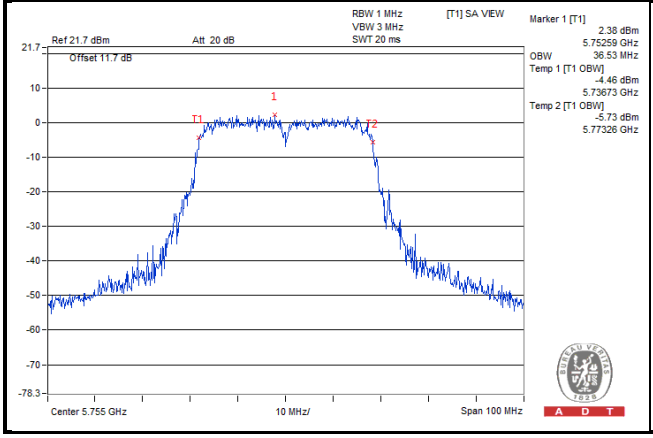
802.11a



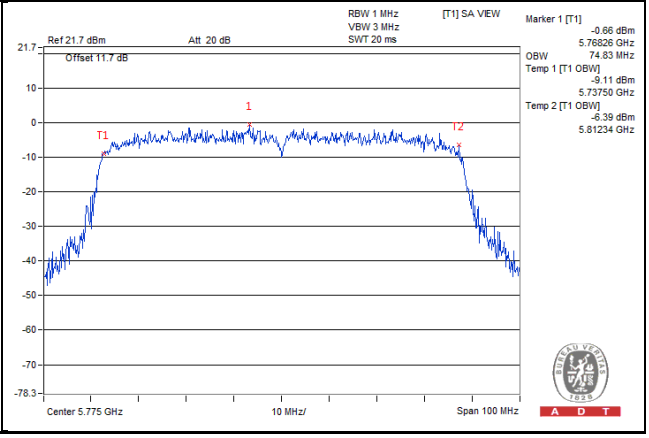
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

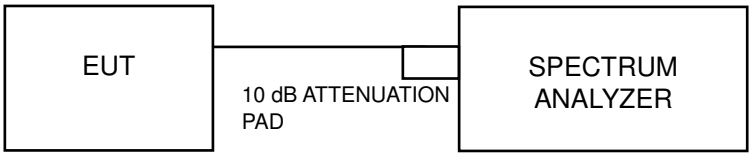


4.4 Peak Power Spectral Density Measurement

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)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	1.22	0.13	1.35	11	Pass
44	5220	1.35	0.13	1.48	11	Pass
48	5240	1.51	0.13	1.64	11	Pass
52	5260	1.58	0.13	1.71	11	Pass
60	5300	1.89	0.13	2.02	11	Pass
64	5320	1.98	0.13	2.11	11	Pass
100	5500	2.52	0.13	2.65	11	Pass
116	5580	2.22	0.13	2.35	11	Pass
140	5700	1.75	0.13	1.88	11	Pass

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

802.11ac (VHT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	0.26	0.14	0.40	11	Pass
44	5220	0.40	0.14	0.54	11	Pass
48	5240	0.59	0.14	0.73	11	Pass
52	5260	0.89	0.14	1.03	11	Pass
60	5300	1.12	0.14	1.26	11	Pass
64	5320	1.15	0.14	1.29	11	Pass
100	5500	1.73	0.14	1.87	11	Pass
116	5580	1.47	0.14	1.61	11	Pass
140	5700	0.78	0.14	0.92	11	Pass

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

802.11ac (VHT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
38	5190	-5.26	0.58	-4.68	11	Pass
46	5230	-4.97	0.58	-4.39	11	Pass
54	5270	-4.67	0.58	-4.09	11	Pass
62	5310	-4.51	0.58	-3.93	11	Pass
102	5510	-3.91	0.58	-3.33	11	Pass
110	5550	-3.99	0.58	-3.41	11	Pass
134	5670	-4.88	0.58	-4.30	11	Pass

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

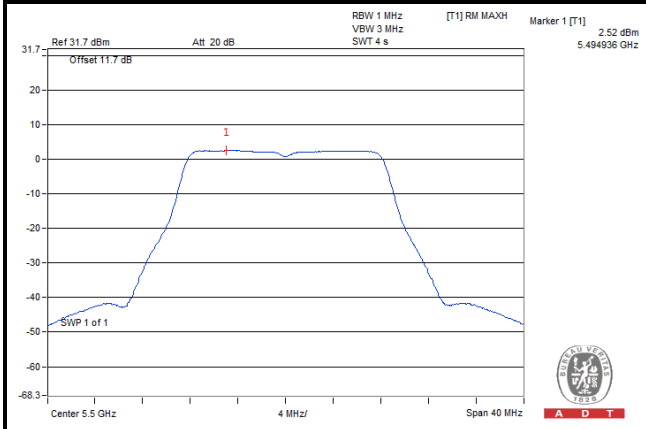
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
42	5210	-11.13	0.87	-10.26	11	Pass
58	5290	-10.93	0.87	-10.06	11	Pass
106	5530	-11.39	0.87	-10.52	11	Pass
122	5610	-11.35	0.87	-10.48	11	Pass

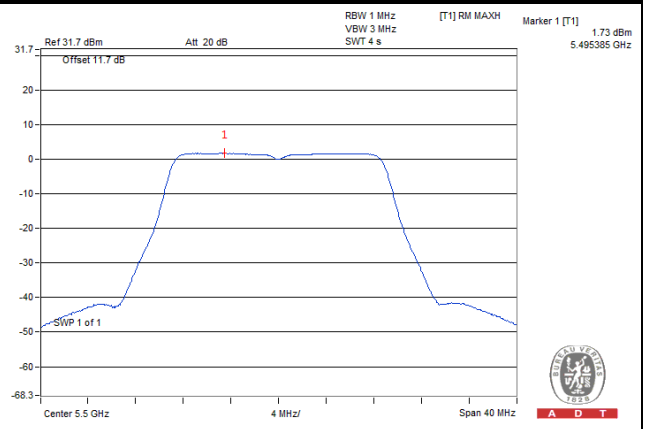
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

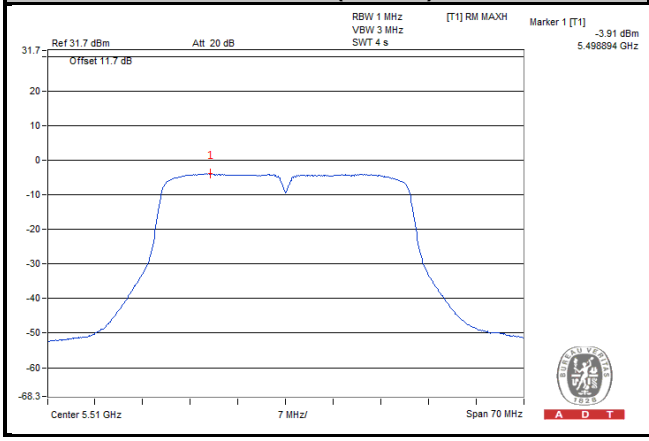
802.11a



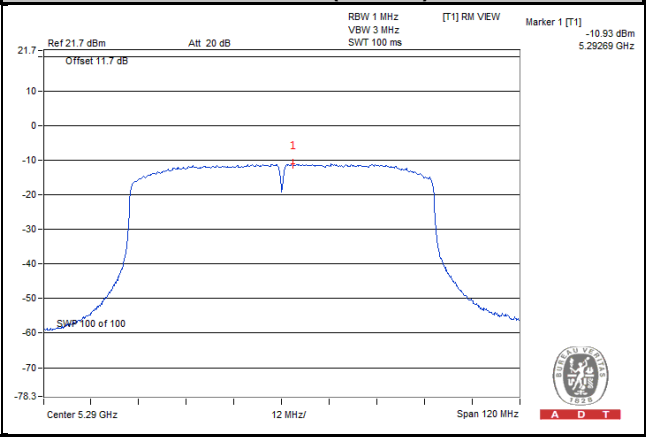
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-3.10	0.13	-2.97	30	Pass
157	5785	-3.15	0.13	-3.02	30	Pass
165	5825	-2.98	0.13	-2.85	30	Pass

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

802.11ac (VHT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-2.40	0.14	-2.26	30	Pass
157	5785	-2.59	0.14	-2.45	30	Pass
165	5825	-1.94	0.14	-1.80	30	Pass

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

802.11ac (VHT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-8.75	0.58	-8.17	30	Pass
159	5795	-8.26	0.58	-7.68	30	Pass

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

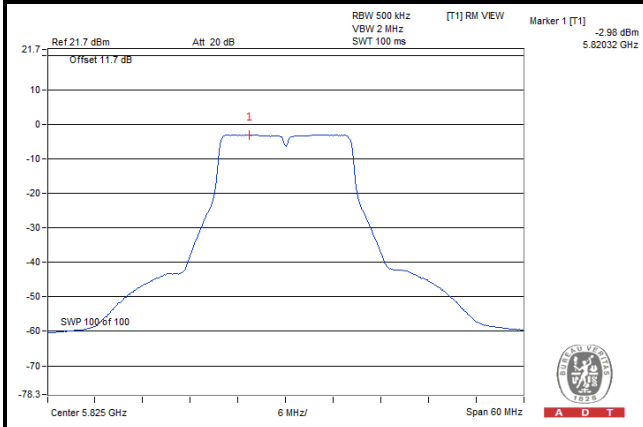
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
155	5775	-12.68	0.87	-11.81	30	Pass

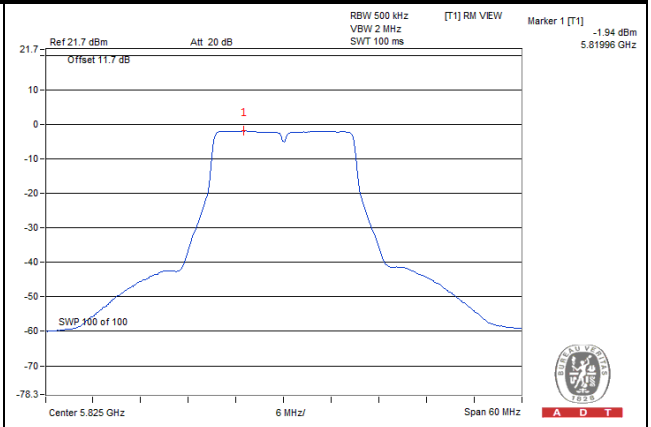
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

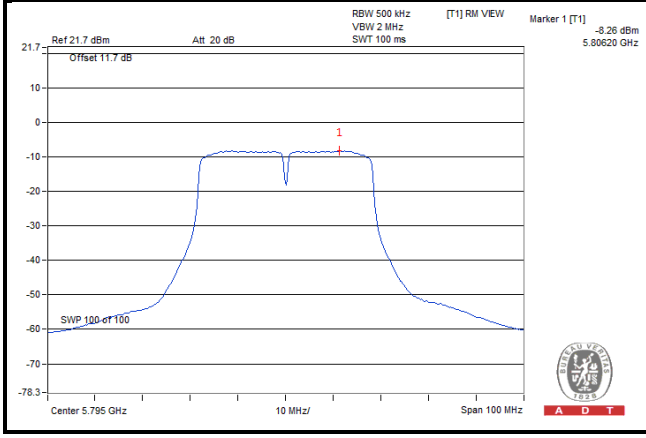
802.11a



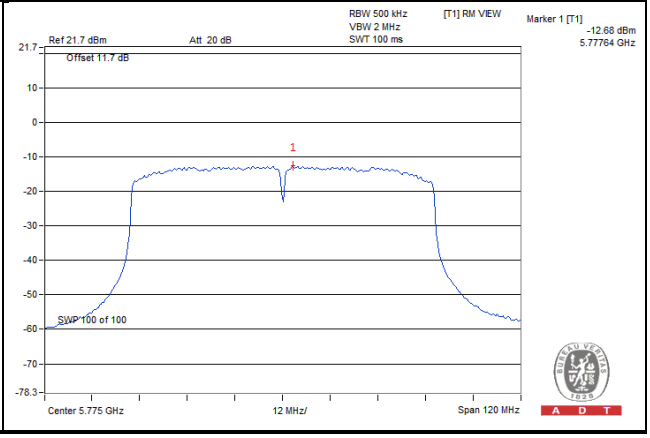
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

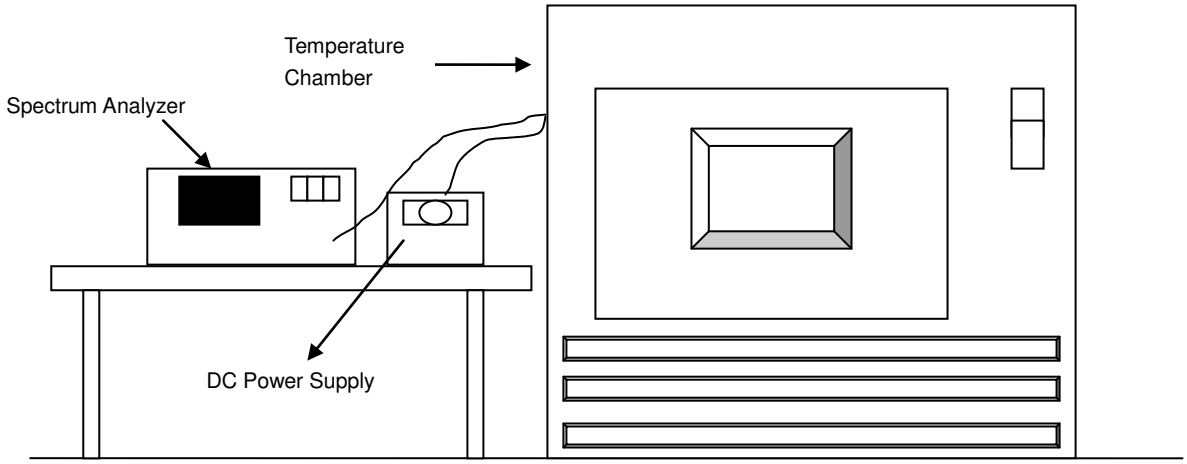


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
55	3.83	5320.014261	2.681	5320.014893	2.799	5320.014592	2.743	5320.014281	2.684
50	3.83	5320.015304	2.877	5320.015623	2.937	5320.015104	2.839	5320.015165	2.851
40	3.83	5320.014890	2.799	5320.015286	2.873	5320.015200	2.857	5320.015458	2.906
30	3.83	5320.016093	3.025	5320.016614	3.123	5320.016634	3.127	5320.016846	3.167
20	3.83	5320.017394	3.270	5320.017426	3.276	5320.017176	3.229	5320.017967	3.377
10	3.83	5320.018945	3.561	5320.019133	3.596	5320.019162	3.602	5320.018908	3.554
0	3.83	5320.017301	3.252	5320.017441	3.278	5320.017154	3.224	5320.017136	3.221
-10	3.83	5320.016059	3.019	5320.016107	3.028	5320.016226	3.050	5320.015947	2.998
-20	3.83	5320.015254	2.867	5320.015172	2.852	5320.015407	2.896	5320.015503	2.914
-30	3.83	5320.014614	2.747	5320.014303	2.689	5320.014228	2.674	5320.014286	2.685

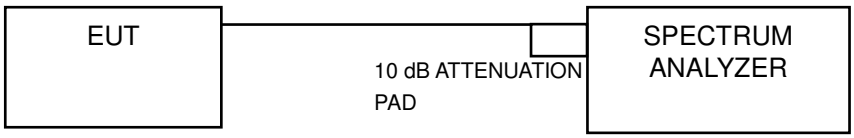
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.6	5320.015045	2.828	5320.015275	2.871	5320.014798	2.782	5320.014842	2.790
	3.83	5320.017394	3.270	5320.017426	3.276	5320.017176	3.229	5320.017967	3.377
	4.4	5320.017043	3.204	5320.017080	3.211	5320.016516	3.105	5320.016321	3.068

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	16.39	0.5	Pass
157	5785	16.41	0.5	Pass
165	5825	16.42	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.62	0.5	Pass
157	5785	17.61	0.5	Pass
165	5825	17.62	0.5	Pass

802.11ac (VHT40)

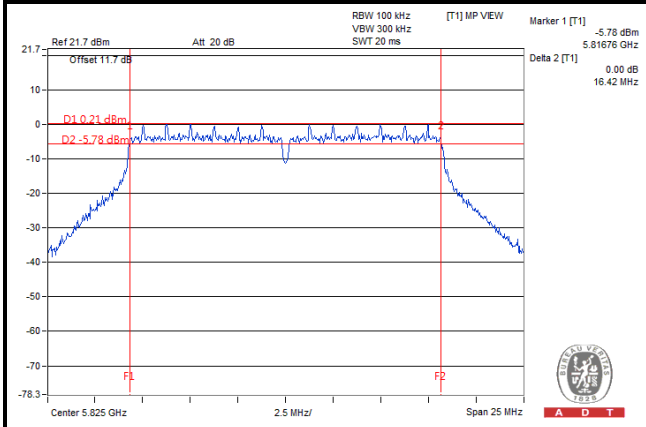
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.56	0.5	Pass
159	5795	35.29	0.5	Pass

802.11ac (VHT80)

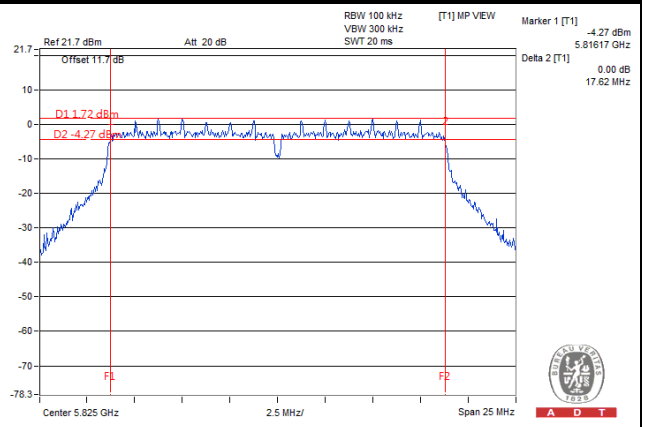
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.39	0.5	Pass

Spectrum Plot of Worst Value

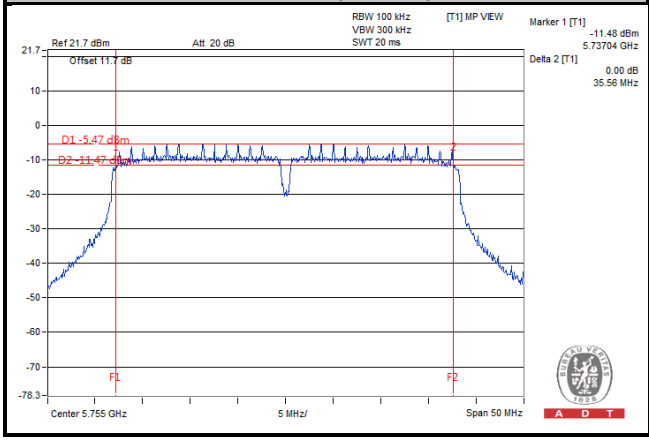
802.11a



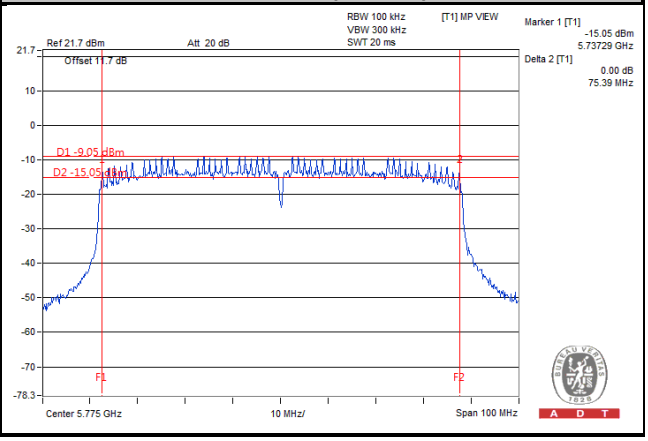
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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Fax: 886-2-26051924

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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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