FCC Test Report

Report No.: RFBHAT-WTW-P20121068-3

FCC ID: R68OQ845US

Test Model: Open-Q 845 uSOM

Received Date: Jan. 22, 2021

Test Date: Mar. 03 ~ Mar. 13, 2021

Issued Date: Apr. 21, 2021

Applicant: Lantronix

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / Designation Number: 788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBHAT-WTW-P20121068-3	Original Release	Apr. 21, 2021

1 Certificate of Conformity

Product: Open-Q 845 uSOM

Brand: Lantronix

Test Model: Open-Q 845 uSOM

Sample Status: Engineering Sample

Applicant: Lantronix

Test Date: Mar. 03 ~ Mar. 13, 2021

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 RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , **Date:** Apr. 21, 2021

Lena Wang / Specialist

Approved by : , **Date:** Apr. 21, 2021

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(8)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -21.78 dB at 0.40200 MHz.
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.6 dB at 5350.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
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	Antenna connector is U.FL.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Open-Q 845 uSOM
Brand	Lantronix
Test Model	Open-Q 845 uSOM
Status of EUT	Engineering Sample
Power Supply Rating	12 Vdc (Adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	CDD mode: 47.095 mW for 5180 ~ 5240 MHz 47.365 mW for 5260 ~ 5320 MHz 243.539 mW for 5500 ~ 5720 MHz 399.578 mW for 5745 ~ 5825 MHz Beamforming mode: 24.153 mW for 5180 ~ 5240 MHz 47.365 mW for 5260 ~ 5320 MHz 121.778 mW for 5500 ~ 5720 MHz 399.578 mW for 5745 ~ 5825 MHz
Antenna Type	Refer to Note as below
Antenna Connector	Refer to Note as below
Accessory Device	Refer to Note as below
Data Cable Supplied	N/A

Note:

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

Modulation Mode	Tx Function	Beamforming Mode
802.11a	2TX	Not Support
802.11n (HT20)	2TX	Support
802.11n (HT40)	2TX	Support
802.11ac (VHT20)	2TX	Support
802.11ac (VHT40)	2TX	Support
802.11ac (VHT80)	2TX	Support

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

2. The following antennas were provided to the EUT.

Ant. Type	Flexible Dipole Antenna	
Connecter Type	U.FL	
Antenna Gain (dBi)		
Item	**2.4~2.5G**	**4.9~5.8G**
Ant 1	3.32	6.11
Ant 2	3.32	6.11

3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
5. BT, 2.4G and 5GHz WLAN can transmit simultaneously. The emission of the simultaneous operation has been evaluated and non-compliance was found.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 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, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 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 ~ 5720 MHz

9 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	132	5660
104	5520	136	5680
108	5540	140	5700
112	5560	144	5720
116	5580		

4 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	134	5670
110	5550	142	5710

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	138	5690

For 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 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.
3. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst fundamental frequency emission level.

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, 40, 48	OFDM	BPSK	6.0
-		802.11ac (VHT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11ac (VHT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	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	6.5
-		802.11ac (VHT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11ac (VHT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11ac (VHT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 138	OFDM	BPSK	29.3
-	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	6.5
-		802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

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)
-	5260-5320	802.11ac (VHT40)	54 to 62	62	OFDM	BPSK	13.5

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	802.11ac (VHT40)	54 to 62	62	OFDM	BPSK	13.5

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, 40, 48	OFDM	BPSK	6.0
-		802.11ac (VHT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11ac (VHT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	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	6.5
-		802.11ac (VHT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11ac (VHT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11ac (VHT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 138	OFDM	BPSK	29.3
-	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	6.5
-		802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Adair Peng
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Adair Peng
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Adair Peng
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Ivan Tseng

3.3 Duty Cycle of Test Signal

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

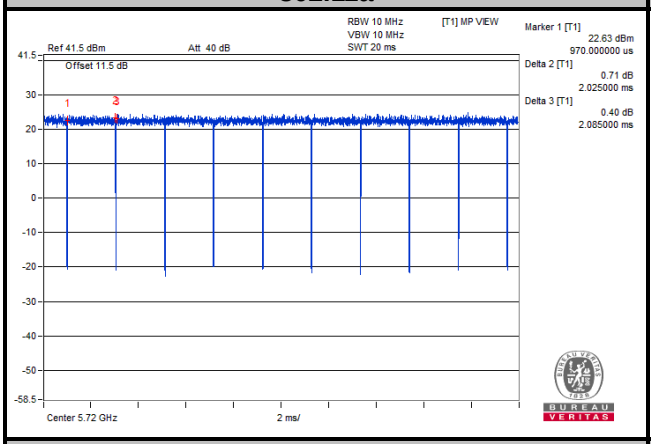
802.11a: Duty cycle = 2.025/2.085 = 0.971, Duty factor = 10 * log(1/0.971) = 0.13

802.11ac (VHT20): Duty cycle = 1.895/1.94 = 0.977, Duty factor = 10 * log(1/0.977) = 0.10

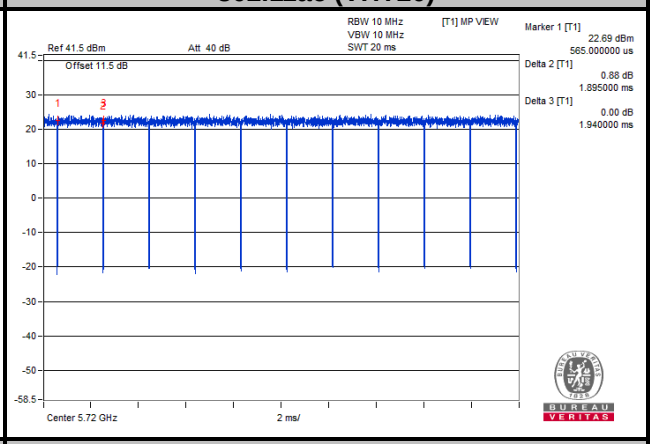
802.11ac (VHT40): Duty cycle = 0.925/0.987 = 0.937, Duty factor = 10 * log(1/0.937) = 0.28

802.11ac (VHT80): Duty cycle = 0.452/0.497 = 0.909, Duty factor = 10 * log(1/0.909) = 0.41

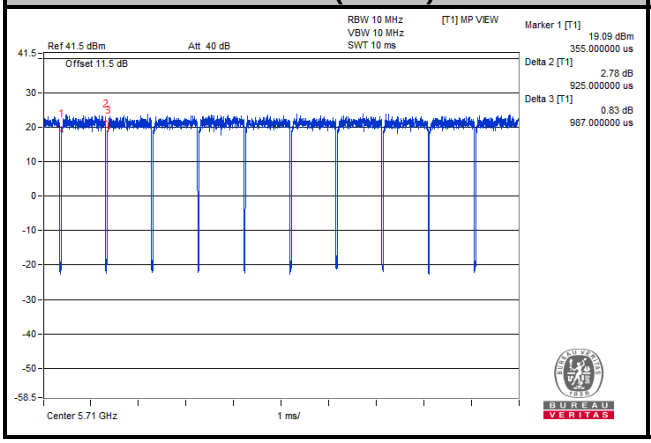
802.11a



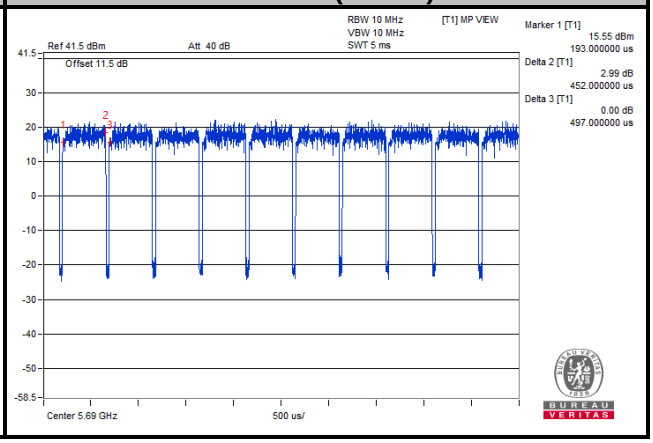
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

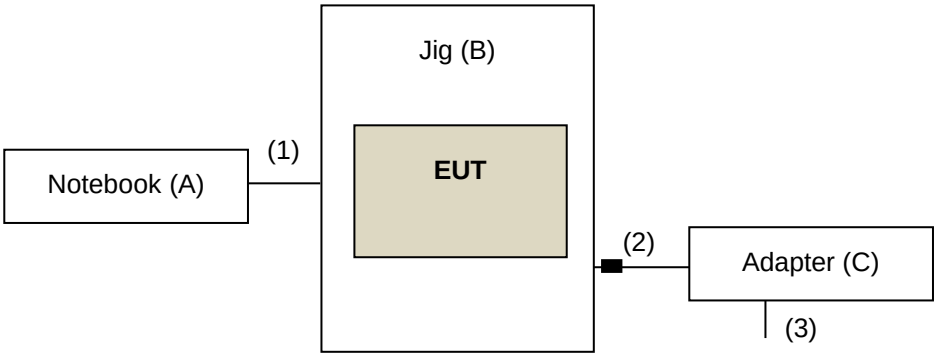
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	Lenovo	20J4 MD A003TW	PF-11H9AK	N/A	-
B	Jig	N/A	N/A	N/A	N/A	Provided by client
C	Adapter	YINGHUIYUAN	YHY-12003000	N/A	N/A	Provided by client

Note:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type C USB Cable	1	1	Y	0	Provided by client
2.	Adapter Cable	1	1.2	Y	1	Provided by client
3.	Power Cable	1	1.15	N	0	Provided by client

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

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.

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.

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To			Limit	
789033 D02 General UNII Test Procedures New Rules v02r01			Field Strength at 3 m	
			PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**		**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)		PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

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

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

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

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

Note:

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Dec. 31, 2020	Dec. 30, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 16, 2020	Sep. 15, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 03, 2020	Nov. 02, 2021
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Dec. 31, 2020	Dec. 30, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Jun. 08, 2020	Jun. 07, 2021
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jun. 08, 2020	Jun. 07, 2021
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH4-01	Aug. 16, 2020	Aug. 15, 2021
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	Aug. 16, 2020	Aug. 15, 2021
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Jun. 08, 2020	Jun. 07, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Jun. 08, 2020	Jun. 07, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	Jul. 13, 2020	Jul. 12, 2021

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 Chamber 4.

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 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:

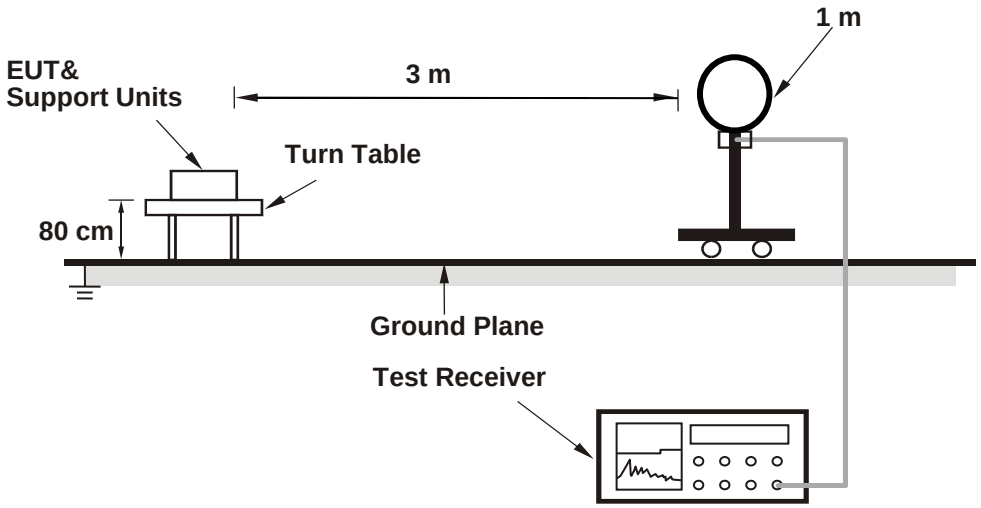
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz. (11a: RBW = 1 MHz, VBW = 510 Hz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ;
   11n (HT40): RBW = 1 MHz, VBW = 2 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 3 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

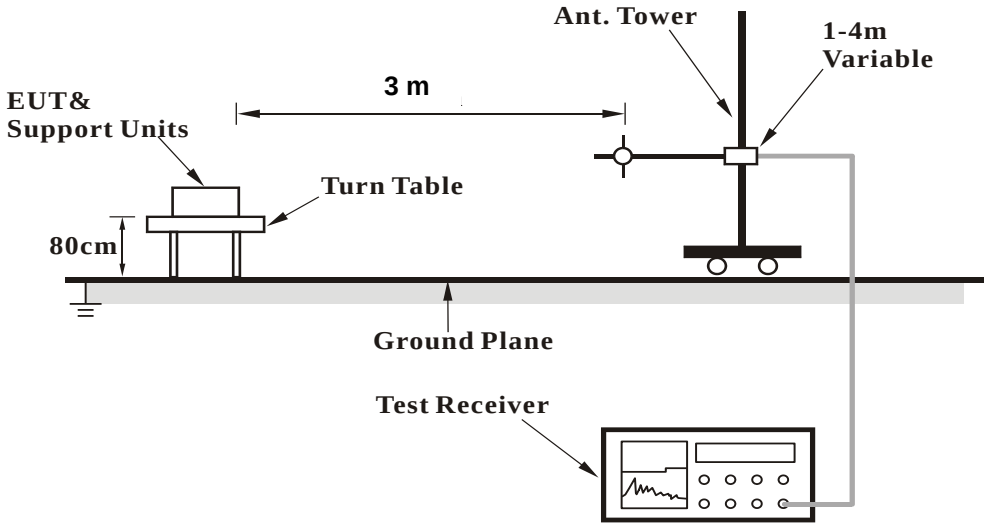
No deviation.

4.1.5 Test Setup

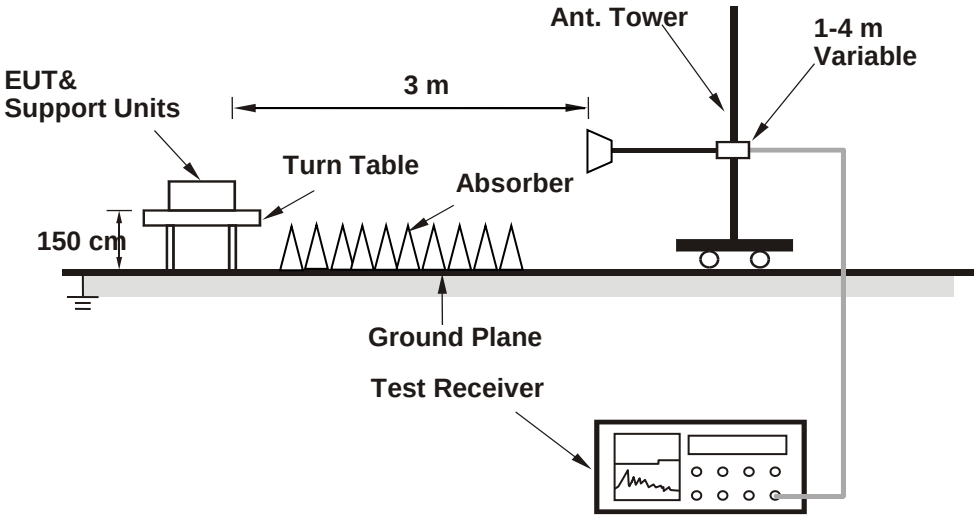
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 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.

4.1.7 Test Results

Above 1 GHz Data：

802.11a

CHANNEL	TX Channel 36	**Detector Function**	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5150.00	61.7 PK	74.0	-12.3	1.10 H	2	60.4	1.3
2	5150.00	50.3 AV	54.0	-3.7	1.10 H	2	49.0	1.3
3	*5180.00	119.3 PK			1.10 H	2	79.9	39.4
4	*5180.00	110.0 AV			1.10 H	2	70.6	39.4
5	#10360.00	57.0 PK	68.2	-11.2	2.33 H	175	47.0	10.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5150.00	57.9 PK	74.0	-16.1	3.93 V	210	56.6	1.3
2	5150.00	45.7 AV	54.0	-8.3	3.93 V	210	44.4	1.3
3	*5180.00	111.4 PK			3.93 V	210	72.0	39.4
4	*5180.00	103.0 AV			3.93 V	210	63.6	39.4
5	#10360.00	56.0 PK	68.2	-12.2	1.78 V	209	46.0	10.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	119.5 PK			1.13 H	359	80.1	39.4
2	*5200.00	110.1 AV			1.13 H	359	70.7	39.4
3	#10400.00	57.1 PK	68.2	-11.1	2.39 H	180	47.2	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	112.2 PK			3.65 V	209	72.8	39.4
2	*5200.00	103.4 AV			3.65 V	209	64.0	39.4
3	#10400.00	56.3 PK	68.2	-11.9	1.85 V	223	46.4	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	118.5 PK			1.10 H	358	79.3	39.2
2	*5240.00	109.7 AV			1.10 H	358	70.5	39.2
3	5350.00	55.1 PK	74.0	-18.9	1.10 H	358	54.0	1.1
4	5350.00	44.5 AV	54.0	-9.5	1.10 H	358	43.4	1.1
5	#10480.00	57.0 PK	68.2	-11.2	2.35 H	171	47.2	9.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	113.0 PK			3.80 V	212	73.8	39.2
2	*5240.00	103.9 AV			3.80 V	212	64.7	39.2
3	5350.00	55.0 PK	74.0	-19.0	3.80 V	212	53.9	1.1
4	5350.00	43.8 AV	54.0	-10.2	3.80 V	212	42.7	1.1
5	#10480.00	56.3 PK	68.2	-11.9	1.80 V	201	46.5	9.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.0 PK	74.0	-19.0	1.09 H	354	53.7	1.3
2	5150.00	43.5 AV	54.0	-10.5	1.09 H	354	42.2	1.3
3	*5260.00	117.9 PK			1.09 H	354	78.7	39.2
4	*5260.00	108.9 AV			1.09 H	354	69.7	39.2
5	#10520.00	56.6 PK	68.2	-11.6	2.45 H	187	46.7	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.7 PK	74.0	-18.3	2.44 V	180	54.4	1.3
2	5150.00	43.4 AV	54.0	-10.6	2.44 V	180	42.1	1.3
3	*5260.00	111.7 PK			1.00 V	180	72.5	39.2
4	*5260.00	103.4 AV			1.00 V	180	64.2	39.2
5	#10520.00	56.2 PK	68.2	-12.0	1.89 V	215	46.3	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	118.1 PK			1.10 H	1	79.0	39.1
2	*5300.00	109.0 AV			1.10 H	1	69.9	39.1
3	10600.00	56.6 PK	74.0	-17.4	2.37 H	191	46.4	10.2
4	10600.00	45.0 AV	54.0	-9.0	2.37 H	191	34.8	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.0 PK			2.58 V	185	72.9	39.1
2	*5300.00	103.4 AV			2.58 V	185	64.3	39.1
3	10600.00	56.3 PK	74.0	-17.7	1.75 V	202	46.1	10.2
4	10600.00	44.7 AV	54.0	-9.3	1.75 V	202	34.5	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	117.8 PK			1.18 H	358	78.7	39.1
2	*5320.00	108.6 AV			1.18 H	358	69.5	39.1
3	5350.00	59.3 PK	74.0	-14.7	1.18 H	358	58.2	1.1
4	5350.00	49.5 AV	54.0	-4.5	1.18 H	358	48.4	1.1
5	10640.00	56.7 PK	74.0	-17.3	2.28 H	180	46.5	10.2
6	10640.00	45.1 AV	54.0	-8.9	2.28 H	180	34.9	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.4 PK			2.28 V	179	74.3	39.1
2	*5320.00	104.6 AV			2.28 V	179	65.5	39.1
3	5350.00	60.5 PK	74.0	-13.5	2.28 V	179	59.4	1.1
4	5350.00	46.4 AV	54.0	-7.6	2.28 V	179	45.3	1.1
5	10640.00	56.4 PK	74.0	-17.6	1.74 V	198	46.2	10.2
6	10640.00	44.6 AV	54.0	-9.4	1.74 V	198	34.4	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.5 PK	74.0	-16.5	1.07 H	358	56.0	1.5
2	5460.00	46.7 AV	54.0	-7.3	1.07 H	358	45.2	1.5
3	#5470.00	60.5 PK	68.2	-7.7	1.07 H	358	59.0	1.5
4	*5500.00	117.3 PK			1.07 H	358	77.6	39.7
5	*5500.00	108.0 AV			1.07 H	358	68.3	39.7
6	11000.00	57.9 PK	74.0	-16.1	2.35 H	199	47.0	10.9
7	11000.00	45.8 AV	54.0	-8.2	2.35 H	199	34.9	10.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.9 PK	74.0	-13.1	3.23 V	206	59.4	1.5
2	5460.00	45.4 AV	54.0	-8.6	3.23 V	206	43.9	1.5
3	#5470.00	61.3 PK	68.2	-6.9	3.23 V	206	59.8	1.5
4	*5500.00	112.4 PK			3.23 V	206	72.7	39.7
5	*5500.00	104.2 AV			3.23 V	206	64.5	39.7
6	11000.00	57.3 PK	74.0	-16.7	1.72 V	242	46.4	10.9
7	11000.00	45.3 AV	54.0	-8.7	1.72 V	242	34.4	10.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	118.3 PK			1.08 H	1	78.4	39.9
2	*5580.00	108.6 AV			1.08 H	1	68.7	39.9
3	11160.00	57.1 PK	74.0	-16.9	2.41 H	208	47.2	9.9
4	11160.00	45.1 AV	54.0	-8.9	2.41 H	208	35.2	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	113.3 PK			3.33 V	212	73.4	39.9
2	*5580.00	104.6 AV			3.33 V	212	64.7	39.9
3	11160.00	56.7 PK	74.0	-17.3	1.81 V	234	46.8	9.9
4	11160.00	44.8 AV	54.0	-9.2	1.81 V	234	34.9	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	117.5 PK			1.09 H	18	77.3	40.2
2	*5700.00	108.2 AV			1.09 H	18	68.0	40.2
3	#5725.00	61.3 PK	68.2	-6.9	1.09 H	18	59.0	2.3
4	11400.00	57.4 PK	74.0	-16.6	2.41 H	214	46.9	10.5
5	11400.00	45.3 AV	54.0	-8.7	2.41 H	214	34.8	10.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	114.1 PK			3.95 V	305	73.9	40.2
2	*5700.00	105.2 AV			3.95 V	305	65.0	40.2
3	#5725.00	61.1 PK	68.2	-7.1	3.95 V	305	58.8	2.3
4	11400.00	57.0 PK	74.0	-17.0	1.79 V	227	46.5	10.5
5	11400.00	45.0 AV	54.0	-9.0	1.79 V	227	34.5	10.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	117.6 PK			1.14 H	14	77.3	40.3
2	*5720.00	108.1 AV			1.14 H	14	67.8	40.3
3	#5850.00	57.9 PK	68.2	-10.3	1.14 H	14	55.1	2.8
4	11440.00	57.8 PK	74.0	-16.2	2.41 H	205	47.5	10.3
5	11440.00	45.6 AV	54.0	-8.4	2.41 H	205	35.3	10.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	112.8 PK			3.73 V	308	72.5	40.3
2	*5720.00	104.6 AV			3.73 V	308	64.3	40.3
3	#5850.00	57.4 PK	68.2	-10.8	3.73 V	308	54.6	2.8
4	11440.00	57.3 PK	74.0	-16.7	1.74 V	229	47.0	10.3
5	11440.00	45.2 AV	54.0	-8.8	1.74 V	229	34.9	10.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5608.00	56.7 PK	68.2	-11.5	1.12 H	356	54.8	1.9
2	*5745.00	117.7 PK			1.12 H	356	77.3	40.4
3	*5745.00	108.9 AV			1.12 H	356	68.5	40.4
4	#5947.60	57.7 PK	68.2	-10.5	1.12 H	356	54.9	2.8
5	11490.00	56.8 PK	74.0	-17.2	2.05 H	197	46.6	10.2
6	11490.00	45.4 AV	54.0	-8.6	2.05 H	197	35.2	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5613.20	57.5 PK	68.2	-10.7	3.89 V	313	55.6	1.9
2	*5745.00	114.8 PK			3.89 V	313	74.4	40.4
3	*5745.00	105.6 AV			3.89 V	313	65.2	40.4
4	#5930.40	57.7 PK	68.2	-10.5	3.89 V	313	54.8	2.9
5	11490.00	56.6 PK	74.0	-17.4	1.80 V	237	46.4	10.2
6	11490.00	45.3 AV	54.0	-8.7	1.80 V	237	35.1	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.20	56.4 PK	68.2	-11.8	1.05 H	356	54.4	2.0
2	*5785.00	119.6 PK			1.05 H	356	79.0	40.6
3	*5785.00	110.0 AV			1.05 H	356	69.4	40.6
4	#5948.40	57.3 PK	68.2	-10.9	1.05 H	356	54.5	2.8
5	11570.00	57.1 PK	74.0	-16.9	2.13 H	209	47.2	9.9
6	11570.00	45.7 AV	54.0	-8.3	2.13 H	209	35.8	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5624.00	56.7 PK	68.2	-11.5	3.62 V	238	54.8	1.9
2	*5785.00	115.1 PK			3.62 V	238	74.5	40.6
3	*5785.00	105.7 AV			3.62 V	238	65.1	40.6
4	#5970.80	57.2 PK	68.2	-11.0	3.62 V	238	54.4	2.8
5	11570.00	56.7 PK	74.0	-17.3	1.85 V	242	46.8	9.9
6	11570.00	45.3 AV	54.0	-8.7	1.85 V	242	35.4	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.80	56.7 PK	68.2	-11.5	1.03 H	356	54.6	2.1
2	*5825.00	120.6 PK			1.03 H	356	79.9	40.7
3	*5825.00	111.0 AV			1.03 H	356	70.3	40.7
4	#5949.20	57.2 PK	68.2	-11.0	1.03 H	356	54.4	2.8
5	11650.00	57.2 PK	74.0	-16.8	2.15 H	214	47.3	9.9
6	11650.00	45.7 AV	54.0	-8.3	2.15 H	214	35.8	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5627.60	56.1 PK	68.2	-12.1	3.95 V	306	54.1	2.0
2	*5825.00	115.7 PK			3.95 V	306	75.0	40.7
3	*5825.00	106.5 AV			3.95 V	306	65.8	40.7
4	#5946.80	57.6 PK	68.2	-10.6	3.95 V	306	54.8	2.8
5	11650.00	56.8 PK	74.0	-17.2	1.72 V	242	46.9	9.9
6	11650.00	45.4 AV	54.0	-8.6	1.72 V	242	35.5	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT20)

CHANNEL	TX Channel 36	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.6 PK	74.0	-20.4	1.10 H	350	52.3	1.3
2	5150.00	47.9 AV	54.0	-6.1	1.10 H	350	46.6	1.3
3	*5180.00	118.7 PK			1.10 H	350	79.3	39.4
4	*5180.00	109.1 AV			1.10 H	350	69.7	39.4
5	#10360.00	56.8 PK	68.2	-11.4	2.30 H	179	46.8	10.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.9 PK	74.0	-16.1	3.81 V	271	56.6	1.3
2	5150.00	47.5 AV	54.0	-6.5	3.81 V	271	46.2	1.3
3	*5180.00	111.6 PK			3.81 V	271	72.2	39.4
4	*5180.00	102.7 AV			3.81 V	271	63.3	39.4
5	#10360.00	55.9 PK	68.2	-12.3	1.90 V	215	45.9	10.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	120.5 PK			1.16 H	3	81.1	39.4
2	*5200.00	110.2 AV			1.16 H	3	70.8	39.4
3	#10400.00	56.8 PK	68.2	-11.4	2.45 H	180	46.9	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	114.3 PK			3.57 V	284	74.9	39.4
2	*5200.00	105.0 AV			3.57 V	284	65.6	39.4
3	#10400.00	56.4 PK	68.2	-11.8	1.92 V	220	46.5	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	118.6 PK			1.30 H	3	79.4	39.2
2	*5240.00	109.4 AV			1.30 H	3	70.2	39.2
3	5350.00	55.8 PK	74.0	-18.2	1.30 H	3	54.7	1.1
4	5350.00	44.5 AV	54.0	-9.5	1.30 H	3	43.4	1.1
5	#10480.00	56.9 PK	68.2	-11.3	2.39 H	179	47.1	9.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	112.4 PK			3.43 V	208	73.2	39.2
2	*5240.00	102.9 AV			3.43 V	208	63.7	39.2
3	5350.00	55.5 PK	74.0	-18.5	3.43 V	208	54.4	1.1
4	5350.00	43.5 AV	54.0	-10.5	3.43 V	208	42.4	1.1
5	#10480.00	56.2 PK	68.2	-12.0	1.87 V	197	46.4	9.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.9 PK	74.0	-18.1	1.21 H	357	54.6	1.3
2	5150.00	43.8 AV	54.0	-10.2	1.21 H	357	42.5	1.3
3	*5260.00	117.9 PK			1.21 H	357	78.7	39.2
4	*5260.00	108.7 AV			1.21 H	357	69.5	39.2
5	#10520.00	56.4 PK	68.2	-11.8	2.39 H	190	46.5	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.8 PK	74.0	-18.2	2.39 V	175	54.5	1.3
2	5150.00	43.4 AV	54.0	-10.6	2.39 V	175	42.1	1.3
3	*5260.00	112.9 PK			2.39 V	175	73.7	39.2
4	*5260.00	103.1 AV			2.39 V	175	63.9	39.2
5	#10520.00	56.0 PK	68.2	-12.2	1.82 V	220	46.1	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 60	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	118.2 PK			1.18 H	359	79.1	39.1
2	*5300.00	108.9 AV			1.18 H	359	69.8	39.1
3	10600.00	56.7 PK	74.0	-17.3	2.42 H	182	46.5	10.2
4	10600.00	45.1 AV	54.0	-8.9	2.42 H	182	34.9	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.1 PK			2.47 V	183	73.0	39.1
2	*5300.00	103.2 AV			2.47 V	183	64.1	39.1
3	10600.00	56.5 PK	74.0	-17.5	1.73 V	218	46.3	10.2
4	10600.00	44.7 AV	54.0	-9.3	1.73 V	218	34.5	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	119.0 PK			1.18 H	12	79.9	39.1
2	*5320.00	109.3 AV			1.18 H	12	70.2	39.1
3	5350.00	60.8 PK	74.0	-13.2	1.18 H	12	59.7	1.1
4	5350.00	48.9 AV	54.0	-5.1	1.18 H	12	47.8	1.1
5	10640.00	56.9 PK	74.0	-17.1	2.35 H	187	46.7	10.2
6	10640.00	45.4 AV	54.0	-8.6	2.35 H	187	35.2	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.9 PK			2.39 V	181	74.8	39.1
2	*5320.00	104.8 AV			2.39 V	181	65.7	39.1
3	5350.00	56.5 PK	74.0	-17.5	2.39 V	181	55.4	1.1
4	5350.00	46.5 AV	54.0	-7.5	2.39 V	181	45.4	1.1
5	10640.00	56.4 PK	74.0	-17.6	1.83 V	217	46.2	10.2
6	10640.00	45.0 AV	54.0	-9.0	1.83 V	217	34.8	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.0 PK	74.0	-14.0	1.18 H	353	58.5	1.5
2	5460.00	47.9 AV	54.0	-6.1	1.18 H	353	46.4	1.5
3	#5470.00	59.0 PK	68.2	-9.2	1.18 H	353	57.5	1.5
4	*5500.00	117.2 PK			1.18 H	353	77.5	39.7
5	*5500.00	108.3 AV			1.18 H	353	68.6	39.7
6	11000.00	58.0 PK	74.0	-16.0	2.41 H	209	47.1	10.9
7	11000.00	46.0 AV	54.0	-8.0	2.41 H	209	35.1	10.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.8 PK	74.0	-15.2	3.44 V	231	57.3	1.5
2	5460.00	47.1 AV	54.0	-6.9	3.44 V	231	45.6	1.5
3	#5470.00	58.4 PK	68.2	-9.8	3.44 V	231	56.9	1.5
4	*5500.00	113.5 PK			3.44 V	231	73.8	39.7
5	*5500.00	104.4 AV			3.44 V	231	64.7	39.7
6	11000.00	57.7 PK	74.0	-16.3	1.82 V	237	46.8	10.9
7	11000.00	45.6 AV	54.0	-8.4	1.82 V	237	34.7	10.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	117.8 PK			1.05 H	353	77.9	39.9
2	*5580.00	108.3 AV			1.05 H	353	68.4	39.9
3	11160.00	56.9 PK	74.0	-17.1	2.27 H	201	47.0	9.9
4	11160.00	44.9 AV	54.0	-9.1	2.27 H	201	35.0	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	113.3 PK			3.77 V	212	73.4	39.9
2	*5580.00	104.2 AV			3.77 V	212	64.3	39.9
3	11160.00	56.6 PK	74.0	-17.4	1.75 V	234	46.7	9.9
4	11160.00	45.2 AV	54.0	-8.8	1.75 V	234	35.3	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	117.1 PK			1.07 H	7	76.9	40.2
2	*5700.00	107.8 AV			1.07 H	7	67.6	40.2
3	#5725.00	67.4 PK	68.2	-0.8	1.07 H	7	65.1	2.3
4	11400.00	57.2 PK	74.0	-16.8	2.31 H	192	46.7	10.5
5	11400.00	45.3 AV	54.0	-8.7	2.31 H	192	34.8	10.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	112.8 PK			3.53 V	216	72.6	40.2
2	*5700.00	103.7 AV			3.53 V	216	63.5	40.2
3	#5725.00	61.8 PK	68.2	-6.4	3.53 V	216	59.5	2.3
4	11400.00	56.8 PK	74.0	-17.2	1.80 V	230	46.3	10.5
5	11400.00	45.1 AV	54.0	-8.9	1.80 V	230	34.6	10.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 144	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	117.2 PK			1.15 H	8	76.9	40.3
2	*5720.00	107.8 AV			1.15 H	8	67.5	40.3
3	#5850.00	57.1 PK	68.2	-11.1	1.15 H	8	54.3	2.8
4	11440.00	57.6 PK	74.0	-16.4	2.30 H	212	47.3	10.3
5	11440.00	45.4 AV	54.0	-8.6	2.30 H	212	35.1	10.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	113.9 PK			3.54 V	315	73.6	40.3
2	*5720.00	104.6 AV			3.54 V	315	64.3	40.3
3	#5850.00	56.8 PK	68.2	-11.4	3.54 V	315	54.0	2.8
4	11440.00	57.2 PK	74.0	-16.8	1.85 V	222	46.9	10.3
5	11440.00	45.0 AV	54.0	-9.0	1.85 V	222	34.7	10.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5614.40	56.7 PK	68.2	-11.5	1.00 H	15	54.8	1.9
2	*5745.00	119.3 PK			1.00 H	15	78.9	40.4
3	*5745.00	109.6 AV			1.00 H	15	69.2	40.4
4	#5945.60	58.5 PK	68.2	-9.7	1.00 H	15	55.7	2.8
5	11490.00	57.2 PK	74.0	-16.8	2.01 H	214	47.0	10.2
6	11490.00	45.8 AV	54.0	-8.2	2.01 H	214	35.6	10.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.60	56.5 PK	68.2	-11.7	3.93 V	313	54.4	2.1
2	*5745.00	115.0 PK			3.93 V	313	74.6	40.4
3	*5745.00	105.6 AV			3.93 V	313	65.2	40.4
4	#5996.00	56.4 PK	68.2	-11.8	3.93 V	313	53.5	2.9
5	11490.00	56.9 PK	74.0	-17.1	1.77 V	236	46.7	10.2
6	11490.00	45.5 AV	54.0	-8.5	1.77 V	236	35.3	10.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5602.80	57.1 PK	68.2	-11.1	1.02 H	2	55.3	1.8
2	*5785.00	119.1 PK			1.02 H	2	78.5	40.6
3	*5785.00	109.8 AV			1.02 H	2	69.2	40.6
4	#5937.20	57.1 PK	68.2	-11.1	1.02 H	2	54.3	2.8
5	11570.00	57.2 PK	74.0	-16.8	1.99 H	217	47.3	9.9
6	11570.00	45.6 AV	54.0	-8.4	1.99 H	217	35.7	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	55.6 PK	68.2	-12.6	3.80 V	314	53.4	2.2
2	*5785.00	116.3 PK			3.80 V	314	75.7	40.6
3	*5785.00	105.7 AV			3.80 V	314	65.1	40.6
4	#5932.80	57.1 PK	68.2	-11.1	3.80 V	314	54.3	2.8
5	11570.00	56.9 PK	74.0	-17.1	1.81 V	239	47.0	9.9
6	11570.00	45.3 AV	54.0	-8.7	1.81 V	239	35.4	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.60	57.8 PK	68.2	-10.4	1.12 H	19	55.7	2.1
2	*5825.00	118.3 PK			1.12 H	19	77.6	40.7
3	*5825.00	110.7 AV			1.12 H	19	70.0	40.7
4	#5926.80	57.7 PK	68.2	-10.5	1.12 H	19	54.8	2.9
5	11650.00	57.0 PK	74.0	-17.0	2.09 H	223	47.1	9.9
6	11650.00	45.4 AV	54.0	-8.6	2.09 H	223	35.5	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5604.40	56.2 PK	68.2	-12.0	3.37 V	209	54.4	1.8
2	*5825.00	114.2 PK			3.37 V	209	73.5	40.7
3	*5825.00	105.7 AV			3.37 V	209	65.0	40.7
4	#5997.60	56.8 PK	68.2	-11.4	3.37 V	209	53.9	2.9
5	11650.00	56.7 PK	74.0	-17.3	1.74 V	234	46.8	9.9
6	11650.00	45.1 AV	54.0	-8.9	1.74 V	234	35.2	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

CHANNEL	TX Channel 38	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.1 PK	74.0	-7.9	1.08 H	3	64.8	1.3
2	5150.00	53.3 AV	54.0	-0.7	1.08 H	3	52.0	1.3
3	*5190.00	113.8 PK			1.08 H	3	74.4	39.4
4	*5190.00	103.6 AV			1.08 H	3	64.2	39.4
5	#10380.00	56.8 PK	68.2	-11.4	2.17 H	181	46.8	10.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.2 PK	74.0	-15.8	3.76 V	274	56.9	1.3
2	5150.00	47.3 AV	54.0	-6.7	3.76 V	274	46.0	1.3
3	*5190.00	107.4 PK			3.76 V	274	68.0	39.4
4	*5190.00	98.0 AV			3.76 V	274	58.6	39.4
5	#10380.00	56.4 PK	68.2	-11.8	1.87 V	195	46.4	10.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	115.9 PK			1.46 H	357	76.6	39.3
2	*5230.00	106.2 AV			1.46 H	357	66.9	39.3
3	5452.00	61.3 PK	74.0	-12.7	1.46 H	357	59.8	1.5
4	5452.00	51.9 AV	54.0	-2.1	1.46 H	357	50.4	1.5
5	#10460.00	56.7 PK	68.2	-11.5	2.35 H	173	47.0	9.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	111.4 PK			3.12 V	275	72.1	39.3
2	*5230.00	101.4 AV			3.12 V	275	62.1	39.3
3	5452.00	55.5 PK	74.0	-18.5	3.12 V	275	54.0	1.5
4	5452.00	43.9 AV	54.0	-10.1	3.12 V	275	42.4	1.5
5	#10460.00	56.3 PK	68.2	-11.9	1.93 V	207	46.6	9.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 54	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.3 PK	74.0	-18.7	1.23 H	11	54.0	1.3
2	5150.00	44.3 AV	54.0	-9.7	1.23 H	11	43.0	1.3
3	*5270.00	115.0 PK			1.23 H	11	75.8	39.2
4	*5270.00	105.5 AV			1.23 H	11	66.3	39.2
5	#10540.00	56.3 PK	68.2	-11.9	2.33 H	187	46.3	10.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	2.39 V	178	55.1	1.3
2	5150.00	44.5 AV	54.0	-9.5	2.39 V	178	43.2	1.3
3	*5270.00	111.3 PK			2.39 V	178	72.1	39.2
4	*5270.00	102.0 AV			2.39 V	178	62.8	39.2
5	#10540.00	56.0 PK	68.2	-12.2	1.87 V	202	46.0	10.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 62	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	111.3 PK			1.08 H	354	72.2	39.1
2	*5310.00	102.0 AV			1.08 H	354	62.9	39.1
3	5350.00	63.8 PK	74.0	-10.2	1.08 H	354	62.7	1.1
4	**5350.00**	**53.4 AV**	**54.0**	**-0.6**	**1.08 H**	**354**	**52.3**	**1.1**
5	10620.00	56.7 PK	74.0	-17.3	2.21 H	177	46.4	10.3
6	10620.00	45.0 AV	54.0	-9.0	2.21 H	177	34.7	10.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	107.3 PK			2.32 V	178	68.2	39.1
2	*5310.00	97.9 AV			2.32 V	178	58.8	39.1
3	5350.00	63.8 PK	74.0	-10.2	2.32 V	178	62.7	1.1
4	5350.00	49.9 AV	54.0	-4.1	2.32 V	178	48.8	1.1
5	10620.00	56.3 PK	74.0	-17.7	1.71 V	211	46.0	10.3
6	10620.00	44.8 AV	54.0	-9.2	1.71 V	211	34.5	10.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 102	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.2 PK	74.0	-13.8	1.12 H	357	58.7	1.5
2	5460.00	49.1 AV	54.0	-4.9	1.12 H	357	47.6	1.5
3	#5470.00	67.3 PK	68.2	-0.9	1.12 H	357	65.8	1.5
4	*5510.00	111.9 PK			1.12 H	357	72.2	39.7
5	*5510.00	102.4 AV			1.12 H	357	62.7	39.7
6	11020.00	57.9 PK	74.0	-16.1	2.33 H	210	47.1	10.8
7	11020.00	45.6 AV	54.0	-8.4	2.33 H	210	34.8	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.5 PK	74.0	-15.5	3.40 V	203	57.0	1.5
2	5460.00	46.4 AV	54.0	-7.6	3.40 V	203	44.9	1.5
3	#5470.00	64.0 PK	68.2	-4.2	3.40 V	203	62.5	1.5
4	*5510.00	108.0 PK			3.40 V	203	68.3	39.7
5	*5510.00	98.6 AV			3.40 V	203	58.9	39.7
6	11020.00	57.3 PK	74.0	-16.7	1.72 V	243	46.5	10.8
7	11020.00	45.2 AV	54.0	-8.8	1.72 V	243	34.4	10.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	114.8 PK			1.13 H	356	75.0	39.8
2	*5550.00	105.5 AV			1.13 H	356	65.7	39.8
3	11100.00	57.3 PK	74.0	-16.7	2.22 H	199	47.4	9.9
4	11100.00	45.1 AV	54.0	-8.9	2.22 H	199	35.2	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	110.8 PK			3.57 V	215	71.0	39.8
2	*5550.00	101.8 AV			3.57 V	215	62.0	39.8
3	11100.00	56.9 PK	74.0	-17.1	1.85 V	222	47.0	9.9
4	11100.00	44.7 AV	54.0	-9.3	1.85 V	222	34.8	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 134	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	115.2 PK			1.08 H	351	75.0	40.2
2	*5670.00	105.8 AV			1.08 H	351	65.6	40.2
3	#5725.00	63.2 PK	68.2	-5.0	1.08 H	351	60.9	2.3
4	11340.00	57.8 PK	74.0	-16.2	2.24 H	201	47.3	10.5
5	11340.00	45.7 AV	54.0	-8.3	2.24 H	201	35.2	10.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	110.4 PK			3.54 V	218	70.2	40.2
2	*5670.00	100.8 AV			3.54 V	218	60.6	40.2
3	#5725.00	61.8 PK	68.2	-6.4	3.54 V	218	59.5	2.3
4	11340.00	57.3 PK	74.0	-16.7	1.79 V	235	46.8	10.5
5	11340.00	45.2 AV	54.0	-8.8	1.79 V	235	34.7	10.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 142	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5710.00	115.5 PK			1.07 H	354	75.2	40.3
2	*5710.00	105.8 AV			1.07 H	354	65.5	40.3
3	#5932.00	62.5 PK	68.2	-5.7	1.07 H	354	59.7	2.8
4	11420.00	57.7 PK	74.0	-16.3	2.15 H	202	47.3	10.4
5	11420.00	45.7 AV	54.0	-8.3	2.15 H	202	35.3	10.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5710.00	110.4 PK			3.74 V	316	70.1	40.3
2	*5710.00	101.0 AV			3.74 V	316	60.7	40.3
3	#5932.00	59.0 PK	68.2	-9.2	3.74 V	316	56.2	2.8
4	11420.00	57.3 PK	74.0	-16.7	1.82 V	239	46.9	10.4
5	11420.00	45.3 AV	54.0	-8.7	1.82 V	239	34.9	10.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 151	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.60	58.6 PK	68.2	-9.6	1.11 H	352	56.5	2.1
2	*5755.00	116.9 PK			1.11 H	352	76.4	40.5
3	*5755.00	107.1 AV			1.11 H	352	66.6	40.5
4	#5977.20	63.2 PK	68.2	-5.0	1.11 H	352	60.4	2.8
5	11510.00	57.0 PK	74.0	-17.0	2.19 H	208	46.9	10.1
6	11510.00	45.3 AV	54.0	-8.7	2.19 H	208	35.2	10.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5635.20	58.4 PK	68.2	-9.8	3.47 V	234	56.3	2.1
2	*5755.00	112.2 PK			3.47 V	234	71.7	40.5
3	*5755.00	101.7 AV			3.47 V	234	61.2	40.5
4	#5978.80	57.8 PK	68.2	-10.4	3.47 V	234	55.0	2.8
5	11510.00	56.7 PK	74.0	-17.3	1.82 V	230	46.6	10.1
6	11510.00	45.1 AV	54.0	-8.9	1.82 V	230	35.0	10.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.00	56.8 PK	68.2	-11.4	1.15 H	350	54.7	2.1
2	*5795.00	117.0 PK			1.15 H	350	76.4	40.6
3	*5795.00	107.5 AV			1.15 H	350	66.9	40.6
4	#5935.20	58.5 PK	68.2	-9.7	1.15 H	350	55.7	2.8
5	11590.00	56.8 PK	74.0	-17.2	2.21 H	210	47.0	9.8
6	11590.00	45.1 AV	54.0	-8.9	2.21 H	210	35.3	9.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.40	57.1 PK	68.2	-11.1	3.78 V	313	55.0	2.1
2	*5795.00	112.8 PK			3.78 V	313	72.2	40.6
3	*5795.00	103.2 AV			3.78 V	313	62.6	40.6
4	#5925.20	56.7 PK	68.2	-11.5	3.78 V	313	53.8	2.9
5	11590.00	56.3 PK	74.0	-17.7	1.77 V	235	46.5	9.8
6	11590.00	44.7 AV	54.0	-9.3	1.77 V	235	34.9	9.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.0 PK	74.0	-10.0	1.25 H	3	62.7	1.3
2	5150.00	53.2 AV	54.0	-0.8	1.25 H	3	51.9	1.3
3	*5210.00	108.6 PK			1.25 H	3	69.3	39.3
4	*5210.00	99.2 AV			1.25 H	3	59.9	39.3
5	5350.00	56.6 PK	74.0	-17.4	1.25 H	3	55.5	1.1
6	5350.00	44.1 AV	54.0	-9.9	1.25 H	3	43.0	1.1
7	#10420.00	56.2 PK	68.2	-12.0	1.84 H	192	46.3	9.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	3.05 V	324	56.4	1.3
2	5150.00	45.9 AV	54.0	-8.1	3.05 V	324	44.6	1.3
3	*5210.00	103.0 PK			3.05 V	324	63.7	39.3
4	*5210.00	93.5 AV			3.05 V	324	54.2	39.3
5	5350.00	55.4 PK	74.0	-18.6	3.05 V	324	54.3	1.1
6	5350.00	43.4 AV	54.0	-10.6	3.05 V	324	42.3	1.1
7	#10420.00	55.7 PK	68.2	-12.5	1.77 V	215	45.8	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 58	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.2 PK	74.0	-17.8	1.13 H	357	54.9	1.3
2	5150.00	43.9 AV	54.0	-10.1	1.13 H	357	42.6	1.3
3	*5290.00	107.8 PK			1.13 H	357	68.7	39.1
4	*5290.00	98.1 AV			1.13 H	357	59.0	39.1
5	5350.00	62.4 PK	74.0	-11.6	1.13 H	357	61.3	1.1
6	5350.00	53.0 AV	54.0	-1.0	1.13 H	357	51.9	1.1
7	#10580.00	56.4 PK	68.2	-11.8	2.40 H	193	46.3	10.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.2 PK	74.0	-18.8	2.47 V	179	53.9	1.3
2	5150.00	44.0 AV	54.0	-10.0	2.47 V	179	42.7	1.3
3	*5290.00	101.3 PK			2.47 V	179	62.2	39.1
4	*5290.00	92.6 AV			2.47 V	179	53.5	39.1
5	5350.00	60.3 PK	74.0	-13.7	2.47 V	179	59.2	1.1
6	5350.00	47.8 AV	54.0	-6.2	2.47 V	179	46.7	1.1
7	#10580.00	56.1 PK	68.2	-12.1	1.89 V	227	46.0	10.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 106	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.5 PK	74.0	-8.5	1.05 H	359	64.0	1.5
2	5460.00	49.0 AV	54.0	-5.0	1.05 H	359	47.5	1.5
3	#5470.00	66.7 PK	68.2	-1.5	1.05 H	359	65.2	1.5
4	*5530.00	108.7 PK			1.05 H	359	68.9	39.8
5	*5530.00	99.7 AV			1.05 H	359	59.9	39.8
6	#5725.00	57.1 PK	68.2	-11.1	1.05 H	359	54.8	2.3
7	11060.00	57.3 PK	74.0	-16.7	2.02 H	197	47.0	10.3
8	11060.00	45.5 AV	54.0	-8.5	2.02 H	197	35.2	10.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.0 PK	74.0	-15.0	3.32 V	224	57.5	1.5
2	5460.00	48.7 AV	54.0	-5.3	3.32 V	224	47.2	1.5
3	#5470.00	61.0 PK	68.2	-7.2	3.32 V	224	59.5	1.5
4	*5530.00	103.2 PK			3.32 V	224	63.4	39.8
5	*5530.00	94.2 AV			3.32 V	224	54.4	39.8
6	#5725.00	56.6 PK	68.2	-11.6	3.32 V	224	54.3	2.3
7	11060.00	57.0 PK	74.0	-17.0	1.75 V	230	46.7	10.3
8	11060.00	45.2 AV	54.0	-8.8	1.75 V	230	34.9	10.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 138	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	56.6 PK	68.2	-11.6	1.11 H	9	55.1	1.5
2	*5690.00	111.0 PK			1.11 H	9	70.8	40.2
3	*5690.00	101.8 AV			1.11 H	9	61.6	40.2
4	#5850.00	58.1 PK	68.2	-10.1	1.11 H	9	55.3	2.8
5	11380.00	57.5 PK	74.0	-16.5	2.17 H	220	47.0	10.5
6	11380.00	46.1 AV	54.0	-7.9	2.17 H	220	35.6	10.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	56.5 PK	68.2	-11.7	3.55 V	237	55.0	1.5
2	*5690.00	106.8 PK			3.55 V	237	66.6	40.2
3	*5690.00	97.6 AV			3.55 V	237	57.4	40.2
4	#5850.00	57.2 PK	68.2	-11.0	3.55 V	237	54.4	2.8
5	11380.00	57.1 PK	74.0	-16.9	1.75 V	240	46.6	10.5
6	11380.00	45.7 AV	54.0	-8.3	1.75 V	240	35.2	10.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.40	60.5 PK	68.2	-7.7	1.01 H	347	58.4	2.1
2	#5650.00	62.1 PK	68.2	-6.1	1.01 H	347	59.9	2.2
3	*5775.00	113.3 PK			1.01 H	347	72.7	40.6
4	*5775.00	103.4 AV			1.01 H	347	62.8	40.6
5	#5925.00	67.5 PK	68.2	-0.7	1.01 H	247	64.5	3.0
6	#5932.00	62.0 PK	68.2	-6.2	1.01 H	347	59.2	2.8
7	11550.00	56.9 PK	74.0	-17.1	2.08 H	214	46.9	10.0
8	11550.00	45.8 AV	54.0	-8.2	2.08 H	214	35.8	10.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5633.20	59.6 PK	68.2	-8.6	3.65 V	314	57.5	2.1
2	#5650.00	62.8 PK	68.2	-5.4	3.65 V	314	60.6	2.2
3	*5775.00	109.8 PK			3.65 V	314	69.2	40.6
4	*5775.00	99.6 AV			3.65 V	314	59.0	40.6
5	#5925.00	63.7 PK	68.2	-4.5	3.65 V	314	60.7	3.0
6	#5929.60	60.8 PK	68.2	-7.4	3.65 V	314	57.9	2.9
7	11550.00	56.3 PK	74.0	-17.7	1.87 V	231	46.3	10.0
8	11550.00	45.3 AV	54.0	-8.7	1.87 V	231	35.3	10.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the 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:

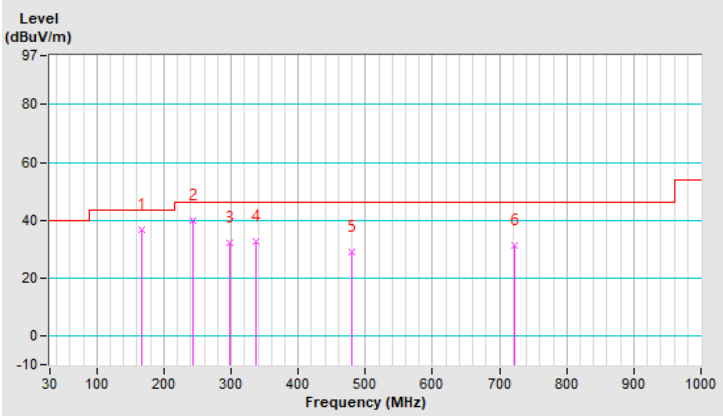
802.11ac (VHT40)

CHANNEL	TX Channel 62	**Detector Function**	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	166.36	36.7 QP	43.5	-6.8	2.00 H	45	55.0	-18.3
2	242.28	39.8 QP	46.0	-6.2	1.01 H	206	59.5	-19.7
3	298.51	32.2 QP	46.0	-13.8	1.01 H	261	49.9	-17.7
4	336.46	32.6 QP	46.0	-13.4	1.01 H	242	49.2	-16.6
5	479.86	28.9 QP	46.0	-17.1	1.01 H	18	42.0	-13.1
6	721.65	31.2 QP	46.0	-14.8	1.01 H	164	39.9	-8.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

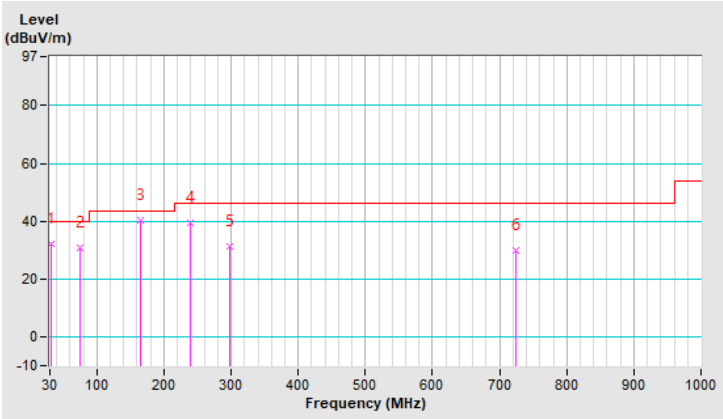


CHANNEL	TX Channel 62	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.41	32.0 QP	40.0	-8.0	1.49 V	18	51.6	-19.6
2	74.99	30.8 QP	40.0	-9.2	1.49 V	252	52.6	-21.8
3	164.96	40.1 QP	43.5	-3.4	1.00 V	51	58.4	-18.3
4	239.46	39.4 QP	46.0	-6.6	1.00 V	13	59.2	-19.8
5	298.51	31.3 QP	46.0	-14.7	1.49 V	186	49.0	-17.7
6	724.46	29.7 QP	46.0	-16.3	1.99 V	220	38.3	-8.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



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	Dec. 04, 2020	Dec. 03, 2021
RF signal cable Woken	5D-FB	Cable-cond1-01	Jan. 16, 2021	Jan. 15, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 25, 2021	Feb. 24, 2022
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 28, 2020	Aug. 27, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	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. (Conduction 1).
3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

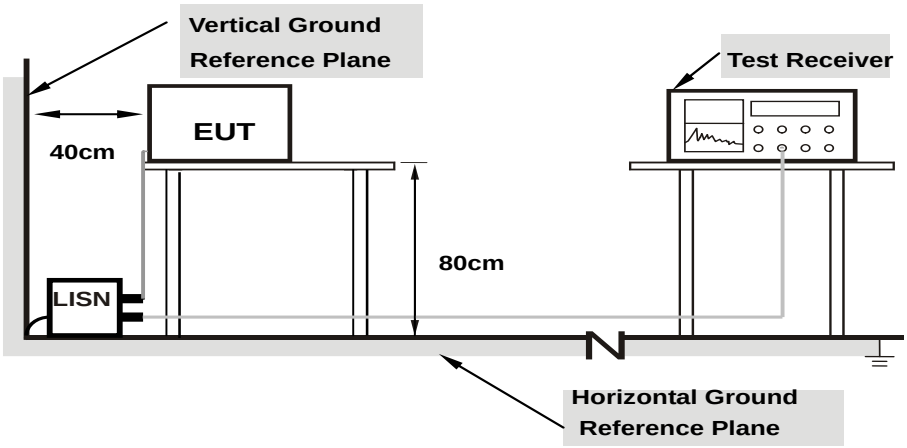
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

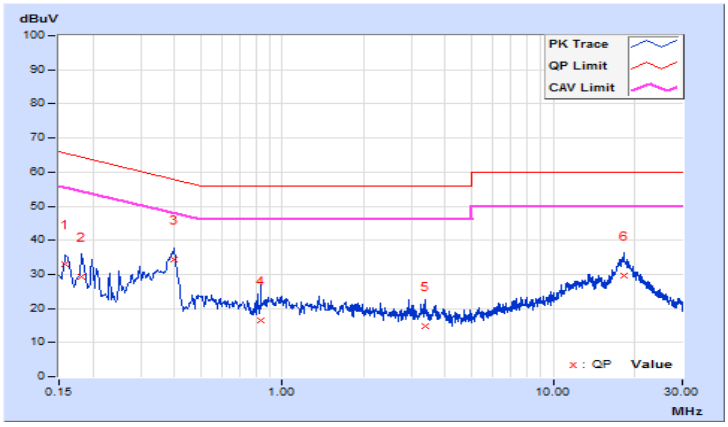
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	24℃, 69%RH
Tested by	Edison Lee	**Test Date**	2021/3/8

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	0.15800	10.09	22.79	6.53	32.88	16.62	65.57	55.57	-32.69	-38.95
2	0.18200	10.10	19.29	3.92	29.39	14.02	64.39	54.39	-35.00	-40.37
3	0.39758	10.19	24.17	13.23	34.36	23.42	57.90	47.90	-23.54	-24.48
4	0.83400	10.27	6.31	0.20	16.58	10.47	56.00	46.00	-39.42	-35.53
5	3.37000	10.45	4.32	1.37	14.77	11.82	56.00	46.00	-41.23	-34.18
6	18.25800	11.23	18.32	11.60	29.55	22.83	60.00	50.00	-30.45	-27.17

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

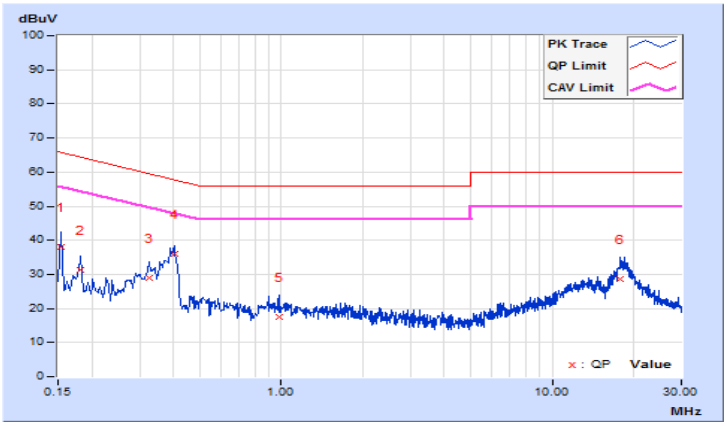


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	24℃, 69%RH
Tested by	Edison Lee	**Test Date**	2021/3/8

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	0.15400	10.08	27.91	12.26	37.99	22.34	65.78	55.78	-27.79	-33.44
2	0.18200	10.09	21.18	5.85	31.27	15.94	64.39	54.39	-33.12	-38.45
3	0.32600	10.16	18.64	7.18	28.80	17.34	59.55	49.55	-30.75	-32.21
4	**0.40200**	**10.19**	**25.84**	**14.21**	**36.03**	**24.40**	**57.81**	**47.81**	**-21.78**	**-23.41**
5	0.97800	10.29	7.13	2.51	17.42	12.80	56.00	46.00	-38.58	-33.20
6	17.92600	11.01	17.61	10.84	28.62	21.85	60.00	50.00	-31.38	-28.15

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 Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

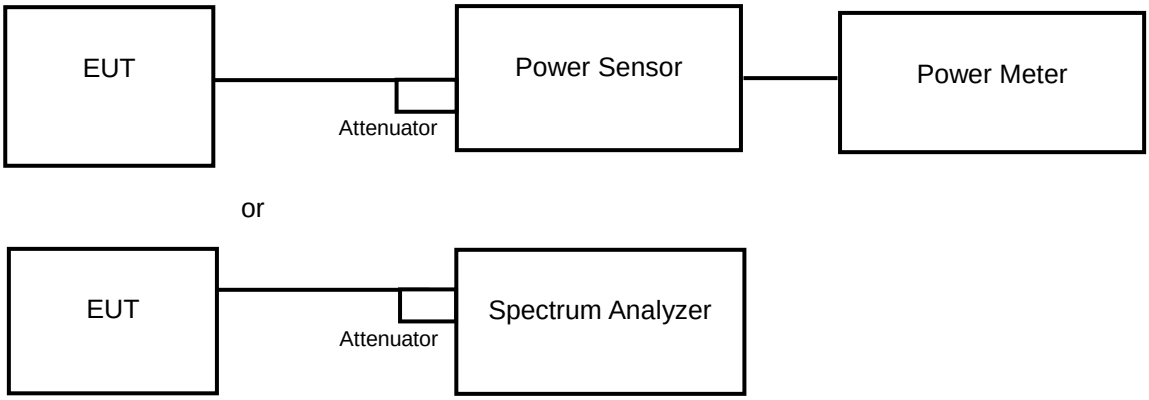
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

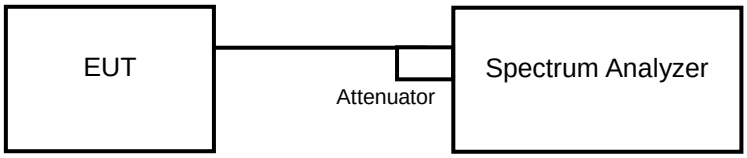
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

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

<802.11ac (VHT80)>

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99 % occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz.
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW.
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS.
i. Trace mode = max hold.
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum

For channel straddling 5725 MHz

Follow FCC KDB 789033 UNII test procedure:

Method SA-1

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz.
c. Set VBW ≥ 3 x RBW.
d. Number of points in sweep ≥ 2 Span / RBW.
e. Sweep time = auto.
f. Set trigger to free run (duty cycle ≥ 98 percent)
g. Detector = RMS.
h. Trace average at least 100 traces in power averaging mode.
i. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

26 dB Bandwidth

a. Set RBW = approximately 1 % of the emission bandwidth.
b. Set the VBW ≥ 3 x RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation from Test 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 Results

Power Output:

CDD Mode

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.76	10.46	26.11	14.17	24	Pass
40	5200	11.99	10.65	27.432	14.38	24	Pass
48	5240	11.85	10.65	26.931	14.30	24	Pass
52	5260	14.17	12.95	45.846	16.61	24	Pass
60	5300	14.20	13.11	46.767	16.70	24	Pass
64	5320	13.93	12.88	44.126	16.45	24	Pass
100	5500	18.02	16.90	112.365	20.51	24	Pass
116	5580	17.78	16.71	106.86	20.29	24	Pass
140	5700	19.63	18.40	161.016	22.07	24	Pass
144	5720 (U-NII-2C)	18.75	17.45	130.580	21.16	23.11	Pass
144	5720 (U-NII-3)	10.84	9.61	21.905	13.41	30	Pass
149	5745	23.19	21.88	362.619	25.59	30	Pass
157	5785	23.17	22.05	367.816	25.66	30	Pass
165	5825	23.52	22.32	395.514	25.97	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (25.47) = 25.06 dBm > 24 dBm.
2. 11 dBm + 10log (24.80) = 24.94 dBm > 24 dBm.
3. 11 dBm + 10log (24.13) = 24.82 dBm > 24 dBm.
4. 11 dBm + 10log (23.34) = 24.68 dBm > 24 dBm.
5. 11 dBm + 10log (23.66) = 24.74 dBm > 24 dBm.
6. 11 dBm + 10log (23.73) = 24.75 dBm > 24 dBm.
7. 11 dBm + 10log (17.01) = 23.30 dBm < 24 dBm.

Chain 1

1. 11 dBm + 10log (22.11) = 24.44 dBm > 24 dBm.
2. 11 dBm + 10log (23.71) = 24.74 dBm > 24 dBm.
3. 11 dBm + 10log (23.14) = 24.64 dBm > 24 dBm.
4. 11 dBm + 10log (22.61) = 24.54 dBm > 24 dBm.
5. 11 dBm + 10log (22.77) = 24.57 dBm > 24 dBm.
6. 11 dBm + 10log (23.42) = 24.69 dBm > 24 dBm.
7. 11 dBm + 10log (16.27) = 23.11 dBm < 24 dBm.

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	12.00	10.98	28.379	14.53	24	Pass
40	5200	12.13	11.10	29.211	14.66	24	Pass
48	5240	12.30	10.91	29.314	14.67	24	Pass
52	5260	14.10	12.87	45.068	16.54	24	Pass
60	5300	14.07	12.89	44.981	16.53	24	Pass
64	5320	14.23	13.13	47.044	16.73	24	Pass
100	5500	18.14	17.29	118.743	20.75	24	Pass
116	5580	18.28	17.11	118.702	20.74	24	Pass
140	5700	20.05	18.71	175.46	22.44	24	Pass
144	5720 (U-NII-2C)	18.80	17.31	105.458	20.23	23.35	Pass
144	5720 (U-NII-3)	11.24	10.07	24.024	13.81	30	Pass
149	5745	23.17	21.81	359.196	25.55	30	Pass
157	5785	23.20	21.95	365.605	25.63	30	Pass
165	5825	23.25	22.27	380.004	25.80	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (25.73) = 25.10 dBm > 24 dBm.
2. 11 dBm + 10log (25.48) = 25.06 dBm > 24 dBm.
3. 11 dBm + 10log (24.95) = 24.97 dBm > 24 dBm.
4. 11 dBm + 10log (24.19) = 24.83 dBm > 24 dBm.
5. 11 dBm + 10log (23.82) = 24.76 dBm > 24 dBm.
6. 11 dBm + 10log (26.32) = 25.20 dBm > 24 dBm.
7. 11 dBm + 10log (18.10) = 23.57 dBm < 24 dBm.

Chain 1

1. 11 dBm + 10log (24.68) = 24.92 dBm > 24 dBm.
2. 11 dBm + 10log (25.20) = 25.01 dBm > 24 dBm.
3. 11 dBm + 10log (24.40) = 24.87 dBm > 24 dBm.
4. 11 dBm + 10log (24.75) = 24.93 dBm > 24 dBm.
5. 11 dBm + 10log (24.15) = 24.82 dBm > 24 dBm.
6. 11 dBm + 10log (24.51) = 24.89 dBm > 24 dBm.
7. 11 dBm + 10log (17.19) = 23.35 dBm < 24 dBm.

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.15	12.76	44.882	16.52	24	Pass
46	5230	14.21	12.77	45.287	16.56	24	Pass
54	5270	14.18	13.03	46.273	16.65	24	Pass
62	5310	14.22	13.21	47.365	16.75	24	Pass
102	5510	18.88	18.16	142.732	21.55	24	Pass
110	5550	21.30	20.36	243.539	23.87	24	Pass
134	5670	21.32	20.31	242.918	23.85	24	Pass
142	5710 (U-NII-2C)	20.29	19.10	200.802	23.03	24	Pass
142	5710 (U-NII-3)	9.89	8.44	17.854	12.52	30	Pass
151	5755	23.56	22.23	394.096	25.96	30	Pass
159	5795	23.62	22.29	399.578	26.02	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (54.36) = 28.35 dBm > 24 dBm.
2. 11 dBm + 10log (42.67) = 27.30 dBm > 24 dBm.
3. 11 dBm + 10log (42.13) = 27.24 dBm > 24 dBm.
4. 11 dBm + 10log (49.18) = 27.91 dBm > 24 dBm.
5. 11 dBm + 10log (58.17) = 28.64 dBm > 24 dBm.
6. 11 dBm + 10log (44.42) = 27.47 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (42.40) = 27.27 dBm > 24 dBm.
2. 11 dBm + 10log (42.22) = 27.25 dBm > 24 dBm.
3. 11 dBm + 10log (42.08) = 27.24 dBm > 24 dBm.
4. 11 dBm + 10log (42.52) = 27.28 dBm > 24 dBm.
5. 11 dBm + 10log (42.74) = 27.30 dBm > 24 dBm.
6. 11 dBm + 10log (36.18) = 26.58 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.38	12.94	47.095	16.73	24	Pass
58	5290	14.35	12.89	46.681	16.69	24	Pass
106	5530	18.05	16.89	112.692	20.52	24	Pass
138	5690 (U-NII-2C)	20.34	19.36	213.799	23.30	24	Pass
138	5690 (U-NII-3)	6.43	5.32	8.576	9.33	30	Pass
155	5775	22.04	20.55	273.457	24.37	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (84.07) = 30.24 dBm > 24 dBm.
2. 11 dBm + 10log (84.60) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (79.05) = 29.97 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (84.17) = 30.25 dBm > 24 dBm.
2. 11 dBm + 10log (84.52) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (77.16) = 29.87 dBm > 24 dBm.

Beamforming Mode

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	10.77	9.75	21.379	13.30	20.88	Pass
40	5200	10.76	9.73	21.308	13.29	20.88	Pass
48	5240	10.92	9.53	21.334	13.29	20.88	Pass
52	5260	14.10	12.87	45.068	16.54	20.88	Pass
60	5300	14.07	12.89	44.981	16.53	20.88	Pass
64	5320	14.23	13.13	47.044	16.73	20.88	Pass
100	5500	17.68	16.83	106.809	20.29	20.88	Pass
116	5580	17.80	16.63	106.282	20.26	20.88	Pass
140	5700	17.90	16.56	106.949	20.29	20.88	Pass
144	5720 (U-NII-2C)	16.72	15.41	83.684	19.23	20.23	Pass
144	5720 (U-NII-3)	10.20	8.80	18.486	12.67	26.88	Pass
149	5745	23.17	21.81	359.196	25.55	26.88	Pass
157	5785	23.20	21.95	365.605	25.63	26.88	Pass
165	5825	23.25	22.27	380.004	25.80	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5700MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 23.35-(9.12-6) = 20.23dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

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

Chain 0

1. 11 dBm + 10log (25.73) = 25.10 dBm > 24 dBm.
2. 11 dBm + 10log (25.48) = 25.06 dBm > 24 dBm.
3. 11 dBm + 10log (24.95) = 24.97 dBm > 24 dBm.
4. 11 dBm + 10log (24.19) = 24.83 dBm > 24 dBm.
5. 11 dBm + 10log (23.82) = 24.76 dBm > 24 dBm.
6. 11 dBm + 10log (26.32) = 25.20 dBm > 24 dBm.
7. 11 dBm + 10log (18.10) = 23.57 dBm < 24 dBm.

Chain 1

1. 11 dBm + 10log (24.68) = 24.92 dBm > 24 dBm.
2. 11 dBm + 10log (25.20) = 25.01 dBm > 24 dBm.
3. 11 dBm + 10log (24.40) = 24.87 dBm > 24 dBm.
4. 11 dBm + 10log (24.75) = 24.93 dBm > 24 dBm.
5. 11 dBm + 10log (24.15) = 24.82 dBm > 24 dBm.
6. 11 dBm + 10log (24.51) = 24.89 dBm > 24 dBm.
7. 11 dBm + 10log (17.19) = 23.35 dBm < 24 dBm.

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.40	10.01	23.827	13.77	20.88	Pass
46	5230	11.42	9.98	23.822	13.77	20.88	Pass
54	5270	14.18	13.03	46.273	16.65	20.88	Pass
62	5310	14.22	13.21	47.365	16.75	20.88	Pass
102	5510	18.10	17.38	119.267	20.77	20.88	Pass
110	5550	18.29	17.35	121.778	20.86	20.88	Pass
134	5670	18.32	17.31	121.747	20.85	20.88	Pass
142	5710 (U-NII-2C)	17.99	16.89	119.311	20.77	20.88	Pass
142	5710 (U-NII-3)	7.15	6.03	9.813	9.92	26.88	Pass
151	5755	23.56	22.23	394.096	25.96	26.88	Pass
159	5795	23.62	22.29	399.578	26.02	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

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

Chain 0

1. 11 dBm + 10log (54.36) = 28.35 dBm > 24 dBm.
2. 11 dBm + 10log (42.67) = 27.30 dBm > 24 dBm.
3. 11 dBm + 10log (42.13) = 27.24 dBm > 24 dBm.
4. 11 dBm + 10log (49.18) = 27.91 dBm > 24 dBm.
5. 11 dBm + 10log (58.17) = 28.64 dBm > 24 dBm.
6. 11 dBm + 10log (44.42) = 27.47 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (42.40) = 27.27 dBm > 24 dBm.
2. 11 dBm + 10log (42.22) = 27.25 dBm > 24 dBm.
3. 11 dBm + 10log (42.08) = 27.24 dBm > 24 dBm.
4. 11 dBm + 10log (42.52) = 27.28 dBm > 24 dBm.
5. 11 dBm + 10log (42.74) = 27.30 dBm > 24 dBm.
6. 11 dBm + 10log (36.18) = 26.58 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.48	10.04	24.153	13.83	20.88	Pass
58	5290	14.35	12.89	46.681	16.69	20.88	Pass
106	5530	18.05	16.89	112.692	20.52	20.88	Pass
138	5690 (U-NII-2C)	17.83	16.83	119.707	20.78	20.88	Pass
138	5690 (U-NII-3)	3.10	2.13	4.041	6.06	26.88	Pass
155	5775	22.04	20.55	273.457	24.37	26.88	Pass

Note:

5180~5240MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5260~5320MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5500~5720MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 24-(9.12-6) = 20.88dBm.

5745~5825MHz: Directional Gain = 6.11dBi + 10log(2)=9.12dBi > 6dBi, so the limit shall be reduced to 30-(9.12-6) = 26.88dBm.

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

Chain 0

1. 11 dBm + 10log (84.07) = 30.24 dBm > 24 dBm.
2. 11 dBm + 10log (84.60) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (79.05) = 29.97 dBm > 24 dBm.

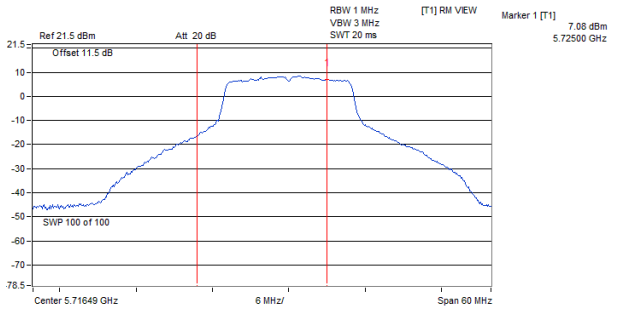
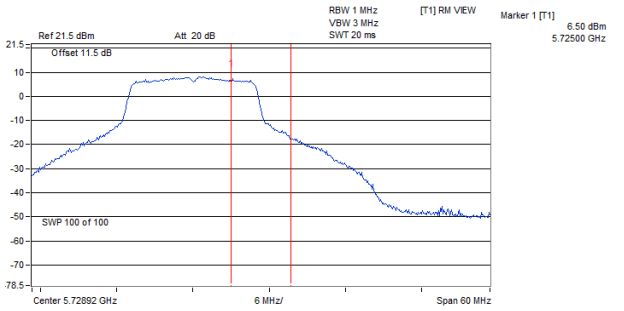
Chain 1

1. 11 dBm + 10log (84.17) = 30.25 dBm > 24 dBm.
2. 11 dBm + 10log (84.52) = 30.27 dBm > 24 dBm.
3. 11 dBm + 10log (77.16) = 29.87 dBm > 24 dBm.

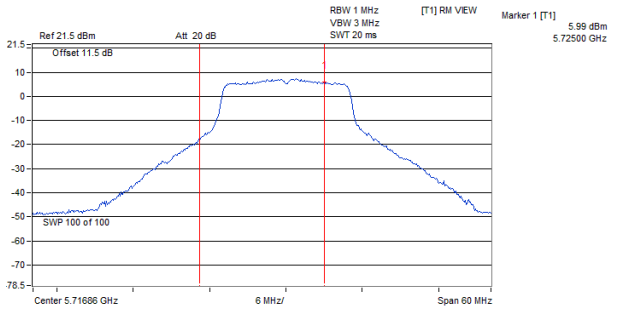
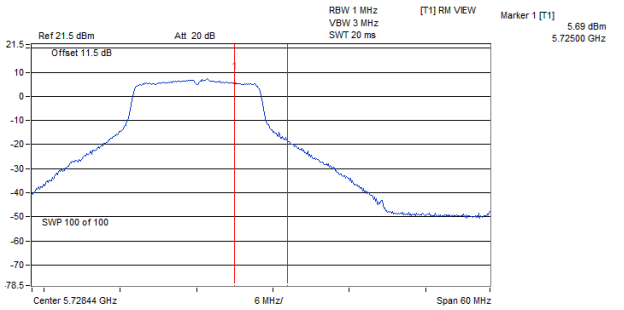
Straddle channel power plots:

802.11a

Chain 0

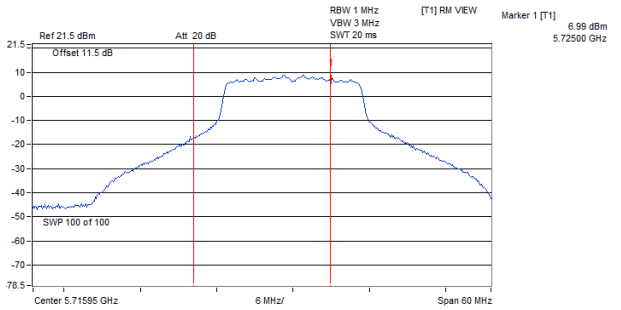
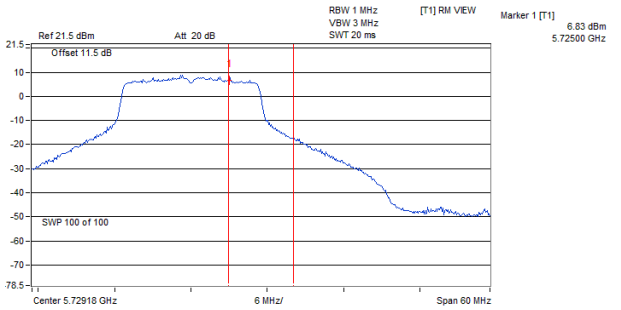
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 17.01 MHz Power 18.75 dBm	TX Channel Bandwidth 7.84 MHz Power 10.84 dBm

Chain 1

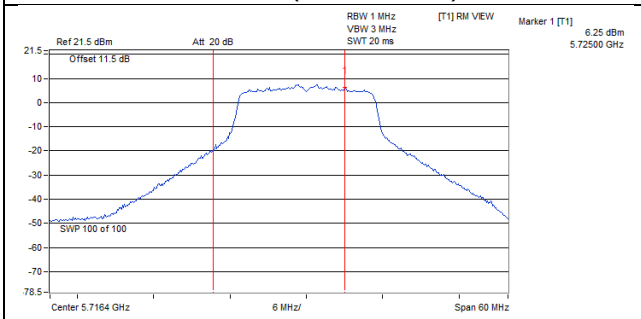
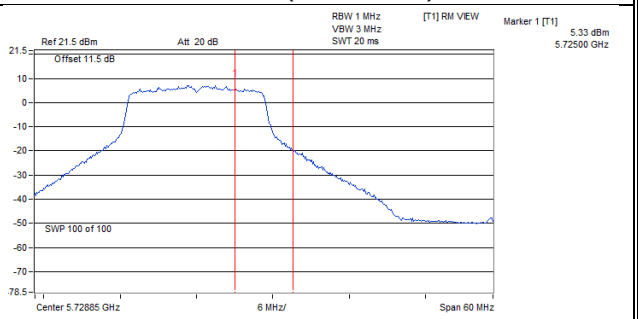
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 16.27 MHz Power 17.45 dBm	TX Channel Bandwidth 6.88 MHz Power 9.61 dBm

802.11ac (VHT20)

Chain 0

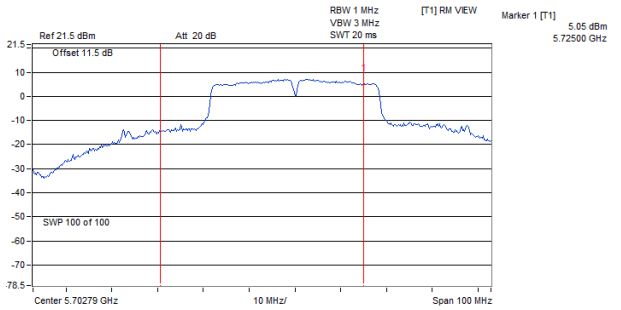
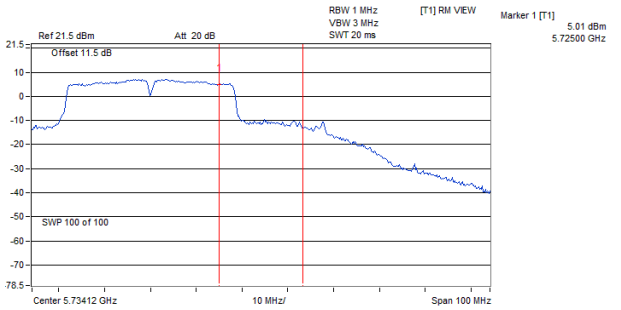
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 18.1 MHz Power 18.8 dBm	TX Channel Bandwidth 8.36 MHz Power 11.24 dBm

Chain 1

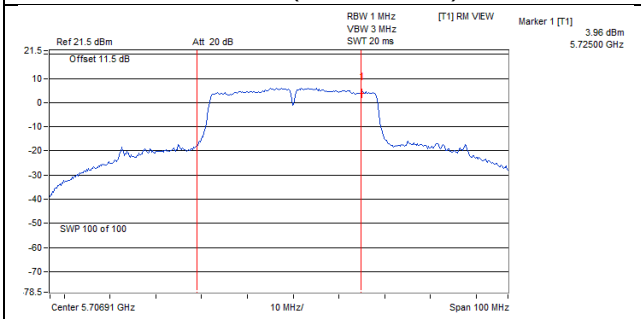
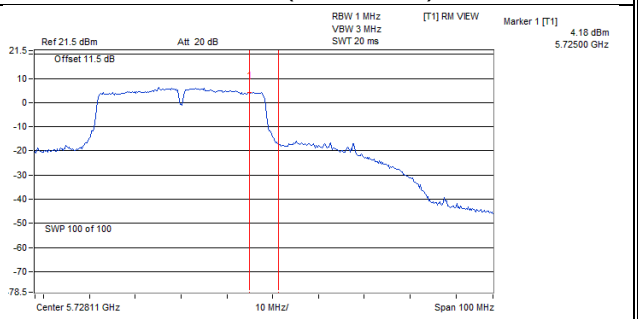
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 17.19 MHz Power 17.31 dBm	TX Channel Bandwidth 7.7 MHz Power 10.07 dBm

802.11ac (VHT40)

Chain 0

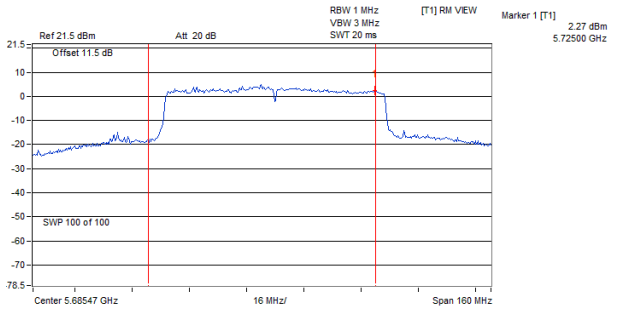
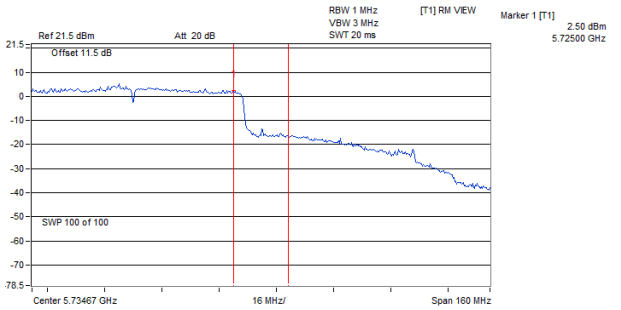
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 44.42 MHz Power 20.29 dBm	TX Channel Bandwidth 18.25 MHz Power 9.89 dBm

Chain 1

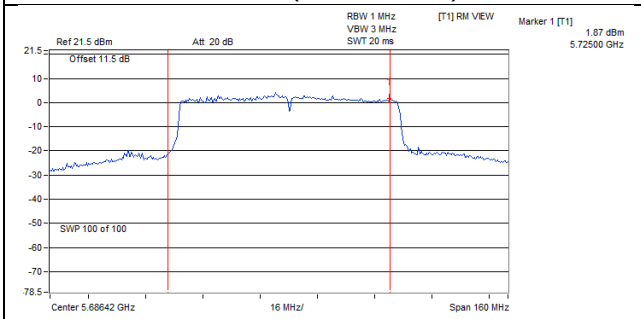
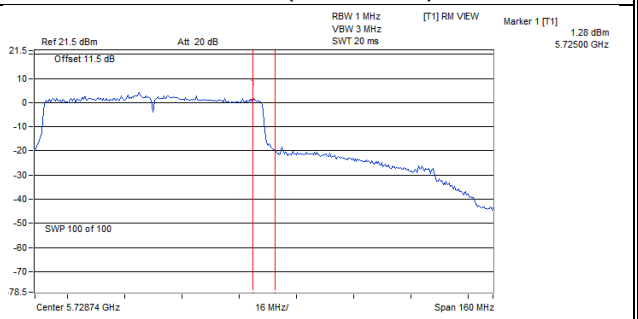
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.18 MHz Power 19.1 dBm	TX Channel Bandwidth 6.22 MHz Power 8.44 dBm

802.11ac (VHT80)

Chain 0

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 79.05 MHz Power 20.34 dBm	TX Channel Bandwidth 19.35 MHz Power 6.43 dBm

Chain 1

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 77.16 MHz Power 19.36 dBm	TX Channel Bandwidth 7.49 MHz Power 5.32 dBm

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	24.32	23.96
40	5200	25.12	23.07
48	5240	24.72	23.34
52	5260	25.47	22.11
60	5300	24.80	23.71
64	5320	24.13	23.14
100	5500	23.34	22.61
116	5580	23.66	22.77
140	5700	23.73	23.42
144	5720 (U-NII-2C)	17.01	16.27
144	5720 (U-NII-3)	7.84	6.88

802.11 ac (VHT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	26.25	24.86
40	5200	26.46	25.60
48	5240	25.25	24.60
52	5260	25.73	24.68
60	5300	25.48	25.20
64	5320	24.95	24.40
100	5500	24.19	24.75
116	5580	23.82	24.15
140	5700	26.32	24.51
144	5720 (U-NII-2C)	18.10	17.19
144	5720 (U-NII-3)	8.36	7.70

802.11 ac (VHT40)

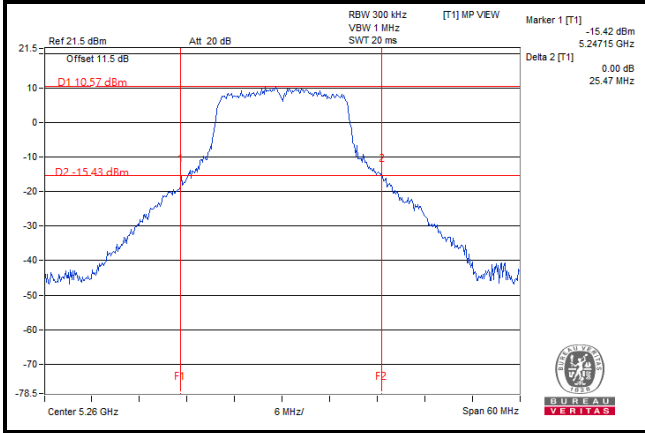
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	42.20	42.35
46	5230	67.32	42.47
54	5270	54.36	42.40
62	5310	42.67	42.22
102	5510	42.13	42.08
110	5550	49.18	42.52
134	5670	58.17	42.74
142	5710 (U-NII-2C)	44.42	36.18
142	5710 (U-NII-3)	18.25	6.22

802.11ac (VHT80)

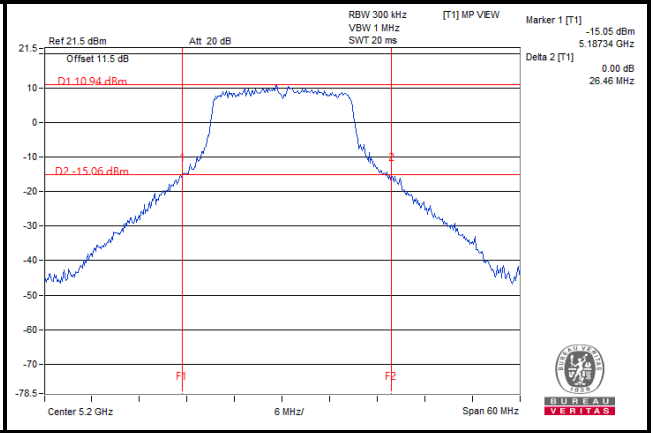
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	83.51	84.02
58	5290	84.07	84.17
106	5530	84.60	84.52
138	5690 (U-NII-2C)	79.05	77.16
138	5690 (U-NII-3)	19.35	7.49

Spectrum Plot of Worst Value

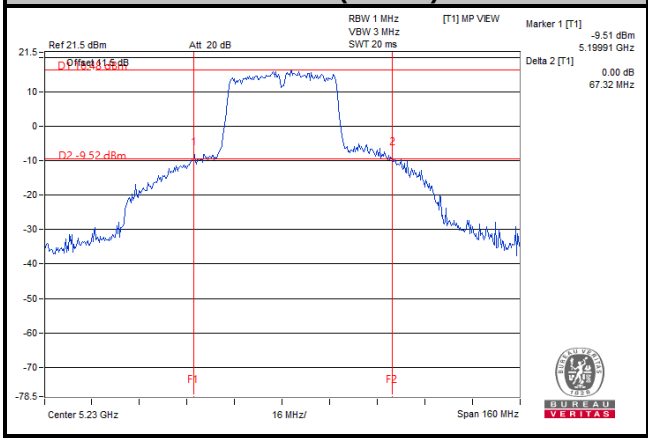
802.11a



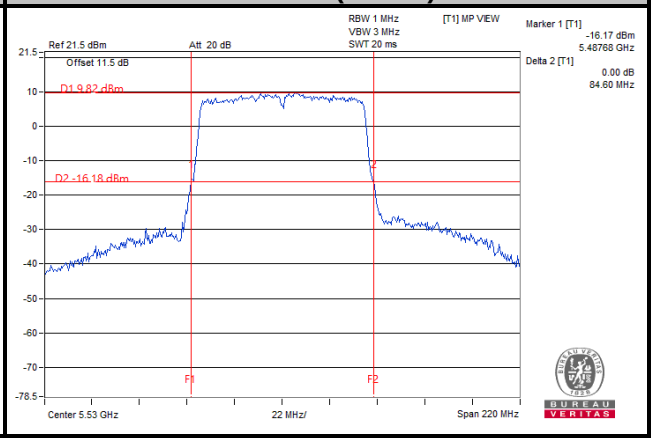
802.11 ac (VHT20)



802.11 ac (VHT40)



802.11ac (VHT80)



EUT HIGHEST AND LOWEST CONDUCTED POWER

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	46.767	16.70
5470~5725	161.016	22.07

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	47.044	16.73
5470~5725	175.46	22.44

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	47.365	16.75
5470~5725	243.539	23.87

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	46.681	16.69
5470~5725	213.799	23.30

Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	47.044	16.73
5470~5725	106.949	20.29

802.11ac (VHT40)

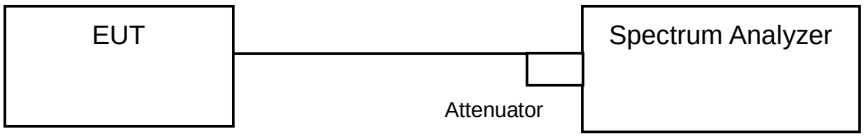
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	47.365	16.75
5470~5725	121.778	20.86

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	46.681	16.69
5470~5725	119.707	20.78

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. 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.

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.80
40	5200	16.80	16.68
48	5240	16.80	16.68
52	5260	16.80	16.80
60	5300	16.80	16.68
64	5320	16.92	16.80
100	5500	16.80	16.56
116	5580	16.80	16.68
140	5700	16.80	16.68
144	5720 (U-NII-2C)	13.40	13.40
144	5720 (U-NII-3)	3.28	3.28
149	5745	22.92	17.52
157	5785	24.36	17.88
165	5825	27.84	20.40

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.00	17.88
40	5200	18.00	17.88
48	5240	18.00	17.88
52	5260	18.00	17.88
60	5300	18.00	17.88
64	5320	17.88	17.88
100	5500	18.00	17.88
116	5580	17.88	17.76
140	5700	18.00	17.88
144	5720 (U-NII-2C)	14.00	14.00
144	5720 (U-NII-3)	4.00	3.88
149	5745	23.52	18.36
157	5785	24.36	18.84
165	5825	27.96	20.28

802.11ac (VHT40)

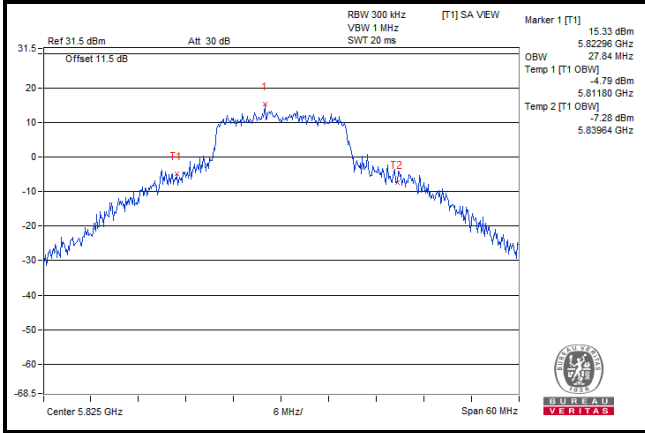
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.60	36.48
46	5230	36.84	36.72
54	5270	36.96	36.60
62	5310	36.60	36.48
102	5510	36.60	36.48
110	5550	36.72	36.72
134	5670	36.96	36.72
142	5710 (U-NII-2C)	33.36	33.36
142	5710 (U-NII-3)	3.36	3.36
151	5755	39.48	36.96
159	5795	40.68	37.32

802.11ac (VHT80)

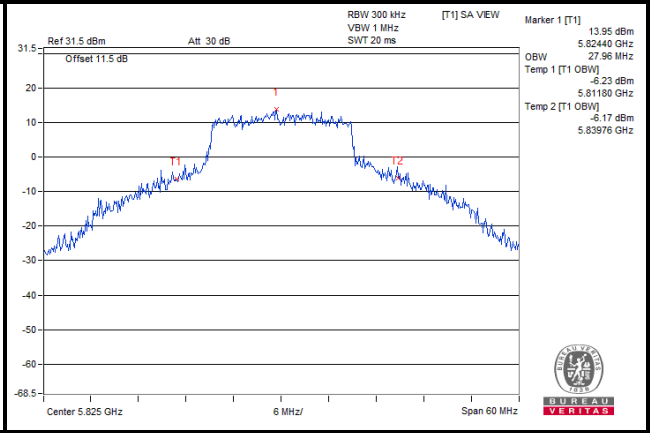
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
58	5290	76.08	75.84
106	5530	75.60	75.84
138	5690 (U-NII-2C)	73.16	73.16
138	5690 (U-NII-3)	2.92	2.92
155	5775	76.32	76.08

Spectrum Plot of Worst Value

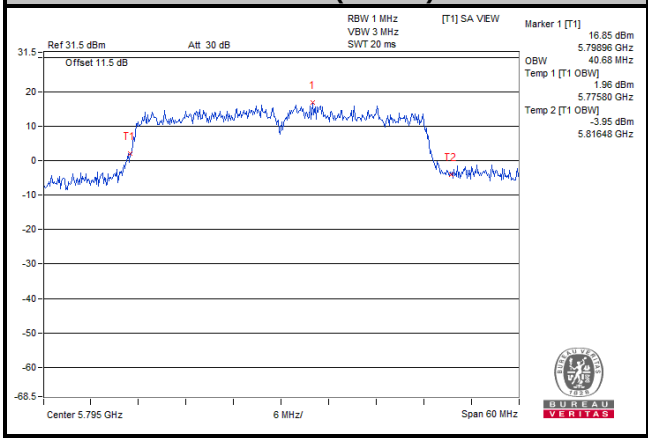
802.11a



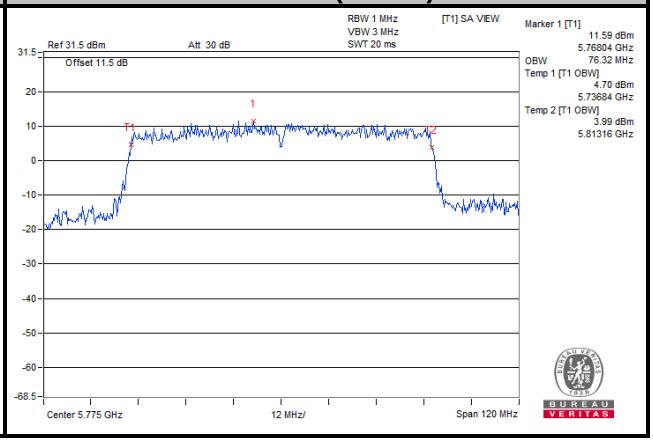
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

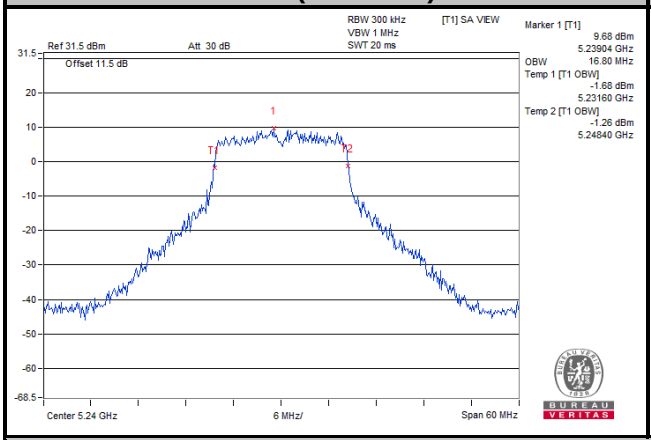


Chain 0

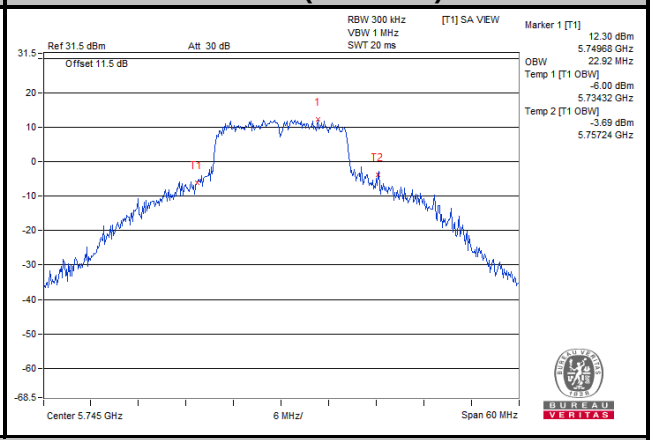
Spectrum Plot for Nearby DFS Band

802.11a

Ch 48 (5240 MHz)

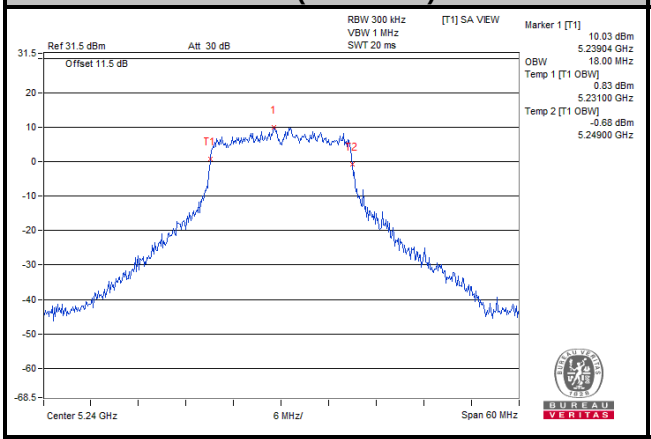


Ch 149 (5745 MHz)

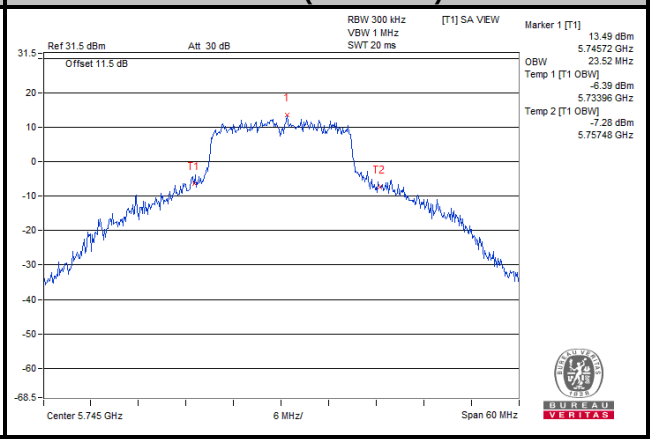


802.11ac (VHT20)

Ch 48 (5240 MHz)

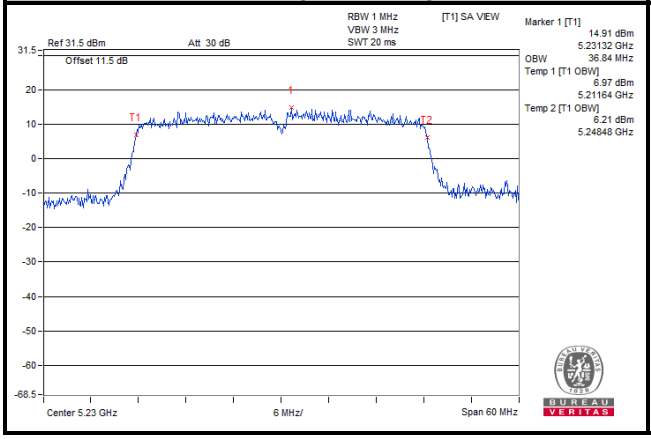


Ch 149 (5745 MHz)

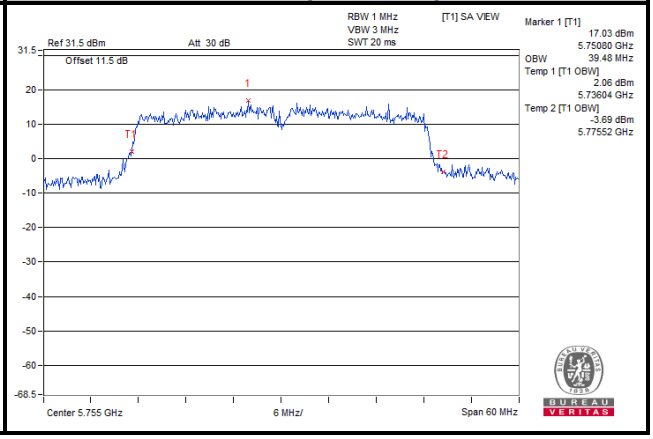


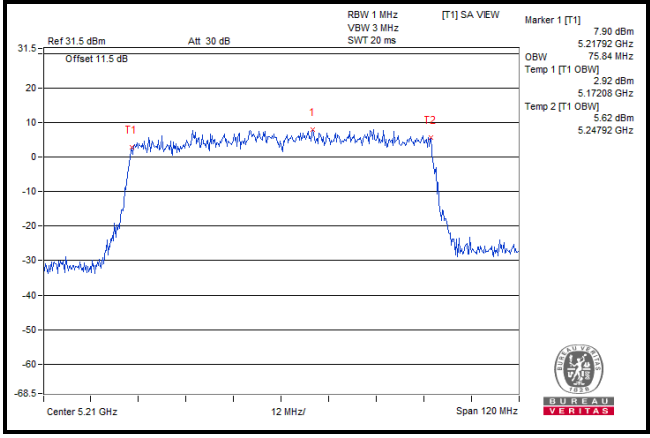
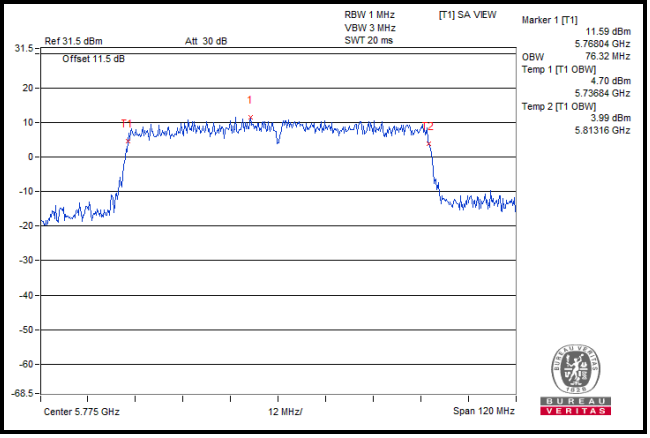
802.11ac (VHT40)

Ch 46 (5230 MHz)



Ch 151 (5755 MHz)



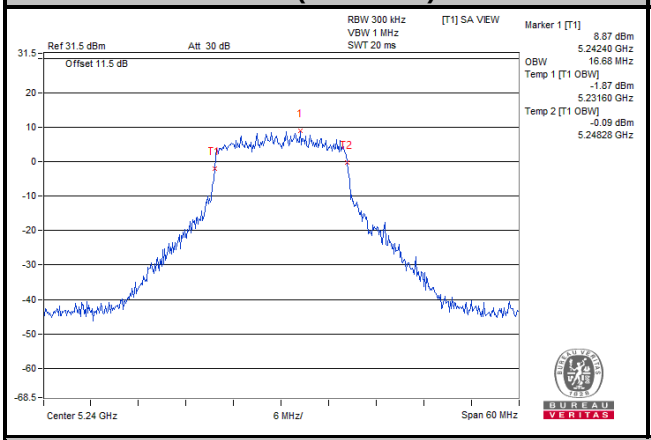
802.11ac (VHT80)	
Ch 42 (5210 MHz)	Ch 155 (5775 MHz)
	

Chain 1

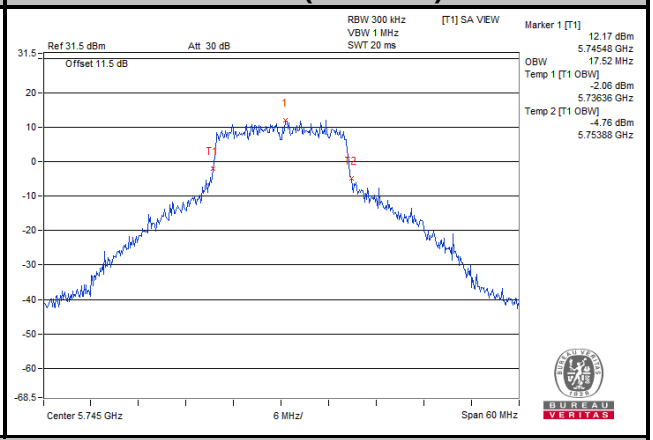
Spectrum Plot for Nearby DFS Band

802.11a

Ch 48 (5240 MHz)

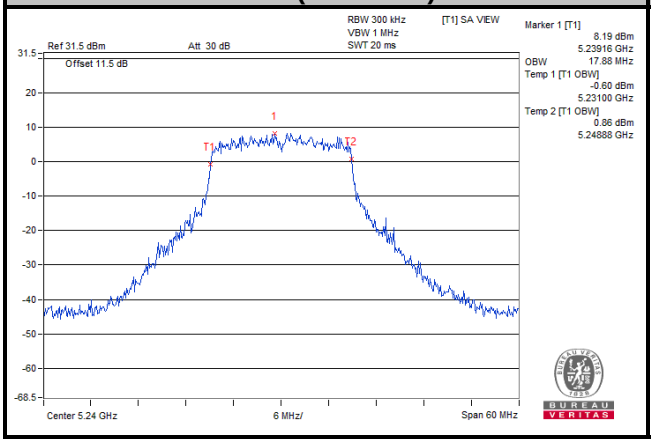


Ch 149 (5745 MHz)

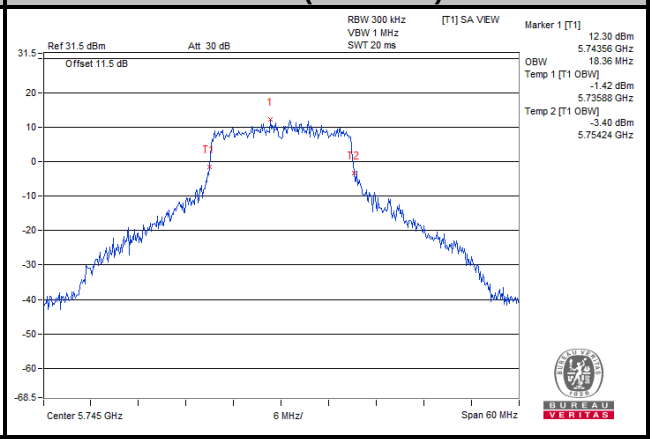


802.11ac (VHT20)

Ch 48 (5240 MHz)

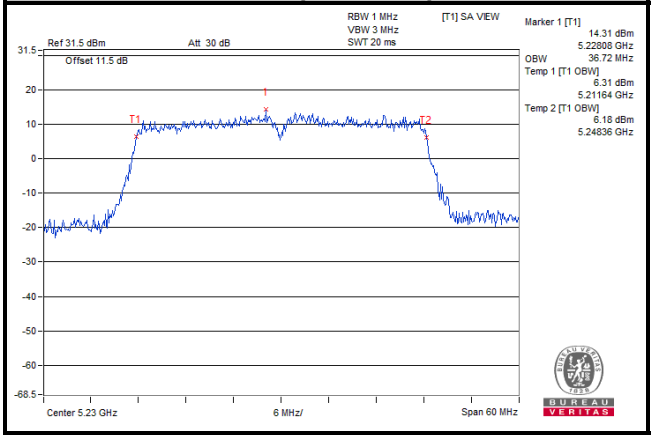


Ch 149 (5745 MHz)

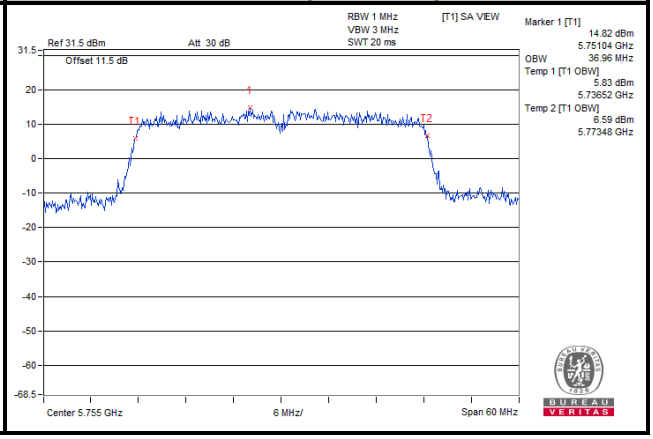


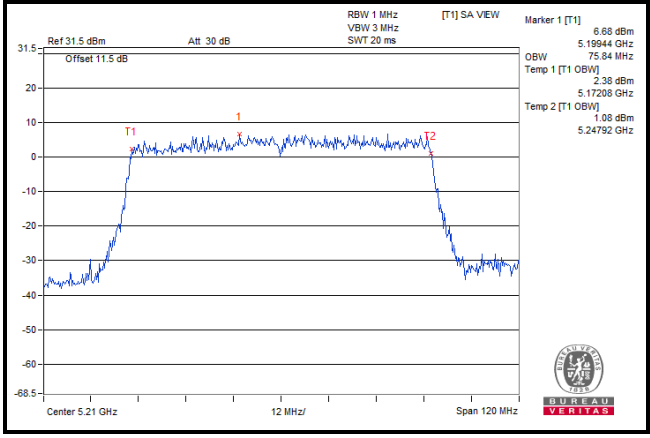
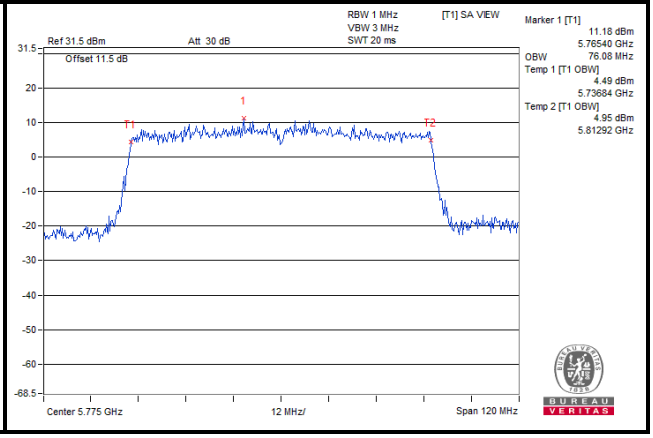
802.11ac (VHT40)

Ch 46 (5230 MHz)



Ch 151 (5755 MHz)



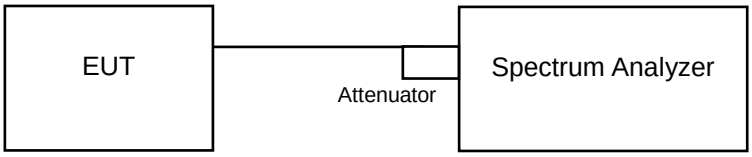
802.11ac (VHT80)	
Ch 42 (5210 MHz)	Ch 155 (5775 MHz)
	

4.5 Peak Power Spectral Density Measurement

4.5.1 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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Using method SA-2 Duty cycle <98%

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:** with duty cycle & Duty cycle <98 %

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

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

802.11a

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	4.86	3.79	0.13	7.50	7.88	Pass
40	5200	4.65	4.16	0.13	7.55	7.88	Pass
48	5240	4.58	4.34	0.13	7.60	7.88	Pass
52	5260	5.07	4.06	0.13	7.73	7.88	Pass
60	5300	5.27	4.10	0.13	7.86	7.88	Pass
64	5320	5.17	4.17	0.13	7.84	7.88	Pass
100	5500	5.03	4.12	0.13	7.74	7.88	Pass
116	5580	5.06	4.28	0.13	7.82	7.88	Pass
140	5700	4.92	3.82	0.13	7.54	7.88	Pass
144	5720 (U-NII-2C)	5.09	3.83	0.13	7.64	7.88	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	4.77	3.78	0.10	7.42	7.88	Pass
40	5200	5.09	4.07	0.10	7.72	7.88	Pass
48	5240	5.01	4.18	0.10	7.73	7.88	Pass
52	5260	5.35	3.97	0.10	7.83	7.88	Pass
60	5300	5.31	4.02	0.10	7.82	7.88	Pass
64	5320	5.24	4.14	0.10	7.84	7.88	Pass
100	5500	4.84	4.05	0.10	7.58	7.88	Pass
116	5580	5.12	4.36	0.10	7.87	7.88	Pass
140	5700	4.83	3.81	0.10	7.46	7.88	Pass
144	5720 (U-NII-2C)	5.07	3.88	0.10	7.63	7.88	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	1.69	0.68	0.28	4.51	7.88	Pass
46	5230	4.67	3.41	0.28	7.38	7.88	Pass
54	5270	4.28	3.30	0.28	7.11	7.88	Pass
62	5310	0.44	-0.49	0.28	3.29	7.88	Pass
102	5510	2.70	1.73	0.28	5.53	7.88	Pass
110	5550	4.35	3.74	0.28	7.35	7.88	Pass
134	5670	4.21	2.96	0.28	6.92	7.88	Pass
142	5710 (U-NII-2C)	3.76	2.53	0.28	6.48	7.88	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

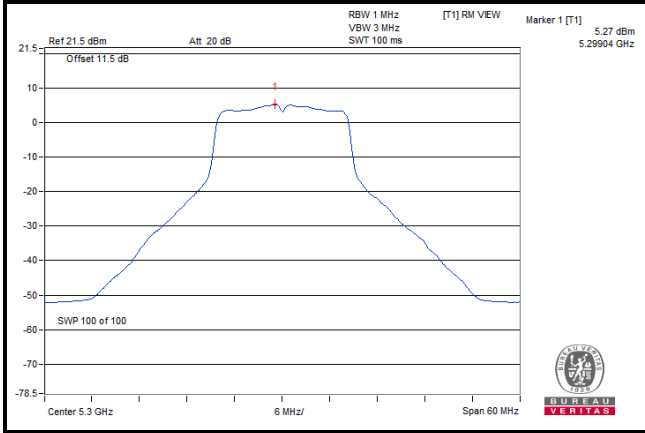
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-1.88	-3.08	0.41	0.98	7.88	Pass
58	5290	-4.53	-5.67	0.41	-1.64	7.88	Pass
106	5530	-1.37	-2.09	0.41	1.71	7.88	Pass
138	5690 (U-NII-2C)	0.25	-0.99	0.41	3.10	7.88	Pass

Note:

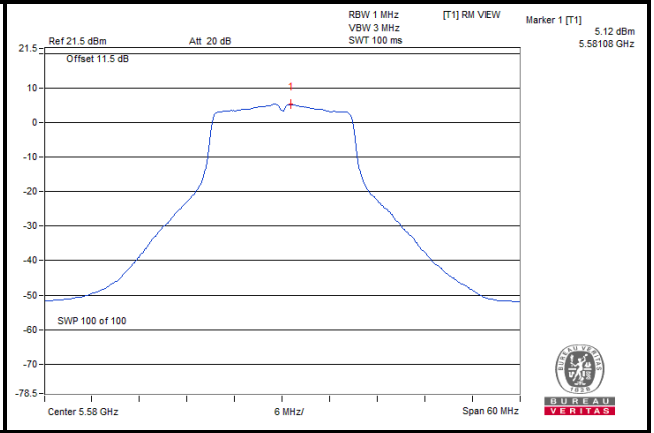
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1 Band:**
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
   For U-NII-2A, U-NII-2C Band:
   Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 11-(9.12-6) = 7.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

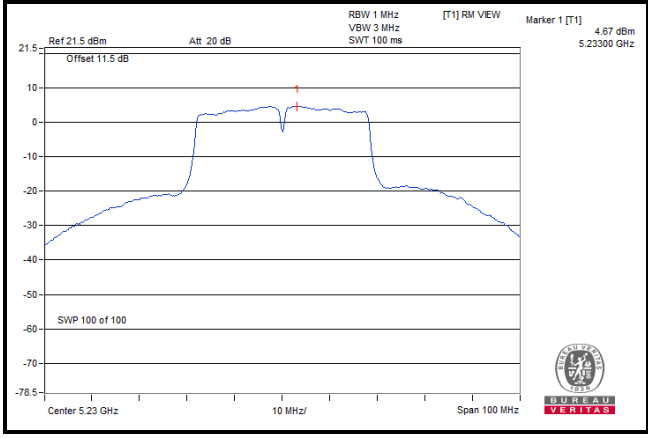
802.11a



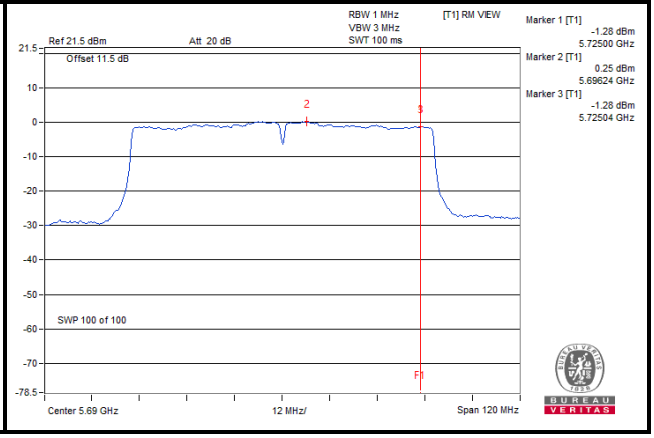
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



For U-NII-3 Band

802.11a

TX Chain	Channel	Frequency (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	144	5720 (U-NII-3)	-4.5	-2.28	3.01	0.13	0.86	26.88	Pass
	149	5745	1.38	3.6	3.01	0.13	6.74	26.88	Pass
	157	5785	1.53	3.75	3.01	0.13	6.89	26.88	Pass
	165	5825	1.73	3.95	3.01	0.13	7.09	26.88	Pass
1	144	5720 (U-NII-3)	-5.42	-3.2	3.01	0.13	-0.06	26.88	Pass
	149	5745	0.06	2.28	3.01	0.13	5.42	26.88	Pass
	157	5785	0.21	2.43	3.01	0.13	5.57	26.88	Pass
	165	5825	0.88	3.1	3.01	0.13	6.24	26.88	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 30-(9.12-6) = 26.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	144	5720 (U-NII-3)	-4.34	-2.12	3.01	0.1	0.99	26.88	Pass
	149	5745	0.91	3.13	3.01	0.1	6.24	26.88	Pass
	157	5785	0.96	3.18	3.01	0.1	6.29	26.88	Pass
	165	5825	1.28	3.5	3.01	0.1	6.61	26.88	Pass
1	144	5720 (U-NII-3)	-5.54	-3.32	3.01	0.1	-0.21	26.88	Pass
	149	5745	-0.35	1.87	3.01	0.1	4.98	26.88	Pass
	157	5785	0.05	2.27	3.01	0.1	5.38	26.88	Pass
	165	5825	0.45	2.67	3.01	0.1	5.78	26.88	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 30-(9.12-6) = 26.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	142	5710 (U-NII-3)	-5.93	-3.71	3.01	0.28	-0.42	26.88	Pass
	151	5755	-2.3	-0.08	3.01	0.28	3.21	26.88	Pass
	159	5795	-1.87	0.35	3.01	0.28	3.64	26.88	Pass
1	142	5710 (U-NII-3)	-7.18	-4.96	3.01	0.28	-1.67	26.88	Pass
	151	5755	-3.45	-1.23	3.01	0.28	2.06	26.88	Pass
	159	5795	-3.08	-0.86	3.01	0.28	2.43	26.88	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 30-(9.12-6) = 26.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

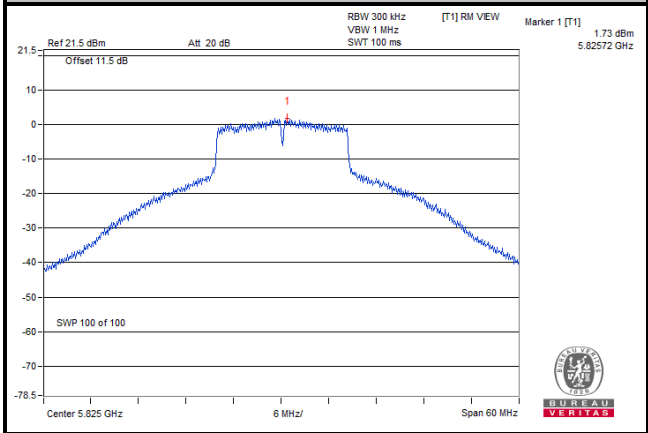
TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	138	5690 (U-NII-3)	-9.86	-7.64	3.01	0.41	-4.22	26.88	Pass
	155	5775	-6.84	-4.62	3.01	0.41	-1.2	26.88	Pass
1	138	5690 (U-NII-3)	-10.89	-8.67	3.01	0.41	-5.25	26.88	Pass
	155	5775	-8.15	-5.93	3.01	0.41	-2.51	26.88	Pass

Note:

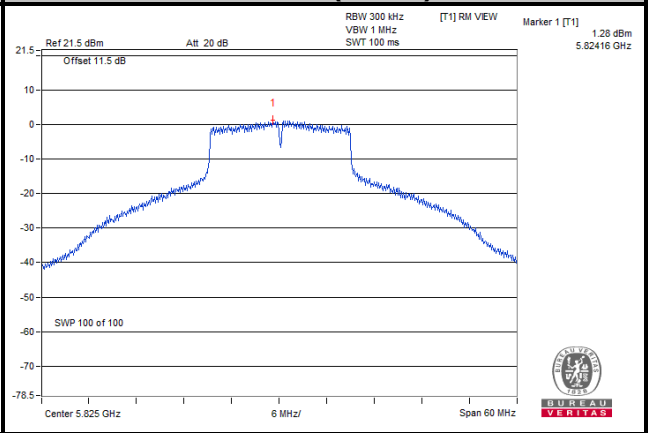
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.11 dBi + 10log(2) = 9.12 dBi > 6 dBi , so the power density limit shall be reduced to 30-(9.12-6) = 26.88 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

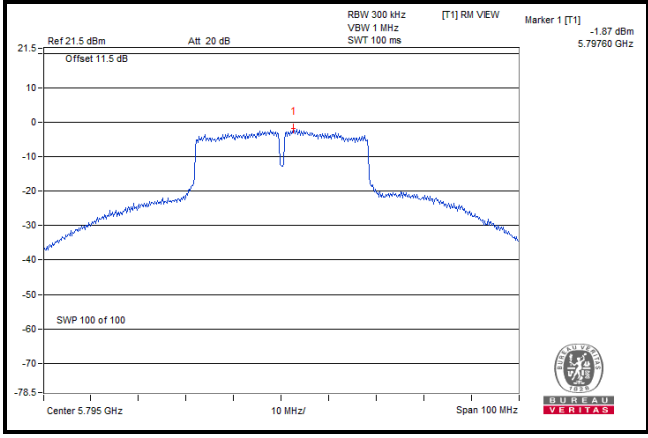
802.11a



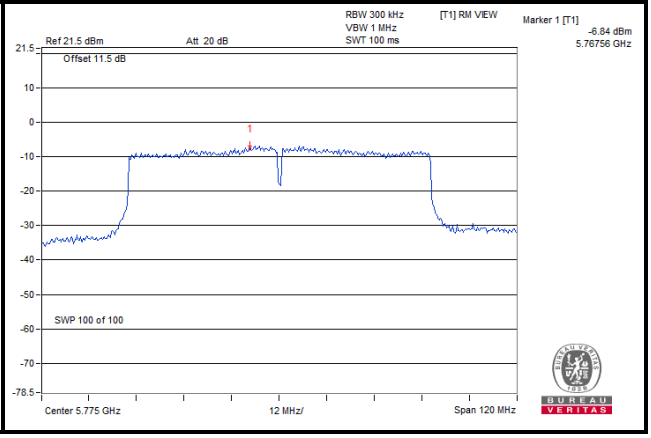
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

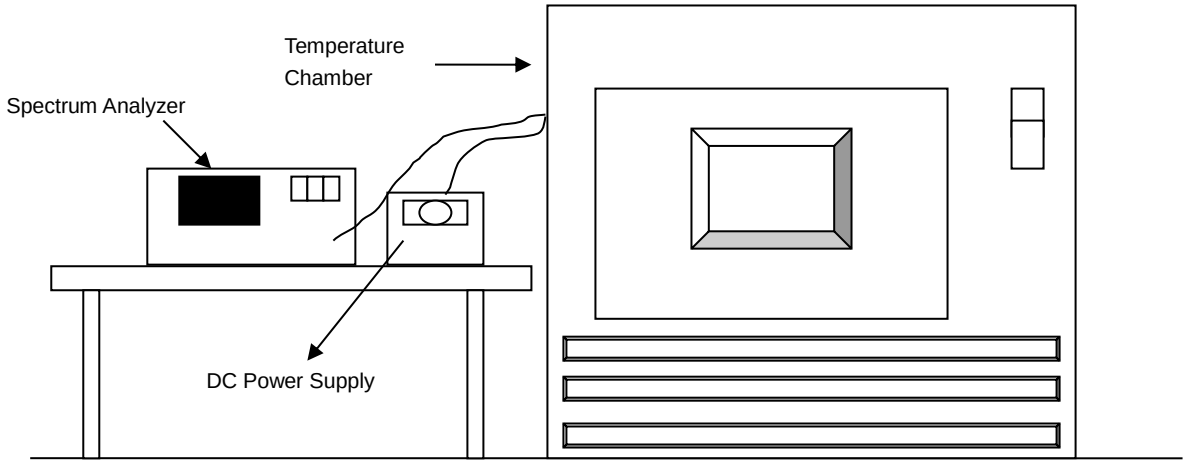


4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
85	120	5180.0147	PASS	5180.0118	PASS	5180.014	PASS	5180.0143	PASS
80	120	5179.9947	PASS	5179.9972	PASS	5179.9972	PASS	5179.9946	PASS
70	120	5180.0039	PASS	5180.0041	PASS	5180.0072	PASS	5180.0035	PASS
60	120	5179.9983	PASS	5180.0007	PASS	5179.9994	PASS	5179.9983	PASS
50	120	5179.995	PASS	5179.9919	PASS	5179.9925	PASS	5179.9941	PASS
40	120	5180.0044	PASS	5180.0057	PASS	5180.0064	PASS	5180.006	PASS
30	120	5180.0233	PASS	5180.0276	PASS	5180.0256	PASS	5180.0255	PASS
20	120	5180.0042	PASS	5180.0047	PASS	5180.0022	PASS	5180.0046	PASS
10	120	5179.9847	PASS	5179.9846	PASS	5179.9864	PASS	5179.985	PASS
0	120	5179.9741	PASS	5179.9777	PASS	5179.9759	PASS	5179.9742	PASS
-10	120	5179.9888	PASS	5179.9906	PASS	5179.9897	PASS	5179.9906	PASS
-20	120	5180.0026	PASS	5180.0046	PASS	5180.0053	PASS	5180.0054	PASS
-25	120	5179.9759	PASS	5179.9761	PASS	5179.9726	PASS	5179.9744	PASS

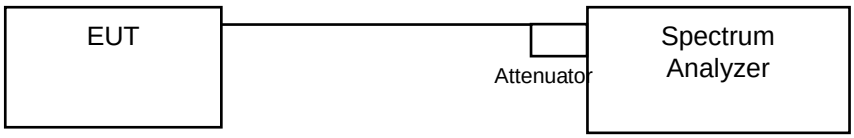
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0038	PASS	5180.0041	PASS	5180.0013	PASS	5180.0041	PASS
	120	5180.0042	PASS	5180.0047	PASS	5180.0022	PASS	5180.0046	PASS
	102	5180.0052	PASS	5180.0045	PASS	5180.0018	PASS	5180.0039	PASS

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (U-NII-3)	2.89	3.20	0.5	Pass
149	5745	15.74	16.31	0.5	Pass
157	5785	15.75	16.07	0.5	Pass
165	5825	16.08	15.91	0.5	Pass

802.11ac (VHT20)

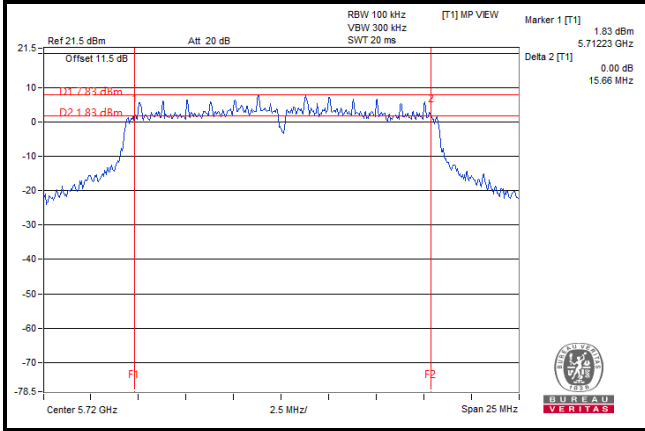
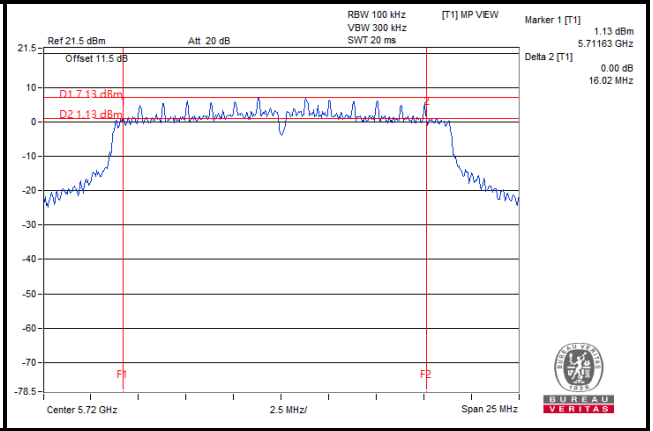
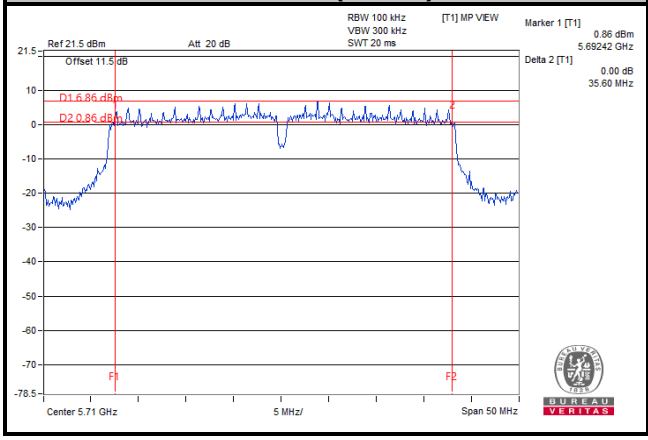
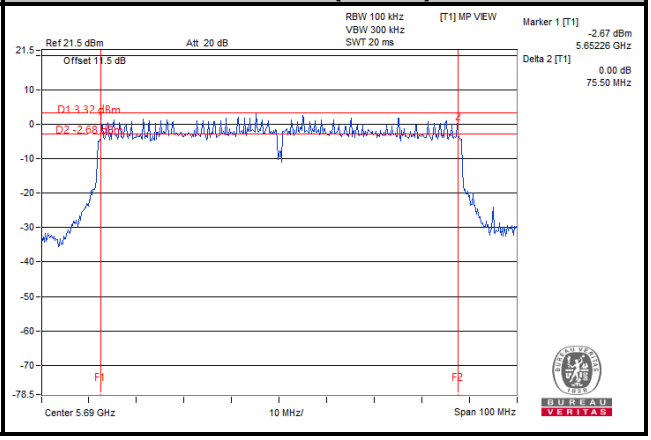
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (U-NII-3)	3.20	2.65	0.5	Pass
149	5745	16.58	16.60	0.5	Pass
157	5785	17.58	16.56	0.5	Pass
165	5825	17.32	17.21	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (U-NII-3)	3.02	3.22	0.5	Pass
151	5755	35.31	35.27	0.5	Pass
159	5795	35.29	35.58	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (U-NII-3)	2.79	2.76	0.5	Pass
155	5775	75.63	75.69	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	**802.11ac (VHT20)**
	
802.11ac (VHT40)	**802.11ac (VHT80)**
	

Note:

For Ch144 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz

For Ch142 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz

For Ch138 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz

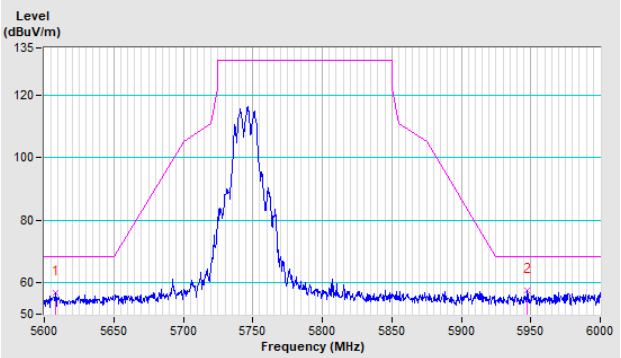
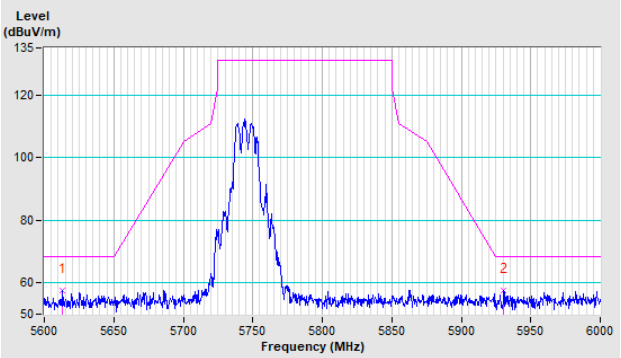
5 Pictures of Test Arrangements

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

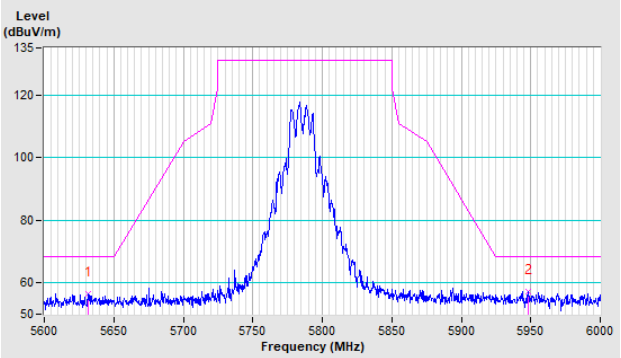
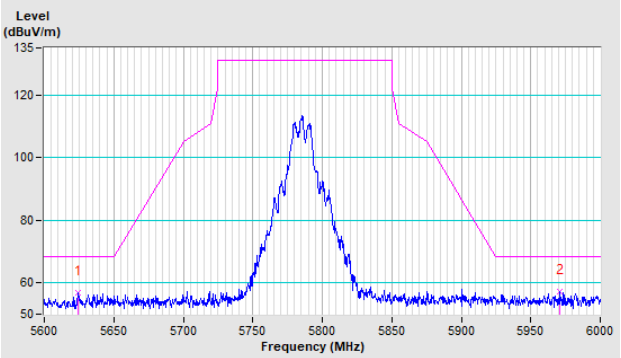
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a

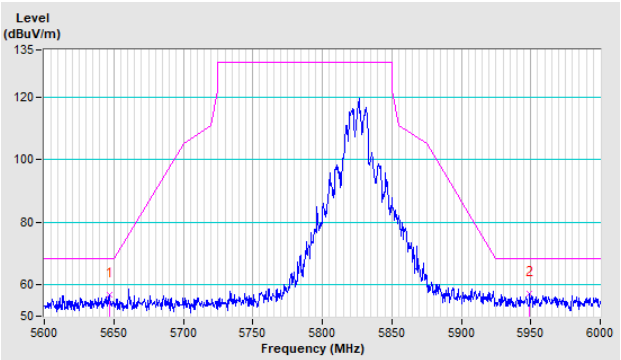
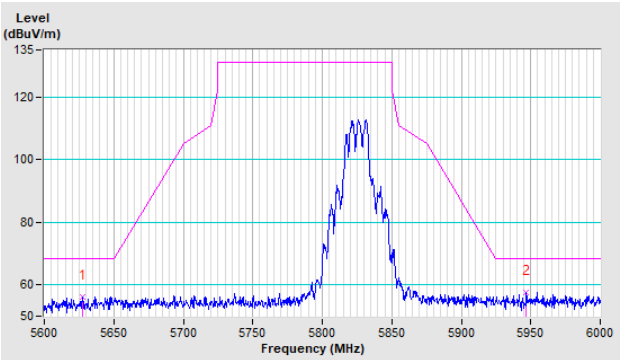
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

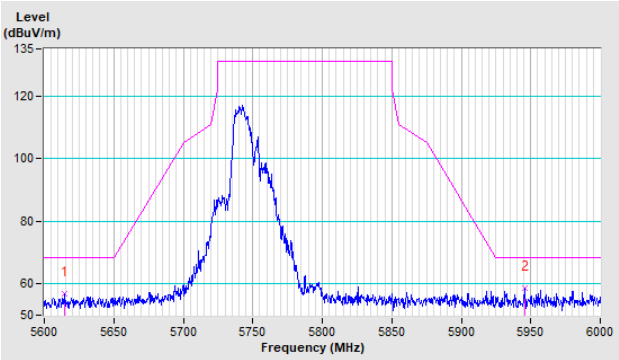
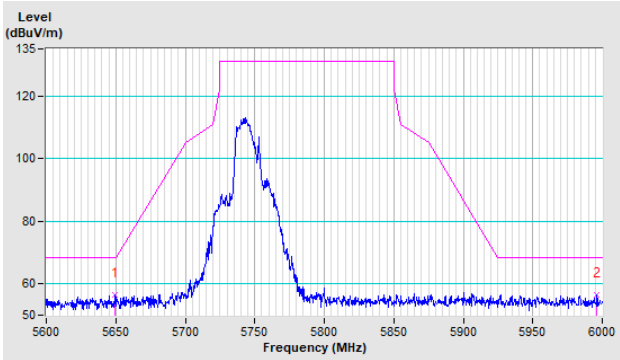
Horizontal	Vertical
	

CH 165 5825 MHz

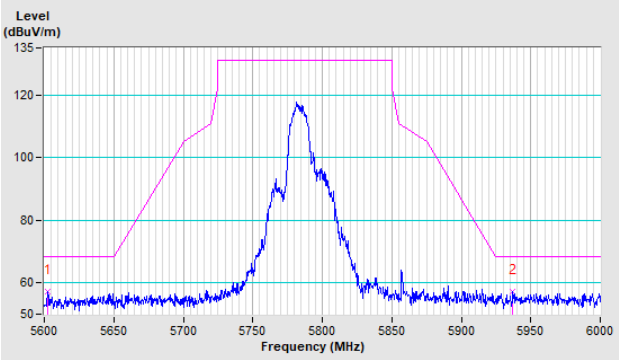
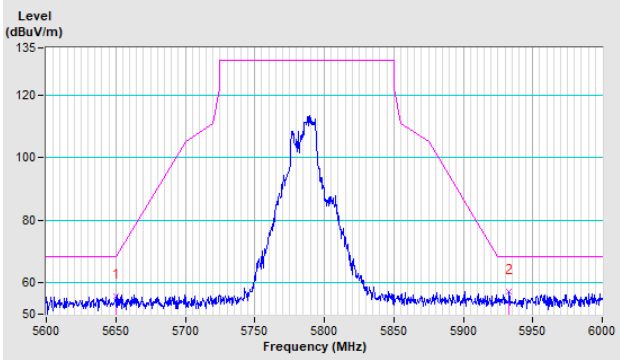
Horizontal	Vertical
	

802.11ac (VHT20)

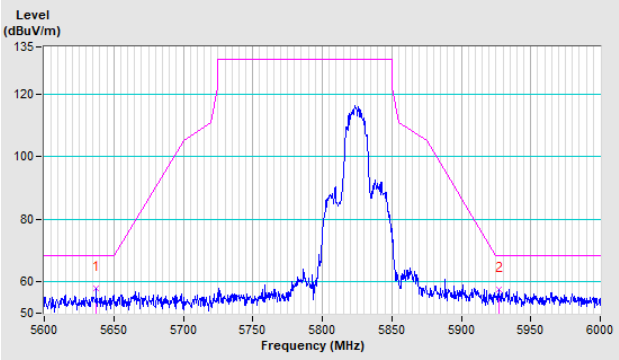
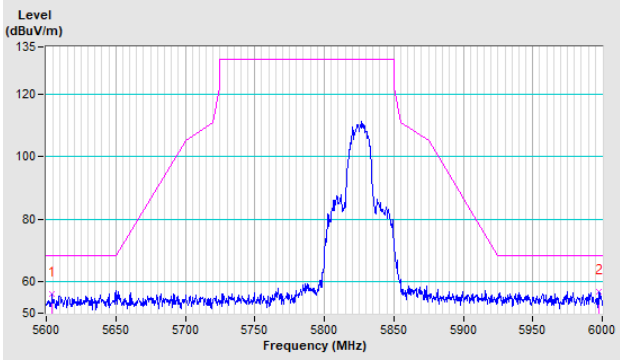
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

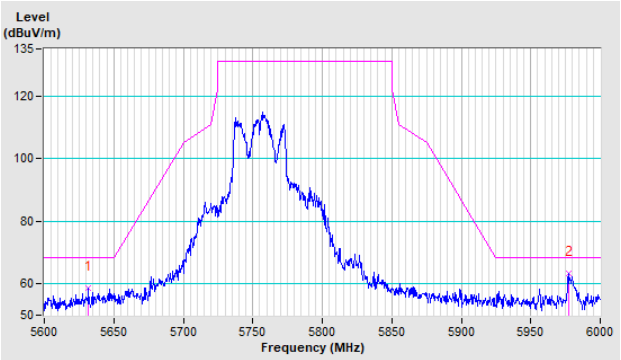
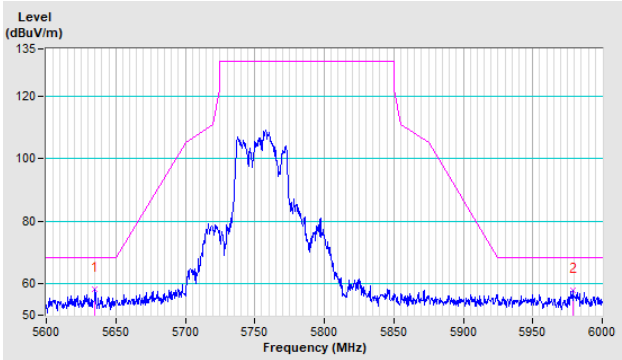
Horizontal	Vertical
	

CH 165 5825 MHz

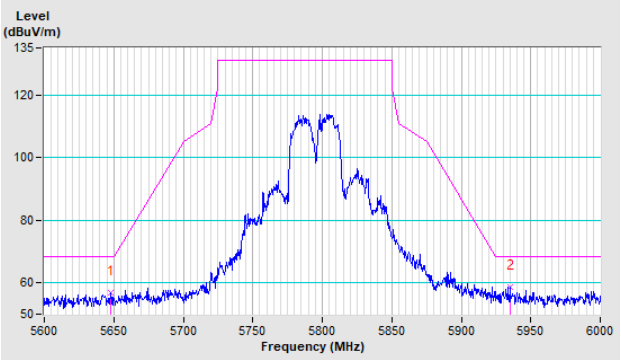
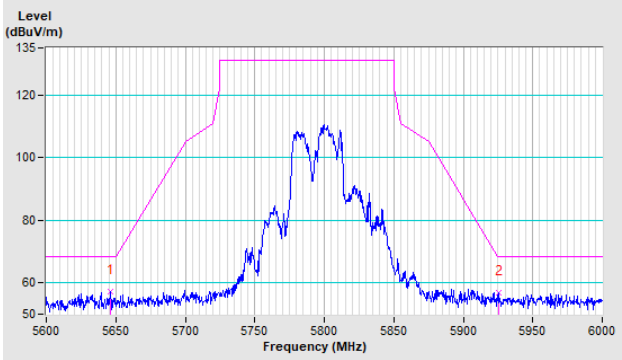
Horizontal	Vertical
	

802.11ac (VHT40)

CH 151 5755 MHz

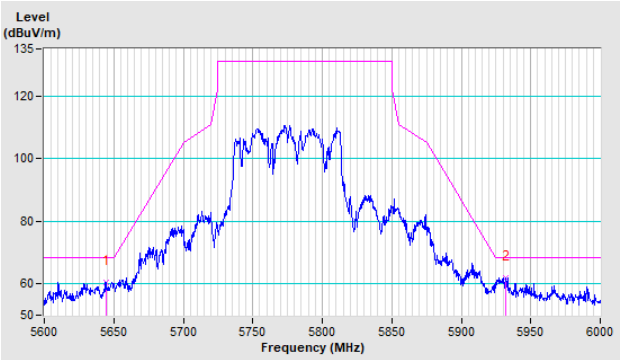
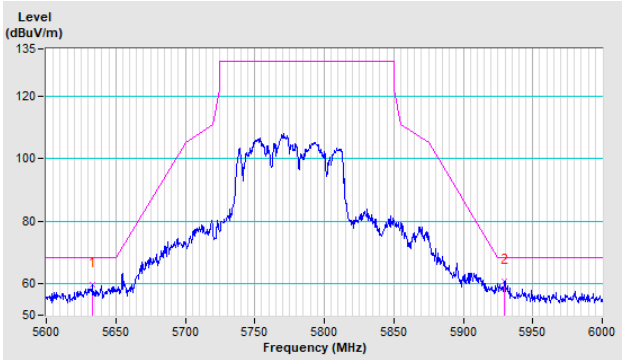
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ac (VHT80)

CH 155 5775 MHz

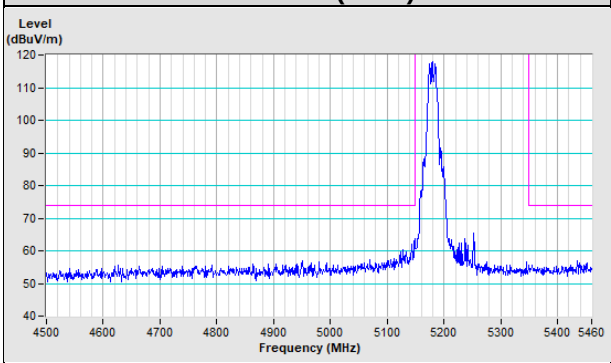
Horizontal	Vertical
	

Annex B- Band Edge Measurement

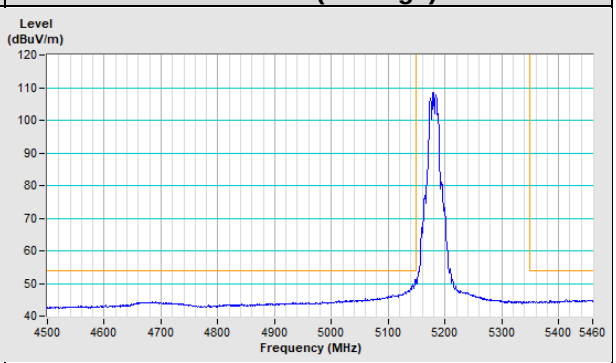
802.11a

802.11a Channel 36

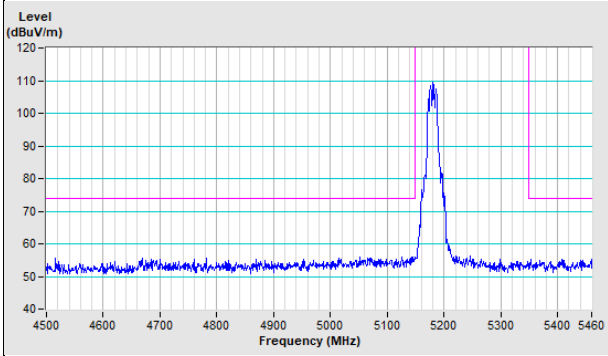
Horizontal (Peak)



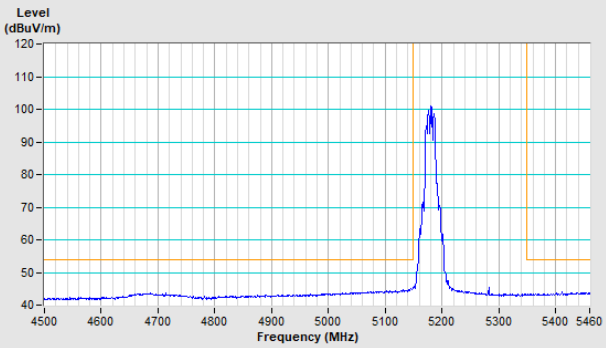
Horizontal (Average)



Vertical (Peak)

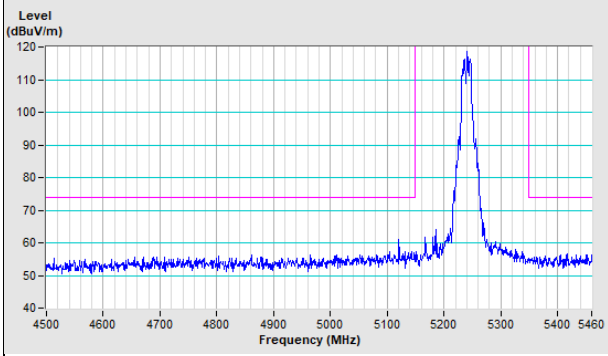


Vertical (Average)

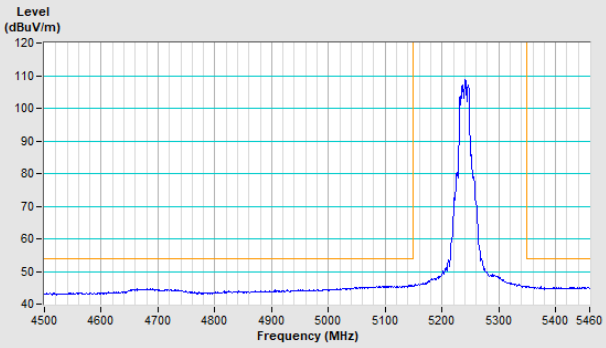


802.11a Channel 48

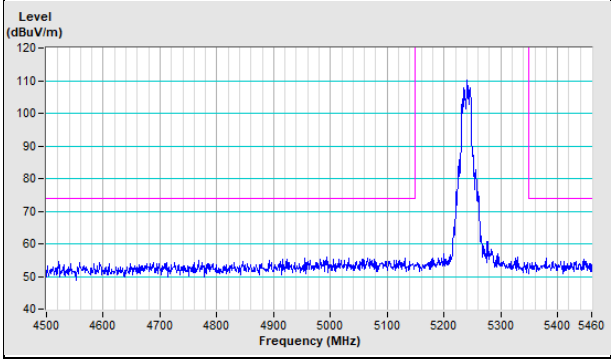
Horizontal (Peak)



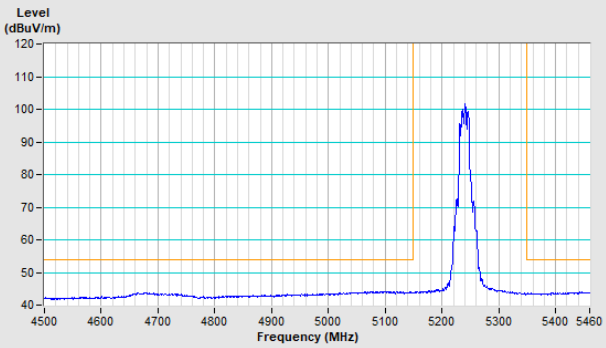
Horizontal (Average)



Vertical (Peak)

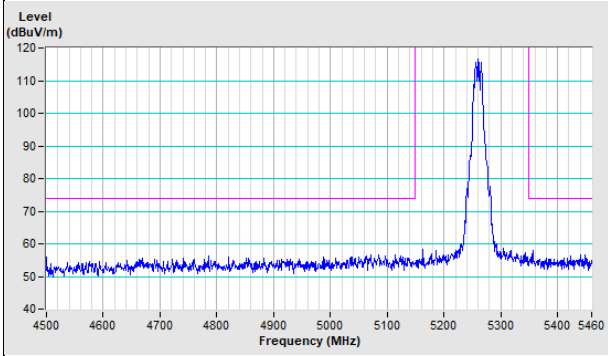


Vertical (Average)

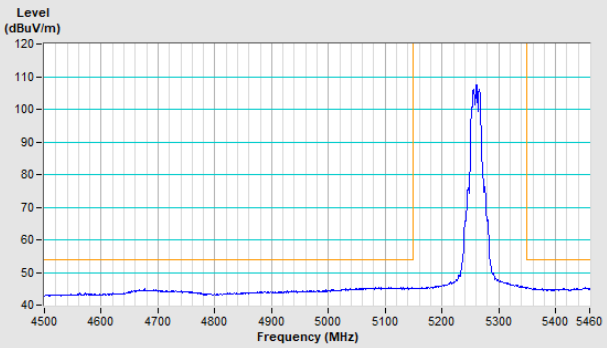


802.11a Channel 52

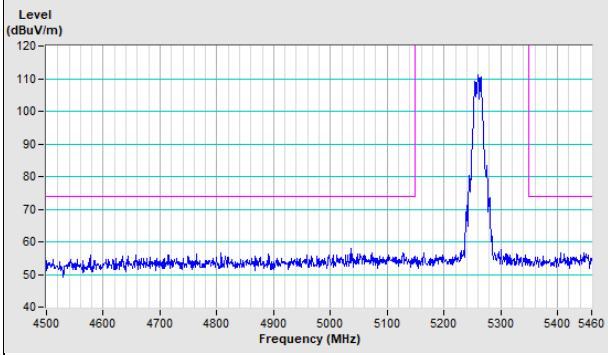
Horizontal (Peak)



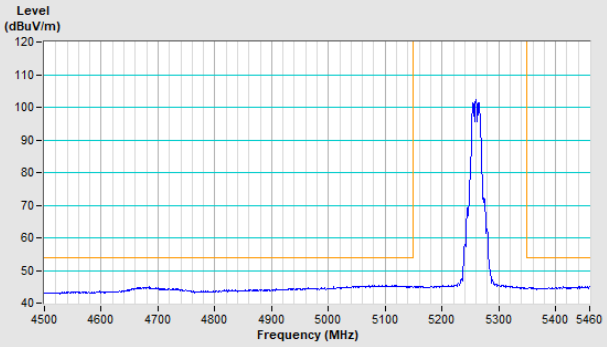
Horizontal (Average)



Vertical (Peak)

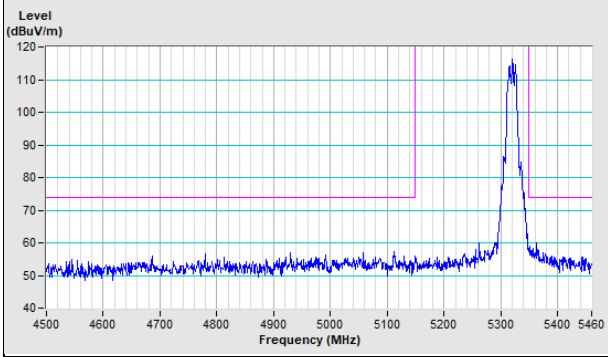


Vertical (Average)

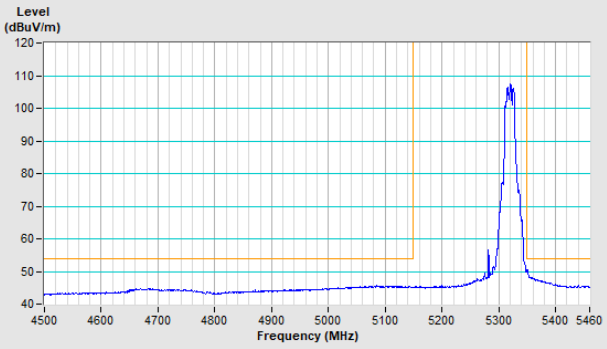


802.11a Channel 64

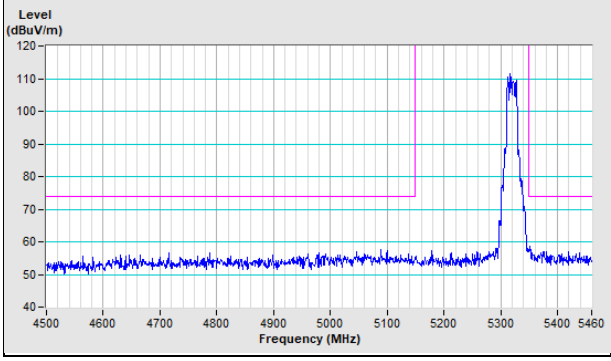
Horizontal (Peak)



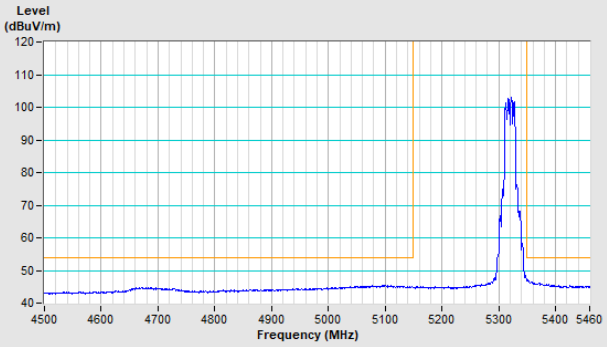
Horizontal (Average)

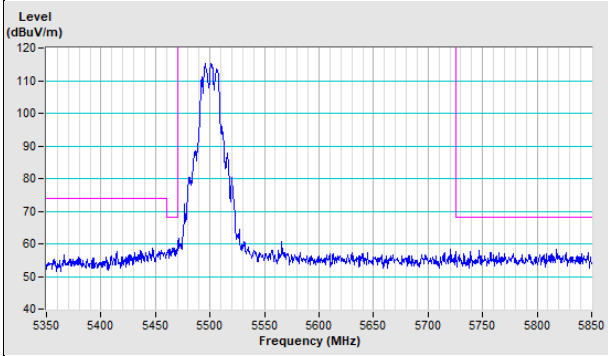
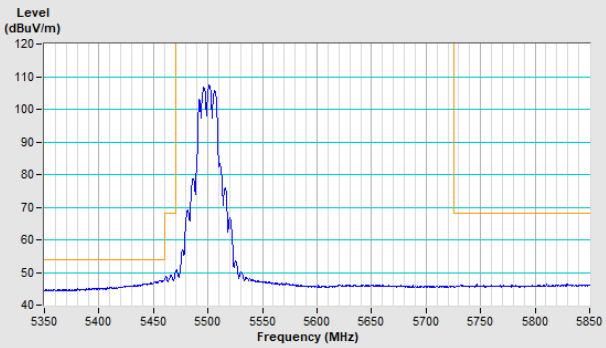
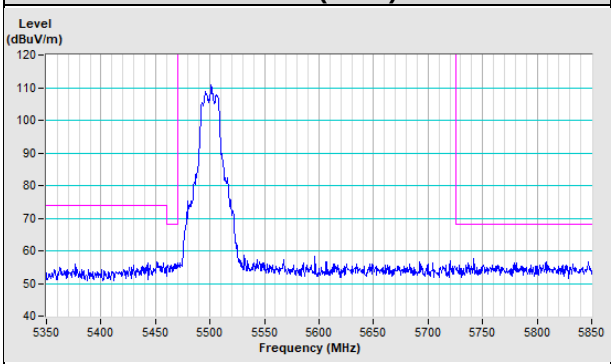
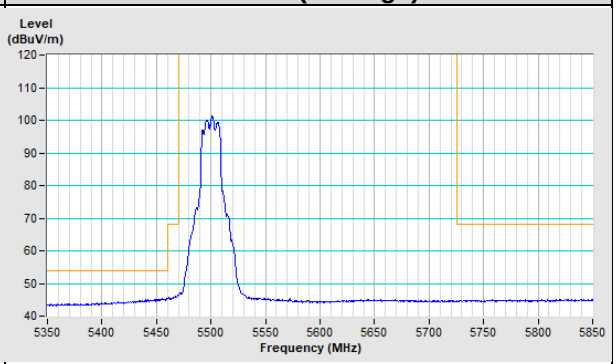


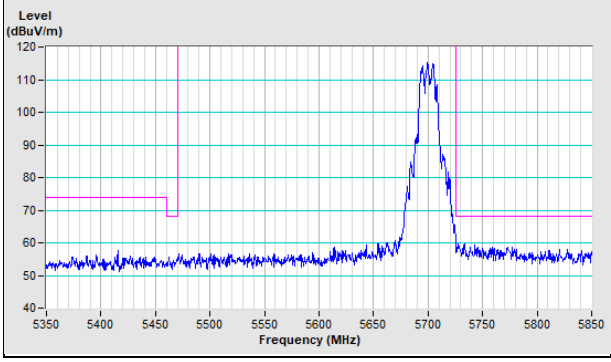
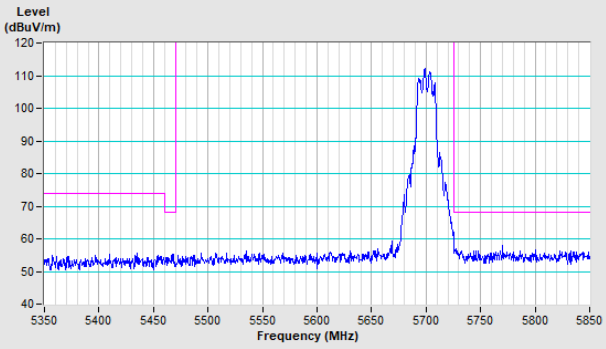
Vertical (Peak)

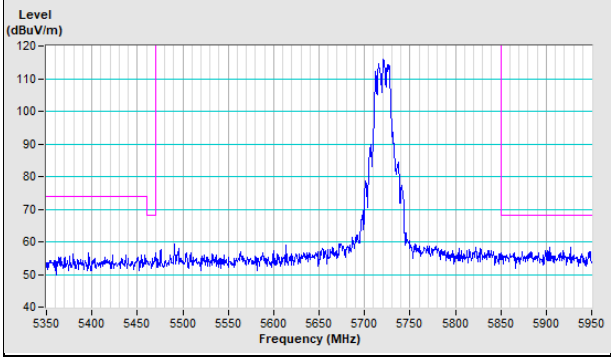
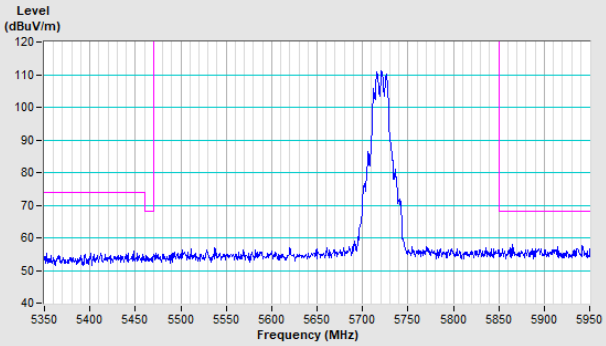


Vertical (Average)



802.11a Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

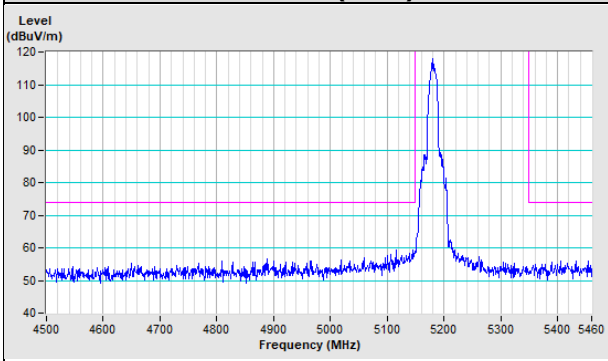
802.11a Channel 140	
Horizontal (Peak)	**Vertical (Peak)**
	

802.11a Channel 144	
Horizontal (Peak)	**Vertical (Peak)**
	

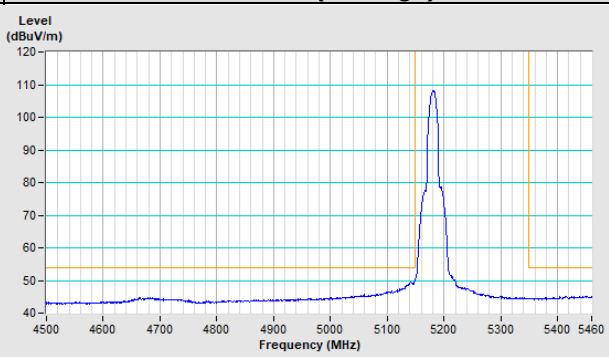
802.11ac (VHT20)

802.11ac (VHT20) Channel 36

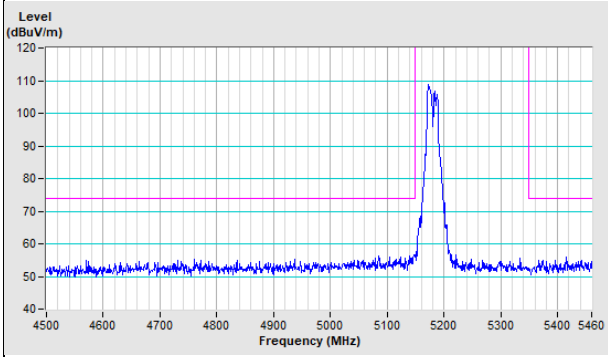
Horizontal (Peak)



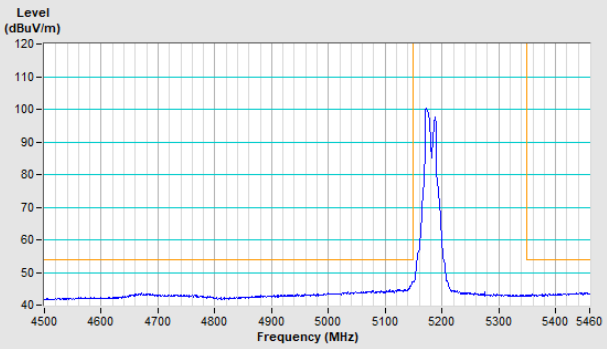
Horizontal (Average)



Vertical (Peak)

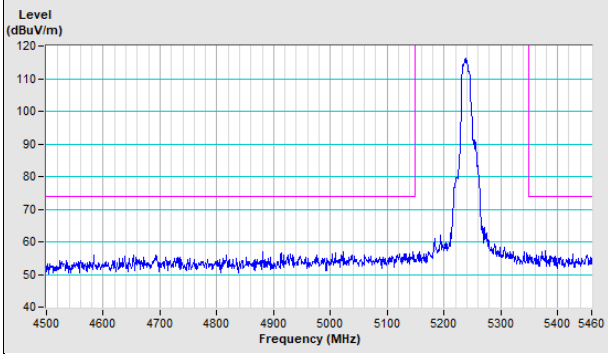


Vertical (Average)

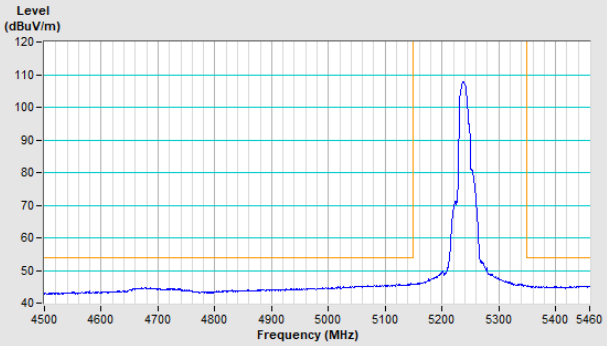


802.11ac (VHT20) Channel 48

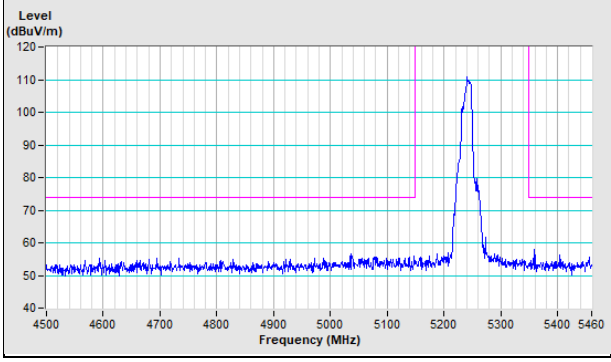
Horizontal (Peak)



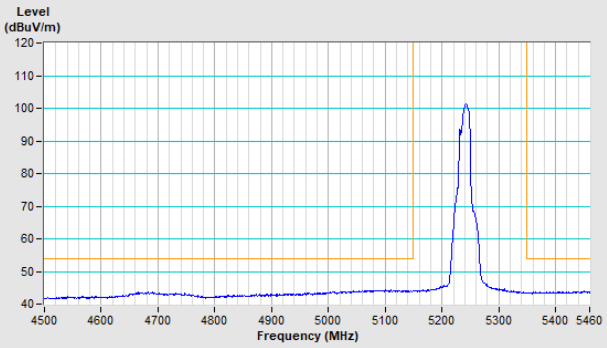
Horizontal (Average)



Vertical (Peak)

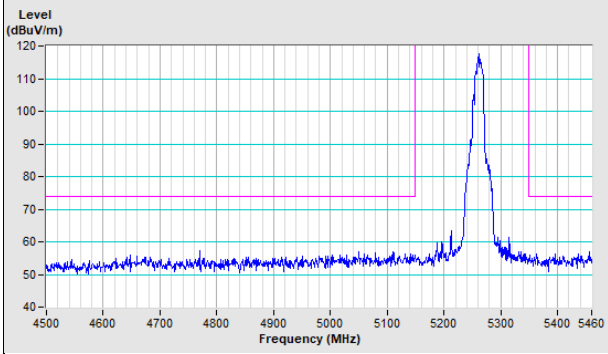


Vertical (Average)

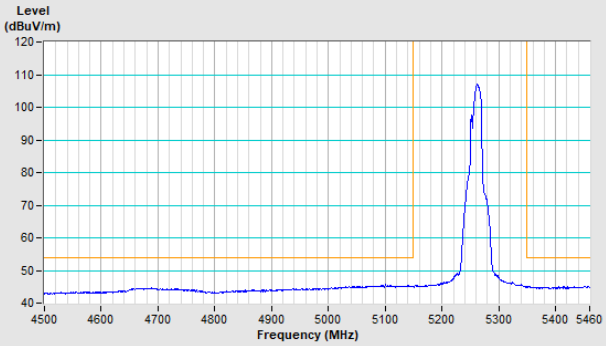


802.11ac (VHT20) Channel 52

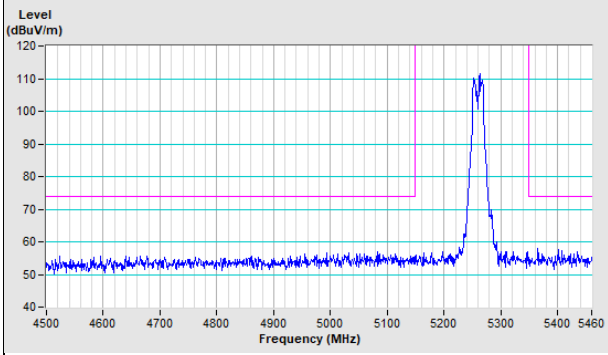
Horizontal (Peak)



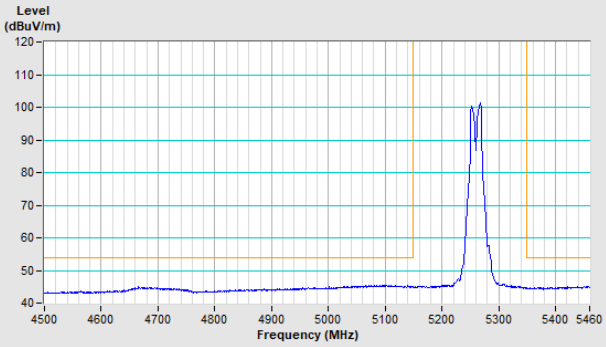
Horizontal (Average)



Vertical (Peak)

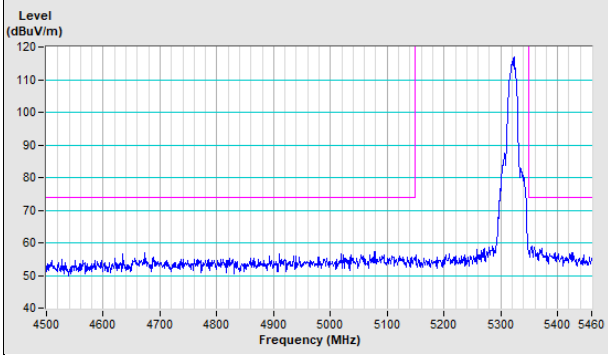


Vertical (Average)

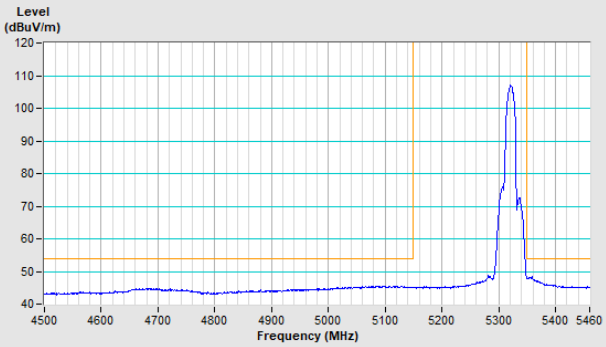


802.11ac (VHT20) Channel 64

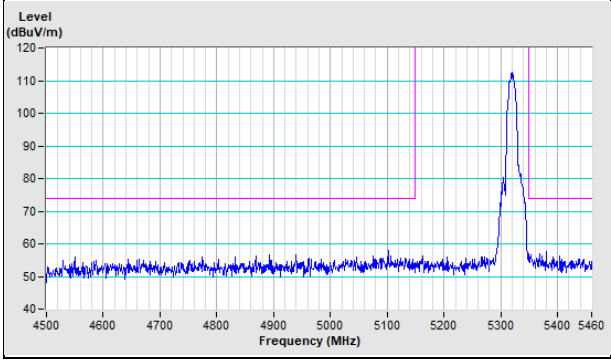
Horizontal (Peak)



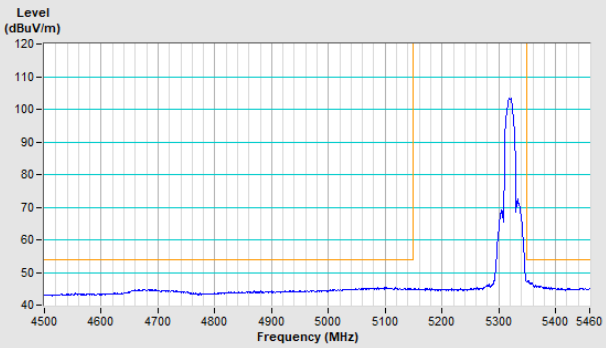
Horizontal (Average)

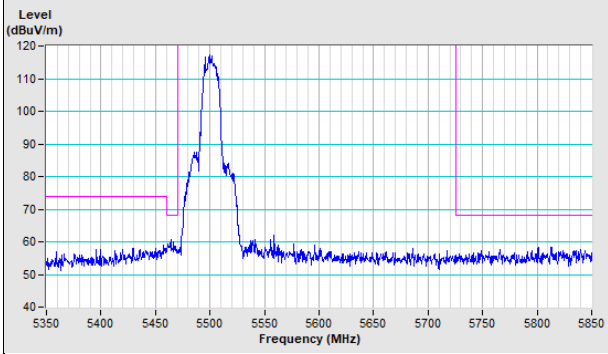
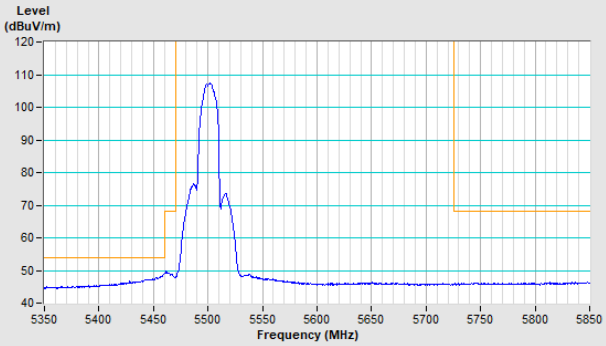
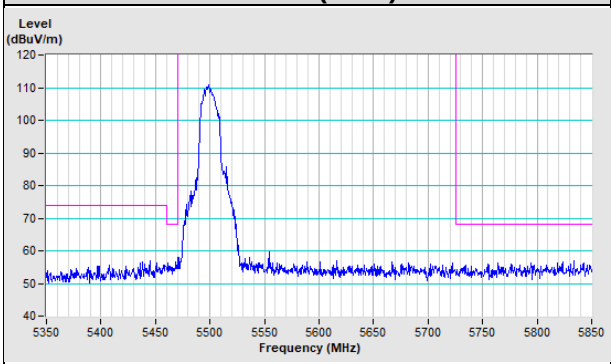
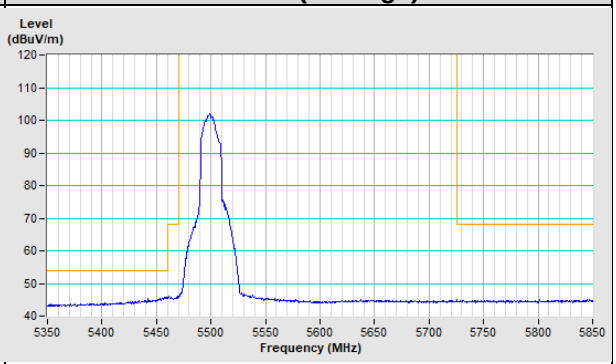


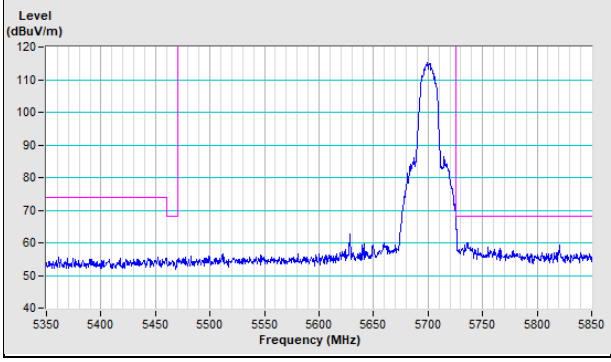
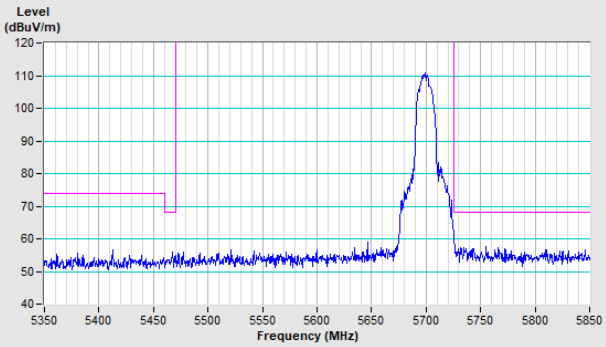
Vertical (Peak)

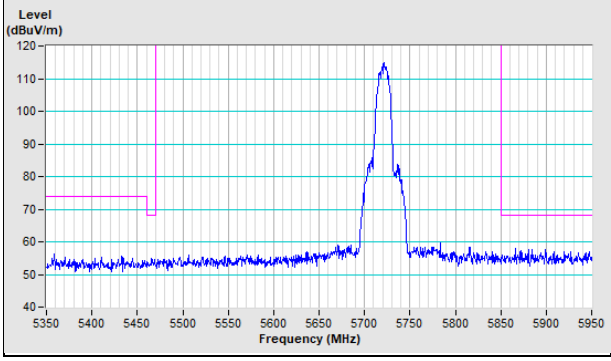
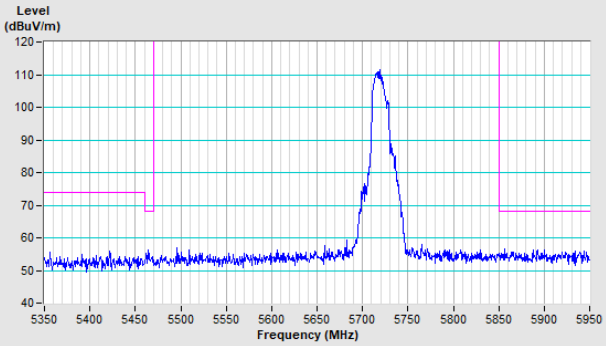


Vertical (Average)



802.11ac (VHT20) Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

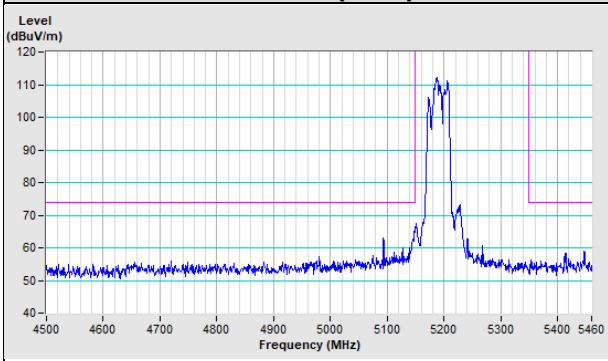
802.11ac (VHT20) Channel 140	
Horizontal (Peak)	**Vertical (Peak)**
	

802.11ac (VHT20) Channel 144	
Horizontal (Peak)	**Vertical (Peak)**
	

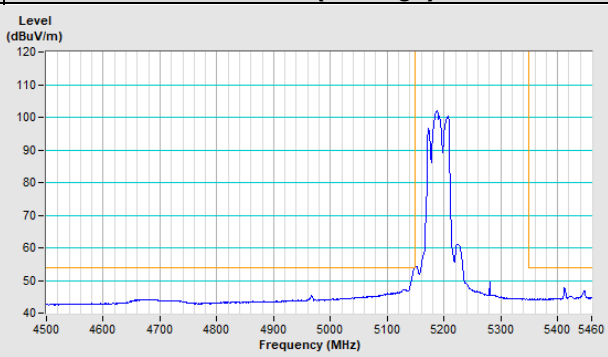
802.11ac (VHT40)

802.11ac (VHT40) Channel 38

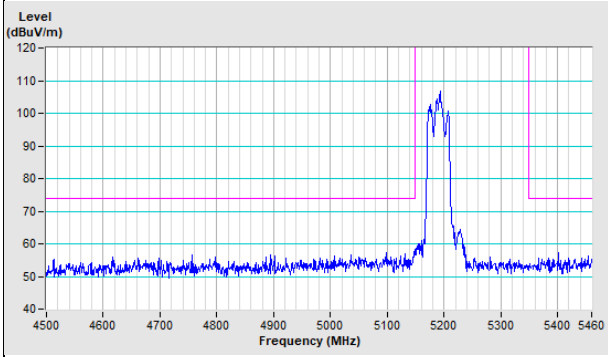
Horizontal (Peak)



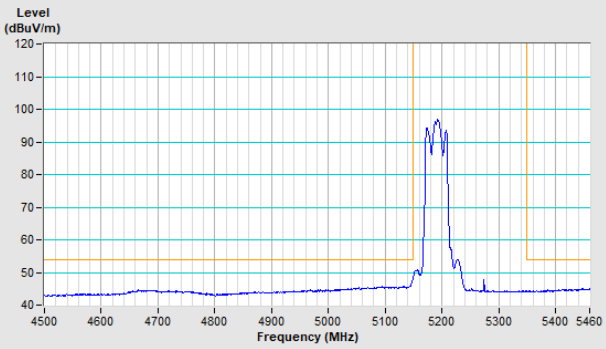
Horizontal (Average)



Vertical (Peak)

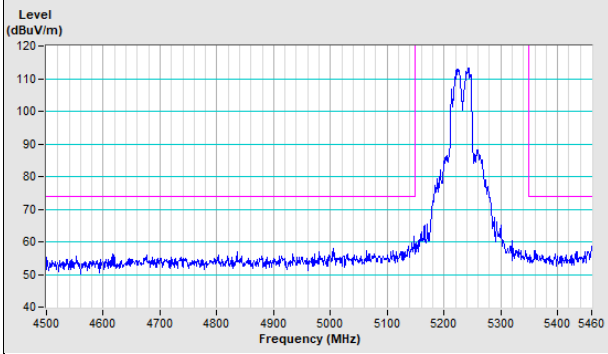


Vertical (Average)

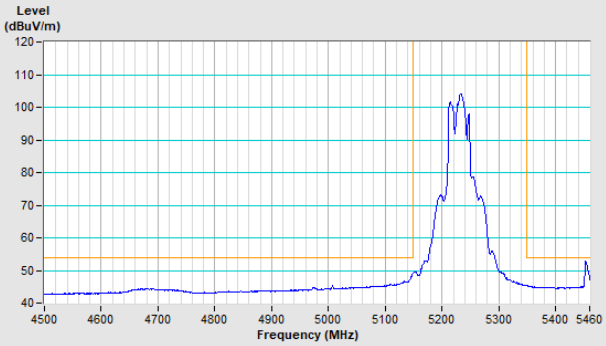


802.11ac (VHT40) Channel 46

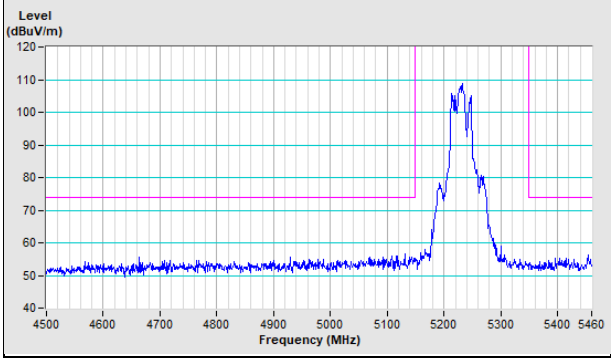
Horizontal (Peak)



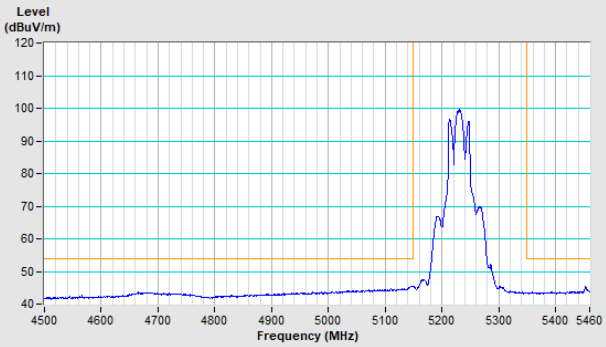
Horizontal (Average)



Vertical (Peak)

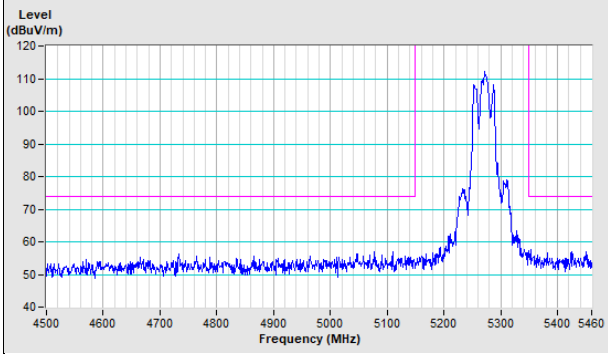


Vertical (Average)

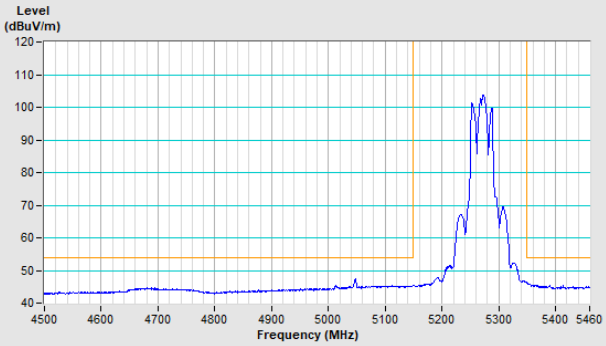


802.11ac (VHT40) Channel 54

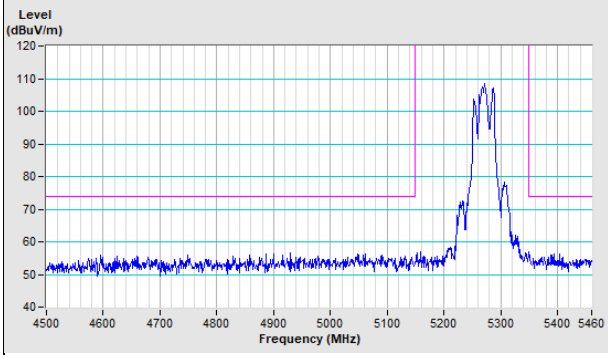
Horizontal (Peak)



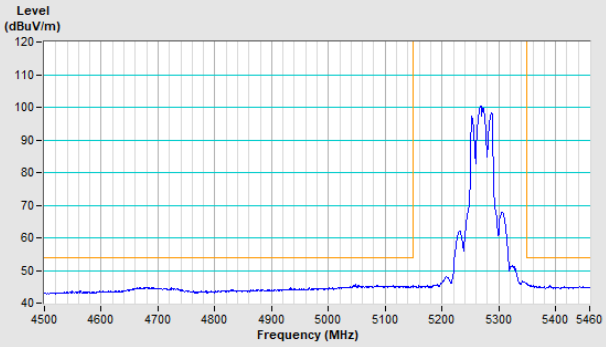
Horizontal (Average)



Vertical (Peak)

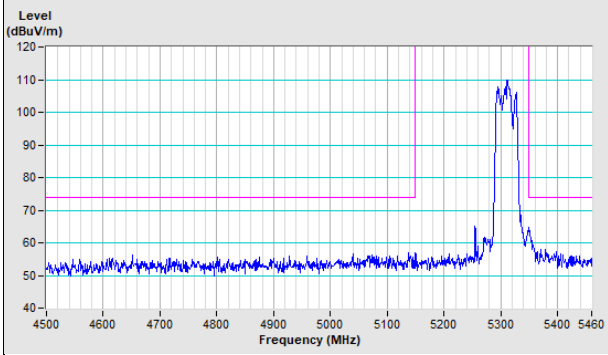


Vertical (Average)

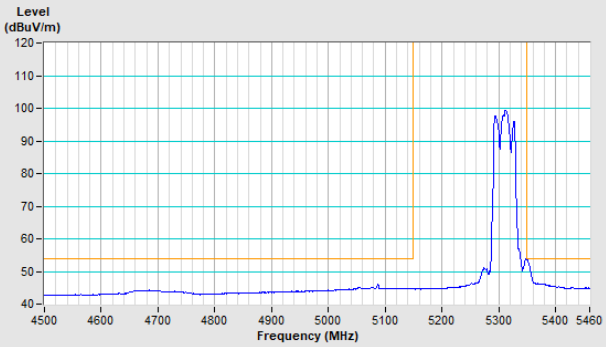


802.11ac (VHT40) Channel 62

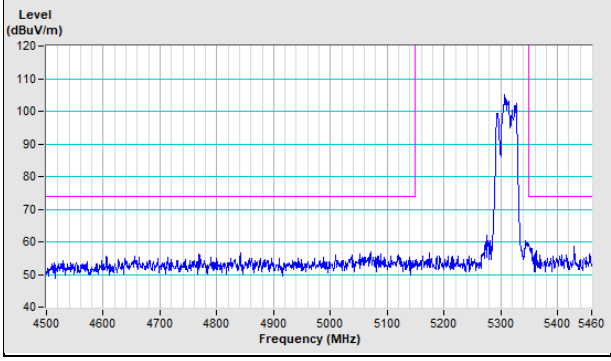
Horizontal (Peak)



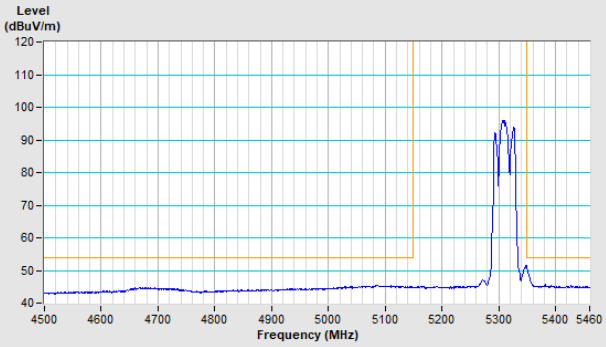
Horizontal (Average)

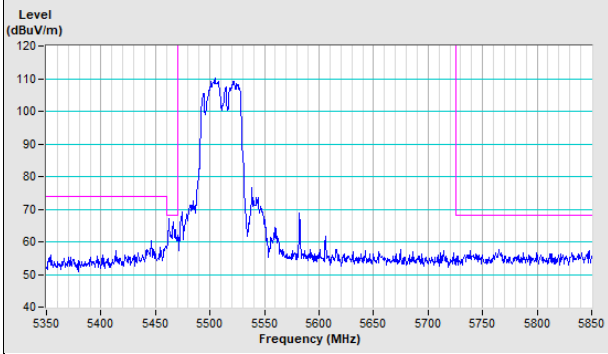
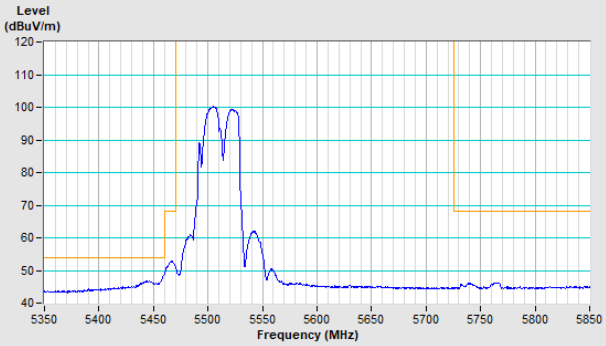
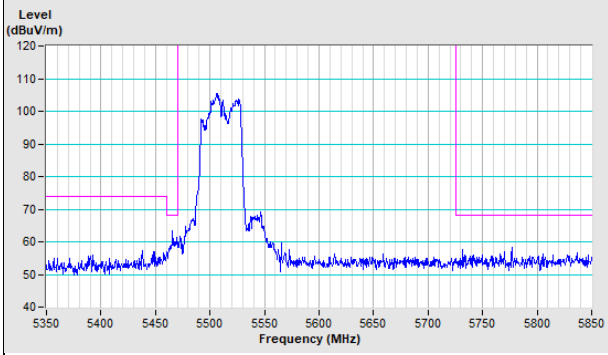
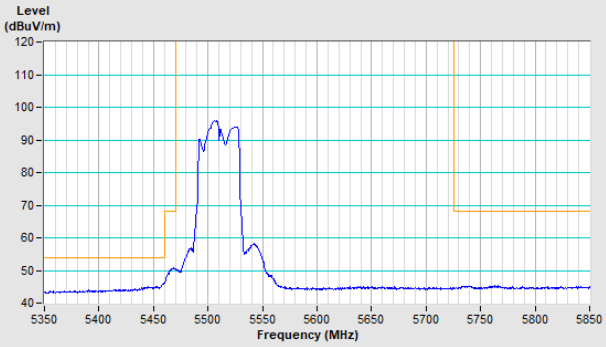


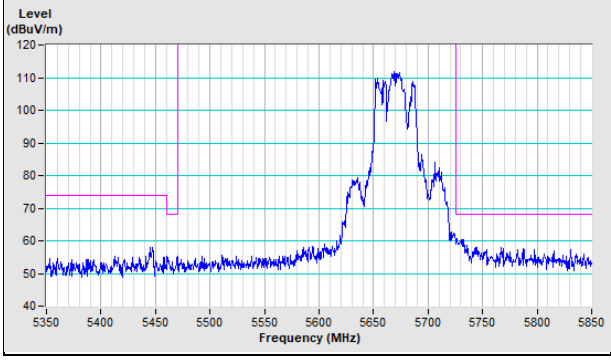
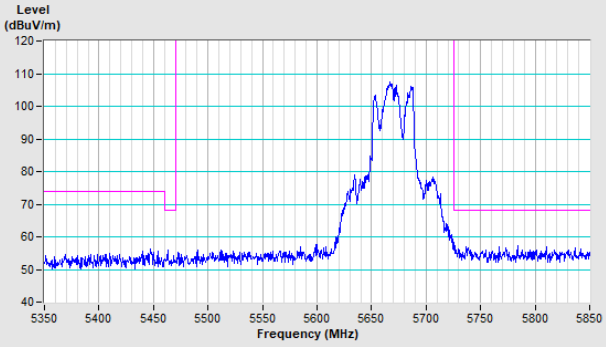
Vertical (Peak)

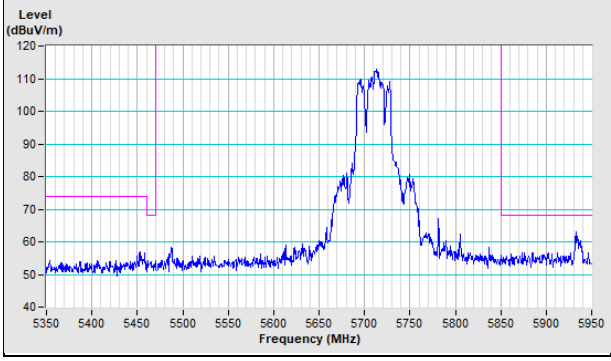
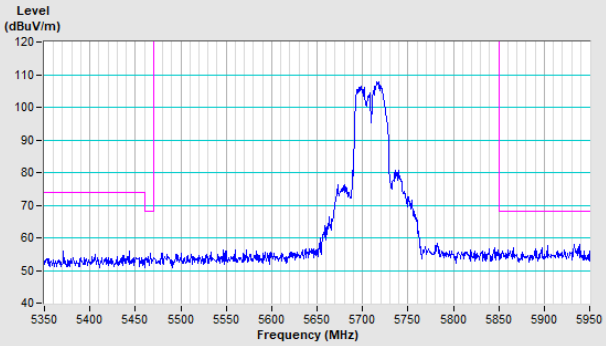


Vertical (Average)



802.11ac (VHT40) Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

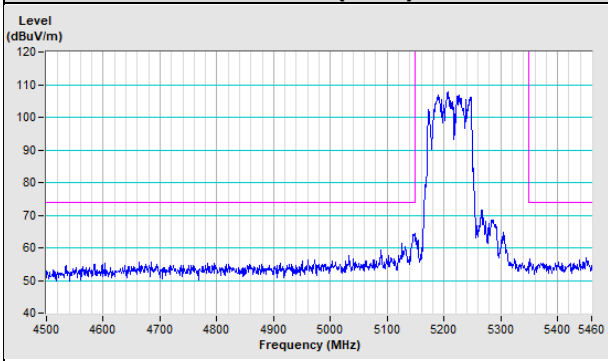
802.11ac (VHT40) Channel 134	
Horizontal (Peak)	**Vertical (Peak)**
	

802.11ac (VHT40) Channel 142	
Horizontal (Peak)	**Vertical (Peak)**
	

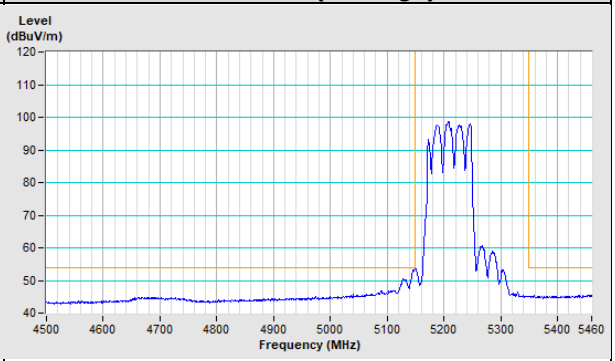
802.11ac (VHT80)

802.11ac (VHT80) Channel 42

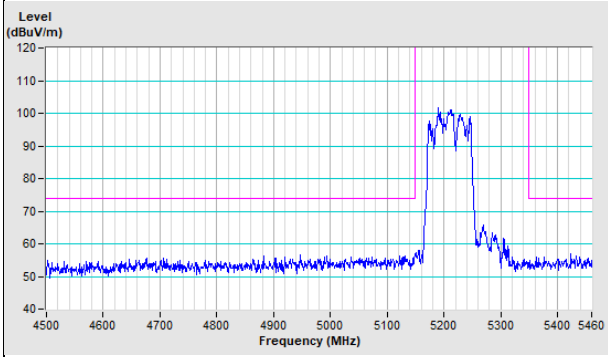
Horizontal (Peak)



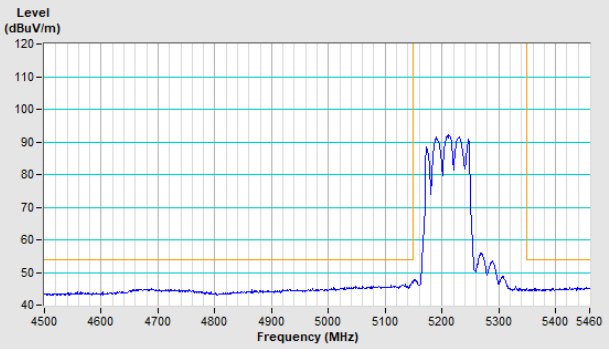
Horizontal (Average)



Vertical (Peak)

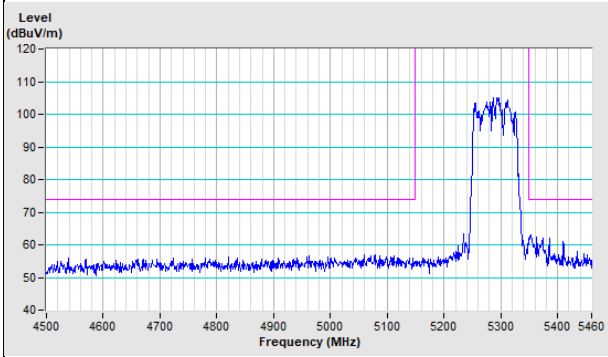


Vertical (Average)

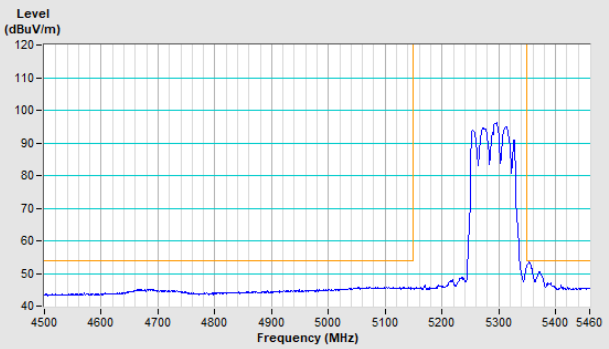


802.11ac (VHT80) Channel 58

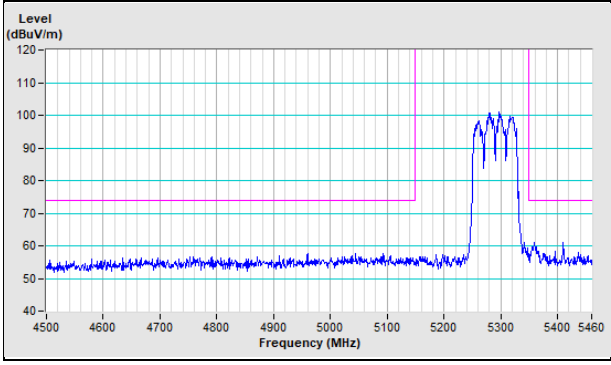
Horizontal (Peak)



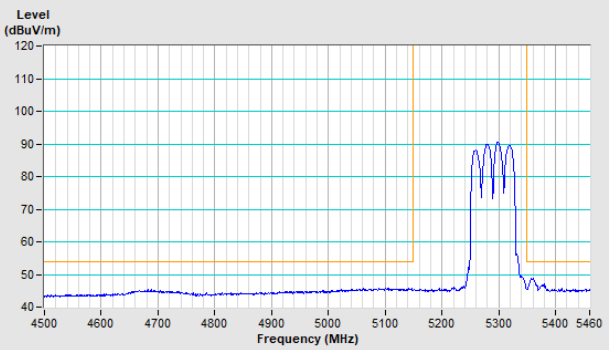
Horizontal (Average)

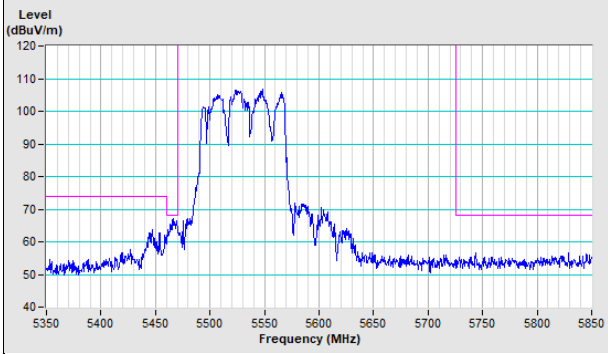
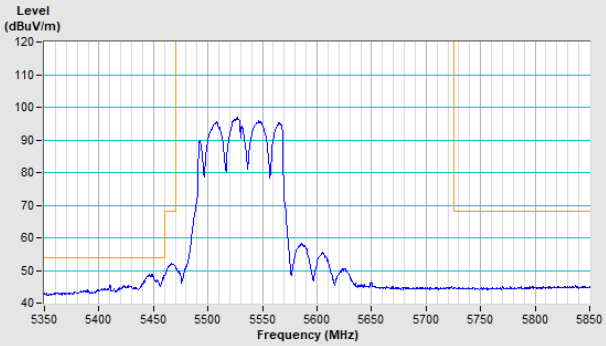
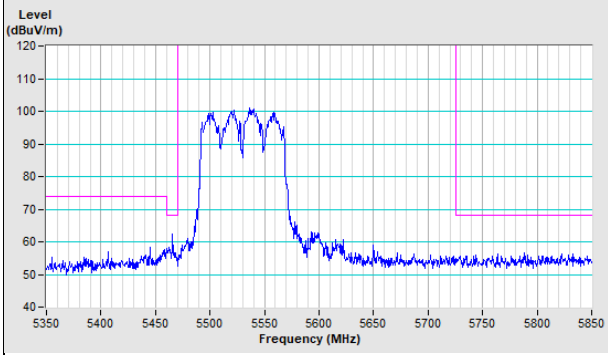
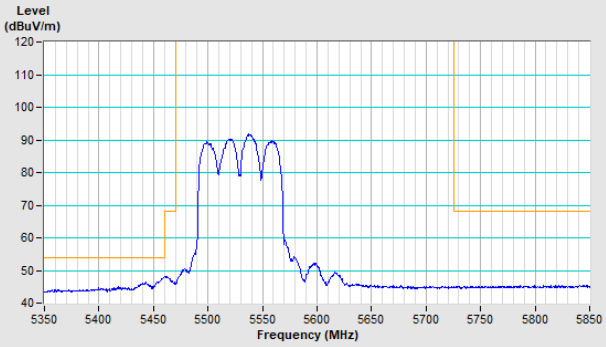


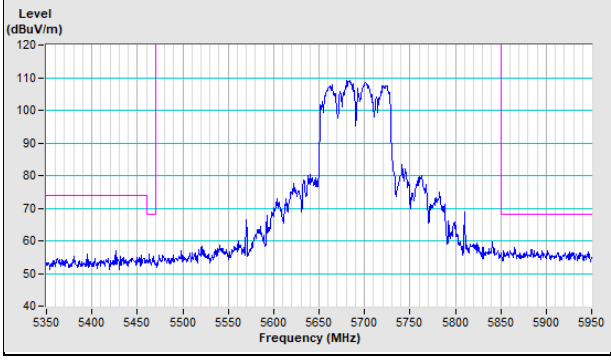
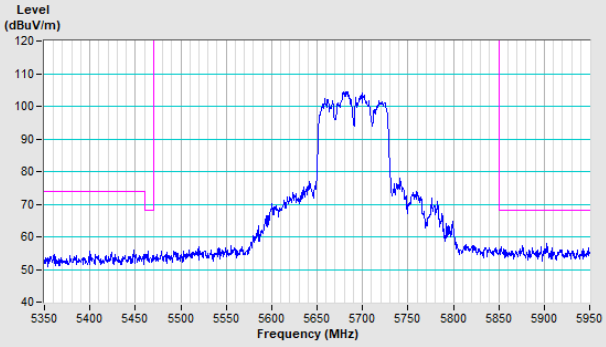
Vertical (Peak)



Vertical (Average)



802.11ac (VHT80) Channel 106	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

802.11ac (VHT80) Channel 138	
Horizontal (Peak)	**Vertical (Peak)**
	

Appendix – Information of 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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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Web Site: www.bureauveritas-adt.com

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

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