FCC Test Report

Report No.:	RFBDYS-WTW-P21030161A
FCC ID:	Q6G-AP430CR
Test Model:	AP430CR
Received Date:	Mar. 11, 2021
Test Date:	Mar. 19 ~ May 21, 2021
Issued Date:	Nov. 22, 2021
Applicant:	WatchGuard Technologies, Inc.
Address:	505 Fifth Avenue South, Suite 500 Seattle WA United States 98104
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBDYS-WTW-P21030161A	Original release.	Nov. 22, 2021

1 Certificate of Conformity

Product: Wireless Access Point

Brand: WatchGuard

Test Model: AP430CR

Sample Status: Engineering sample

Applicant: WatchGuard Technologies, Inc.

Test Date: Mar. 19 ~ May 21, 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 : Pettie Chen , **Date:** Nov. 22, 2021

Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** Nov. 22, 2021

Jeremy Lin / Senior Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -11.02dB at 27.61800MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5470.00MHz.
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)	6dB bandwidth	N/A	Not Applicable
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is R-N type(F) not a standard connector.

Note:

1. For 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 A. Test Procedures refer to report 4.1.3.
2. 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	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless Access Point
Brand	WatchGuard
Test Model	AP430CR
Sample Status	Engineering sample
Power Supply rating	54Vdc from POE
Modulation Type	802.11a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 600Mbps 802.11ac (VHT20/40/80): up to 1733.2Mbps 802.11ax: up to 2402.0Mbps
Operating Frequency	5260 ~ 5320MHz, 5500 ~ 5700MHz
Number of Channel	5GHz traffic radio: 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 11 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 5 802.11ac (VHT80), 802.11ax (HE80): 2 Scanning radio: 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2

Output Power	CDD Mode: 5260 ~ 5320MHz: 5G traffic radio: 133.294mW Scanning radio: 189.903mW 5500 ~ 5700MHz: 5G traffic radio: 189.986mW Scanning radio: 186.348mW Beamforming Mode: 5260 ~ 5320MHz: 5G traffic radio: 33.328mW 5500 ~ 5700MHz: 5G traffic radio: 47.503mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The differences compared with the original report (BV CPS report no.: RFBDYS-WTW-P21030161-1) are adding 5.26GHz to 5.32GHz and 5.50GHz to 5.70GHz by software.
2. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Radio	Modulation Mode	CDD Mode	Beamforming Mode	TX Function
5G traffic radio (Radio 2)	802.11a	Support	Not Support	4TX
	802.11n (HT20)	Support	Not Support	4TX
	802.11n (HT40)	Support	Not Support	4TX
	802.11ac (VHT20)	Support	Support	4TX
	802.11ac (VHT40)	Support	Support	4TX
	802.11ac (VHT80)	Support	Support	4TX
	802.11ax (HE20)	Support	Support	4TX
	802.11ax (HE40)	Support	Support	4TX
	802.11ax (HE80)	Support	Support	4TX
Scanning radio (Radio 3)	802.11a	Support	Not Support	2TX
	802.11n (HT20)	Support	Not Support	2TX
	802.11n (HT40)	Support	Not Support	2TX
	802.11ac (VHT20)	Support	Not Support	2TX
	802.11ac (VHT40)	Support	Not Support	2TX
	802.11ac (VHT80)	Support	Not Support	2TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80 on 802.11ac mode and HE20/HE40/HE80 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11ax, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

3. The EUT consumes power from the following POE. (Support unit only)

POE	
Brand	EnGenius
Model	EPA5006GAT
Input Power	100-240Vac, 0.8A, 50-60Hz
Output Power	54Vdc, 0.6A

4. The following antennas were provided to the EUT.

Antenna Type	Dipole
Antenna Connector	N-type Plug
Frequency (MHz)	Gain (dBi)
2400	5.1
2450	5.0
2500	5.5
4900	6.1
5150	6.5
5250	6.4
5350	6.7
5450	7.2
5550	6.6
5650	6.6
5750	7.0
5850	6.9

*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.

5. 5GHz traffic radio (Radio 2) and 5G Scanning radio (Radio 3) cannot transmit in the same band at same time. 2G traffic radio (Radio 1) and 2G Scanning radio (Radio 3) cannot transmit at same time.

3.2 Description of Test Modes

5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
58	5290MHz

5500~5700MHz:

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

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

2 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz

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 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	5G traffic radio
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
-	802.11a		52 to 64	52, 60, 64	OFDM	6.0	Scanning radio
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
	802.11ac (VHT80)		58	58	OFDM	29.3	
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	5G traffic radio
	802.11ax (HE20)		100 to 140	100, 116, 140	OFDMA	MCS0	
	802.11ax (HE40)		102 to 134	102, 110, 134	OFDMA	MCS0	
	802.11ax (HE80)		106, 122	106, 122	OFDMA	MCS0	
-	802.11a		100 to 140	100, 116, 140	OFDM	6.0	Scanning radio
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	6.5	
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	13.5	
	802.11ac (VHT80)		106, 122	106, 122	OFDM	29.3	

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11ax (HE80)	5500-5700	106 to 122	106	OFDMA	MCS0	5G traffic radio
	802.11ac (VHT40)	5260-5320	54 to 62	62	OFDM	13.5	Scanning radio

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11ax (HE80)	5500-5700	106 to 122	106	OFDMA	MCS0	5G traffic radio
	802.11ac (VHT40)	5260-5320	54 to 62	62	OFDM	13.5	Scanning radio

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	5G traffic radio
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
-	802.11a		52 to 64	52, 60, 64	OFDM	6.0	Scanning radio
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
	802.11ac (VHT80)		58	58	OFDM	29.3	
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	5G traffic radio
	802.11ax (HE20)		100 to 140	100, 116, 140	OFDMA	MCS0	
	802.11ax (HE40)		102 to 134	102, 110, 134	OFDMA	MCS0	
	802.11ax (HE80)		106, 122	106, 122	OFDMA	MCS0	
-	802.11a		100 to 140	100, 116, 140	OFDM	6.0	Scanning radio
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	6.5	
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	13.5	
	802.11ac (VHT80)		106, 122	106, 122	OFDM	29.3	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 66% RH	54Vdc	Edison Lee Titan Hsu
RE<1G	23 deg. C, 67% RH	54Vdc	Edison Lee
PLC	23 deg. C, 69% RH	54Vdc	Edison Lee
APCM	25 deg. C, 60% RH	54Vdc	Jisyong Wang

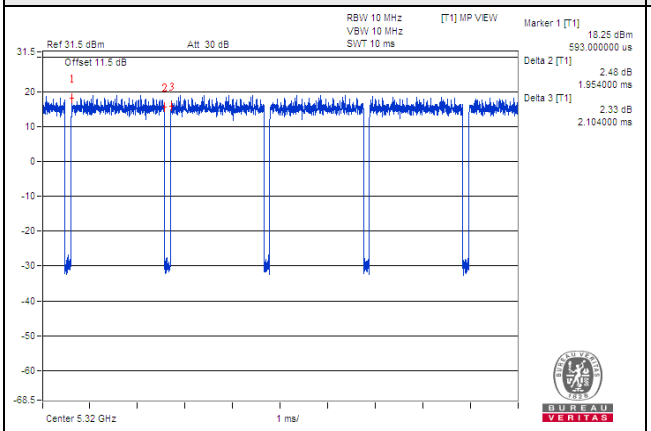
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%, duty factor shall be considered.

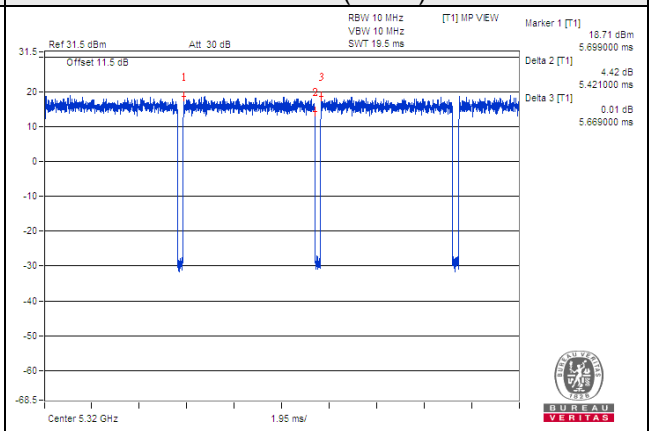
5G traffic radio (Radio 2)

802.11a: Duty cycle = 1.954/2.104 = 0.929, Duty factor = 10 * log (1/0.929) = 0.32
802.11ax (HE20): Duty cycle = 5.421/5.669 = 0.956, Duty factor = 10 * log (1/0.956) = 0.19
802.11ax (HE40): Duty cycle = 5.420/5.765 = 0.940, Duty factor = 10 * log (1/0.940) = 0.27
802.11ax (HE80): Duty cycle = 5.420/5.755 = 0.942, Duty factor = 10 * log (1/0.942) = 0.26

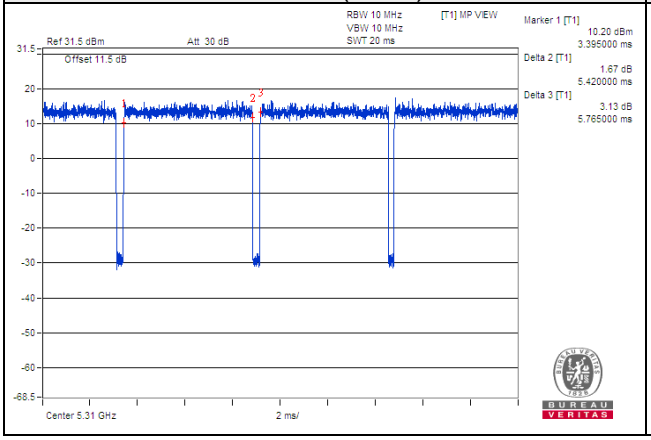
802.11a



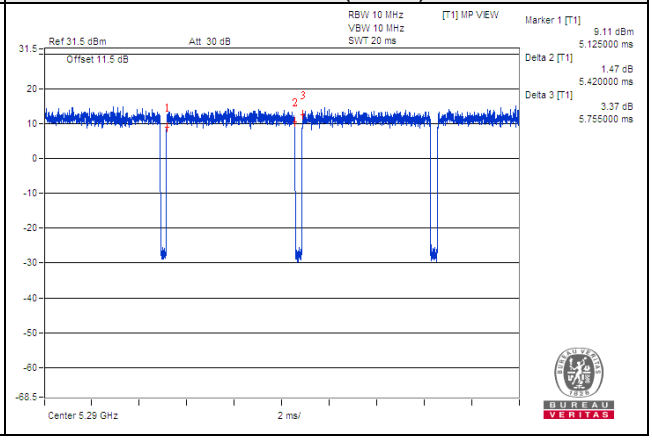
802.11ax (HE20)



802.11ax (HE40)

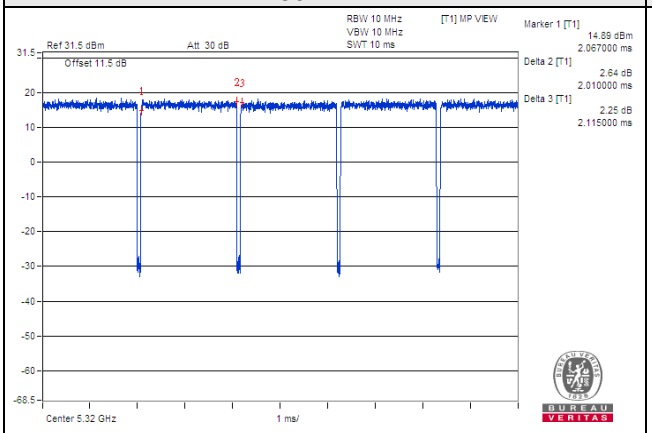
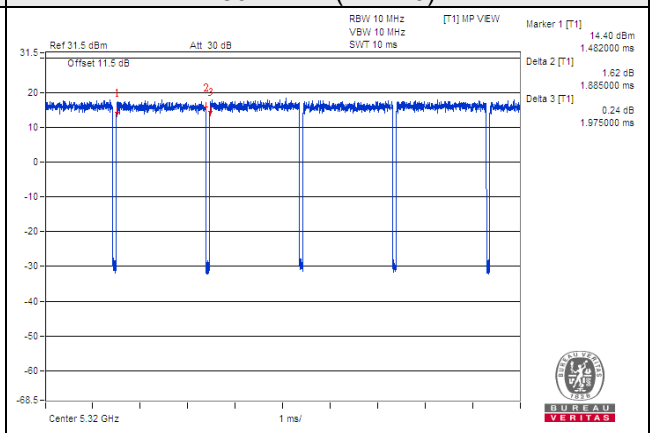
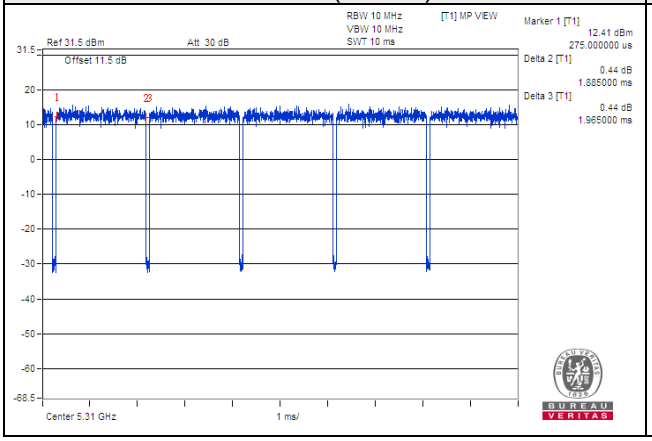
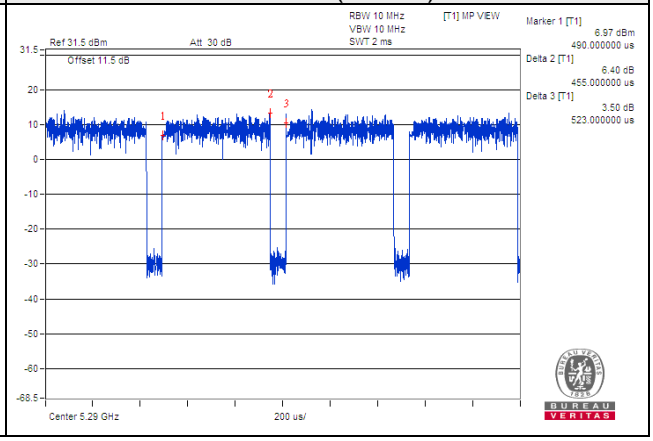


802.11ax (HE80)



Scanning radio:

802.11a: Duty cycle = 2.010/2.115 = 0.950, Duty factor = 10 * log (1/0.950) = 0.22
802.11ac (VHT20): Duty cycle = 1.885/1.975 = 0.954, Duty factor = 10 * log (1/0.954) = 0.20
802.11ac (VHT40): Duty cycle = 1.885/1.965 = 0.959, Duty factor = 10 * log (1/0.959) = 0.18
802.11ac (VHT80): Duty cycle = 0.455/0.523 = 0.870, Duty factor = 10 * log (1/0.870) = 0.60

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.

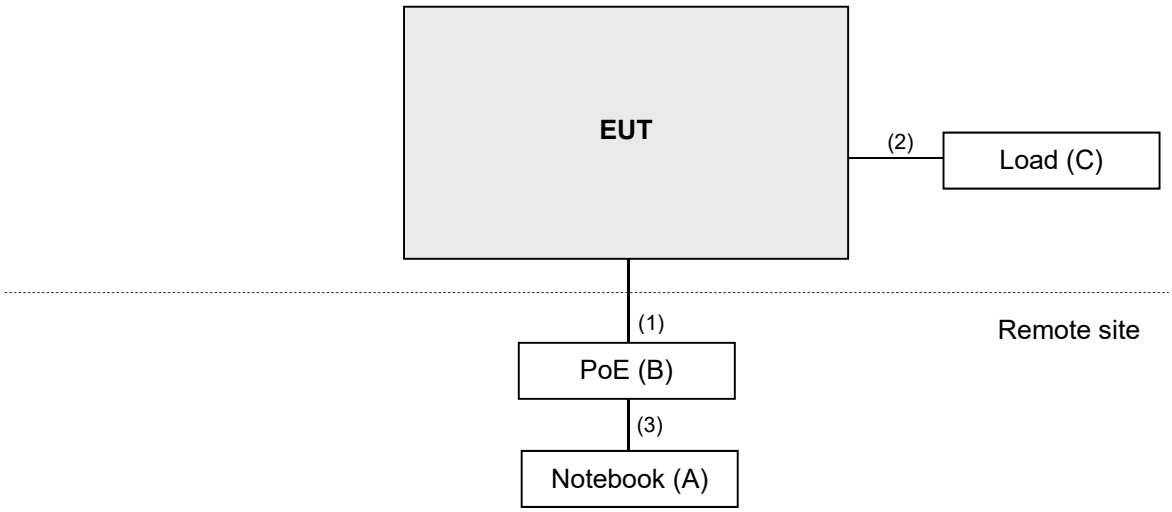
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	POE	EnGenius	EPA5006GAT	NA	NA	-
C.	Load	NA	NA	NA	NA	-

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	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN	1	1.5	N	0	RJ45, Cat5e
2.	LAN	1	1.5	N	0	RJ45, Cat5e
3.	LAN	1	7	N	0	RJ45, Cat5e

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.

KDB References Test Guidance:

KDB 789033 D02 General UNII Test Procedure 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 1000MHz, 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 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</td><td colspan="2">Field Strength at 3m</td></tr>
<tr><td>PK: 74 (dBμV/m)</td><td>AV: 54 (dBμV/m)</td></tr>
<tr><td>Frequency Band</td><td colspan="2">Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3m</td></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2(dBμV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK: -27 (dBm/MHz) *1
PK: 10 (dBm/MHz) *2
PK: 15.6 (dBm/MHz) *3
PK: 27 (dBm/MHz) *4</td><td>PK: 68.2(dBμV/m) *1
PK: 105.2 (dBμV/m) *2
PK: 110.8(dBμV/m) *3
PK: 122.2 (dBμV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*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.</td></tr>
</table>

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.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 23, 2020	Mar. 22, 2021
			Mar. 22, 2021	Mar. 21, 2022
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 13, 2020	Jul. 12, 2021
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 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 3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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 detect 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:

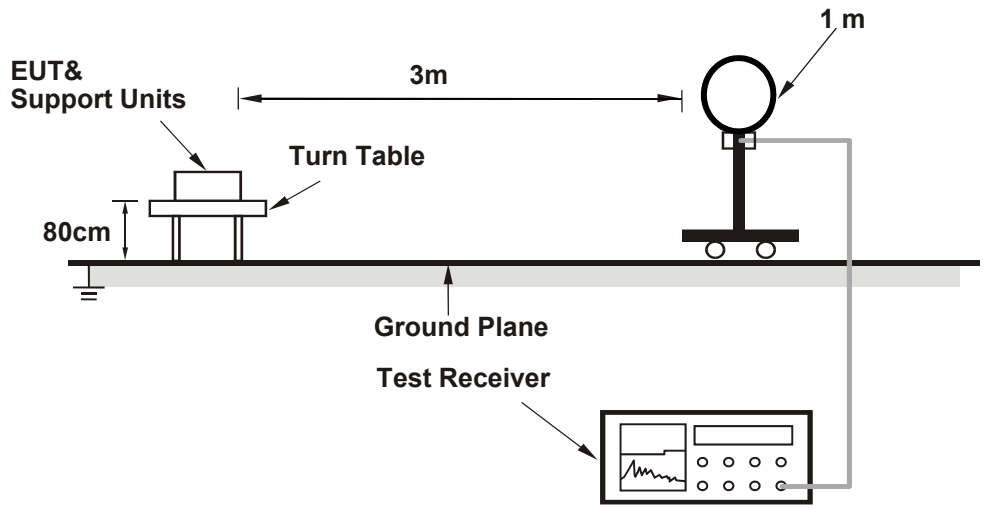
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
   (5G traffic radio: RBW = 1MHz, VBW = 1kHz;
   Scanning radio: 802.11a, 802.11ac (VHT20), 802.11ac (VHT40): RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

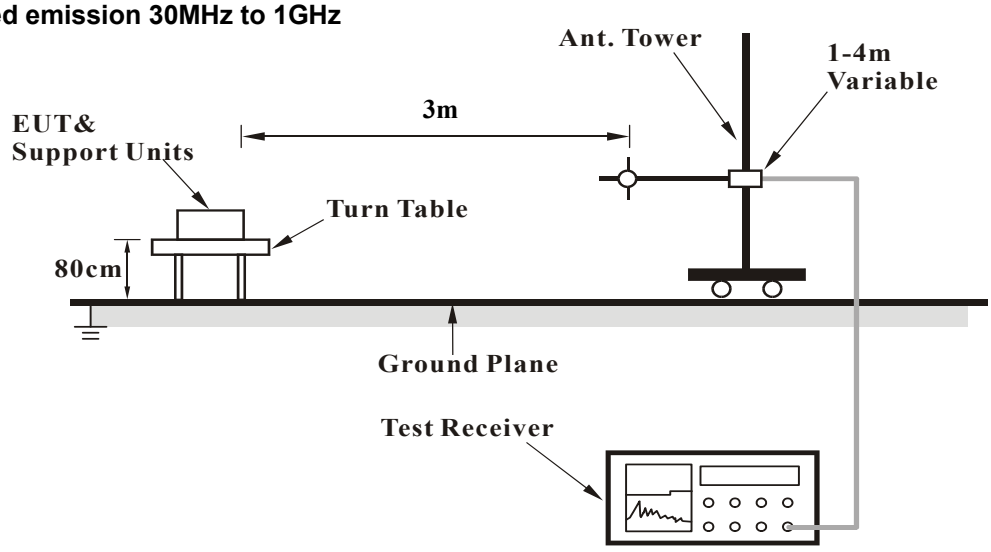
No deviation.

4.1.5 Test Setup

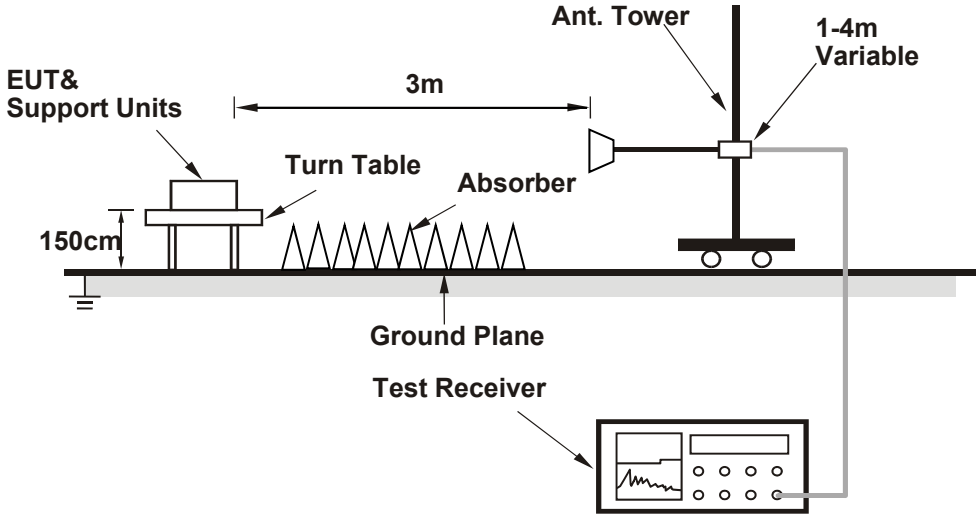
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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 the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz data:

5G traffic radio:

802.11a

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	58.1 PK	74.0	-15.9	1.50 H	200	51.5	6.6
2	5150.00	44.5 AV	54.0	-9.5	1.50 H	200	37.9	6.6
3	*5260.00	106.2 PK			1.46 H	208	64.3	41.9
4	*5260.00	96.6 AV			1.46 H	208	54.7	41.9
5	#10520.00	59.8 PK	68.2	-8.4	1.58 H	321	42.2	17.6
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	58.1 PK	74.0	-15.9	1.62 V	188	51.5	6.6
2	5150.00	45.1 AV	54.0	-8.9	1.62 V	188	38.5	6.6
3	*5260.00	122.3 PK			1.49 V	184	80.4	41.9
4	*5260.00	112.9 AV			1.49 V	184	71.0	41.9
5	#10520.00	59.4 PK	68.2	-8.8	1.43 V	168	41.8	17.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	108.2 PK			1.24 H	203	66.3	41.9
2	*5300.00	98.6 AV			1.24 H	203	56.7	41.9
3	10600.00	58.7 PK	74.0	-15.3	1.55 H	327	41.5	17.2
4	10600.00	44.8 AV	54.0	-9.2	1.55 H	327	27.6	17.2
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	123.9 PK			1.50 V	189	82.0	41.9
2	*5300.00	114.7 AV			1.50 V	189	72.8	41.9
3	10600.00	58.4 PK	74.0	-15.6	1.47 V	168	41.2	17.2
4	10600.00	45.4 AV	54.0	-8.6	1.47 V	168	28.2	17.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	106.3 PK			1.32 H	210	64.3	42.0
2	*5320.00	96.0 AV			1.32 H	210	54.0	42.0
3	5350.00	57.2 PK	74.0	-16.8	1.30 H	204	50.8	6.4
4	5350.00	44.3 AV	54.0	-9.7	1.30 H	204	37.9	6.4
5	10640.00	58.3 PK	74.0	-15.7	1.51 H	302	40.9	17.4
6	10640.00	45.3 AV	54.0	-8.7	1.51 H	302	27.9	17.4
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	*5320.00	121.6 PK			1.53 V	188	79.6	42.0
2	*5320.00	112.4 AV			1.53 V	188	70.4	42.0
3	5350.00	63.1 PK	74.0	-10.9	1.40 V	192	56.7	6.4
4	5350.00	49.6 AV	54.0	-4.4	1.40 V	192	43.2	6.4
5	10640.00	59.0 PK	74.0	-15.0	1.47 V	155	41.6	17.4
6	10640.00	45.3 AV	54.0	-8.7	1.47 V	155	27.9	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	5150.00	58.1 PK	74.0	-15.9	1.32 H	205	51.5	6.6
2	5150.00	45.2 AV	54.0	-8.8	1.32 H	205	38.6	6.6
3	#5470.00	58.1 PK	68.2	-10.1	1.33 H	208	51.8	6.3
4	*5500.00	100.5 PK			1.34 H	205	58.4	42.1
5	*5500.00	90.9 AV			1.34 H	205	48.8	42.1
6	11000.00	60.7 PK	74.0	-13.3	1.39 H	309	42.1	18.6
7	11000.00	47.4 AV	54.0	-6.6	1.39 H	309	28.8	18.6
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	60.0 PK	74.0	-14.0	1.87 V	142	53.7	6.3
2	5460.00	47.8 AV	54.0	-6.2	1.87 V	142	41.5	6.3
3	#5470.00	62.6 PK	68.2	-5.6	1.86 V	6	56.3	6.3
4	*5500.00	123.4 PK			1.80 V	331	81.3	42.1
5	*5500.00	114.0 AV			1.80 V	331	71.9	42.1
6	11000.00	59.8 PK	74.0	-14.2	1.56 V	221	41.2	18.6
7	11000.00	47.2 AV	54.0	-6.8	1.56 V	221	28.6	18.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	101.3 PK			1.33 H	210	59.2	42.1
2	*5580.00	90.8 AV			1.33 H	210	48.7	42.1
3	11160.00	60.6 PK	74.0	-13.4	1.49 H	308	42.1	18.5
4	11160.00	47.2 AV	54.0	-6.8	1.49 H	308	28.7	18.5
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	*5580.00	122.8 PK			1.49 V	332	80.7	42.1
2	*5580.00	112.2 AV			1.49 V	332	70.1	42.1
3	11160.00	60.0 PK	74.0	-14.0	1.62 V	225	41.5	18.5
4	11160.00	47.2 AV	54.0	-6.8	1.62 V	225	28.7	18.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	101.5 PK			1.32 H	210	59.2	42.3
2	*5700.00	91.7 AV			1.32 H	210	49.4	42.3
3	#5725.00	58.4 PK	68.2	-9.8	1.35 H	211	51.9	6.5
4	11400.00	60.1 PK	74.0	-13.9	1.58 H	318	42.2	17.9
5	11400.00	46.8 AV	54.0	-7.2	1.58 H	318	28.9	17.9
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	*5700.00	123.3 PK			1.48 V	360	81.0	42.3
2	*5700.00	114.0 AV			1.48 V	360	71.7	42.3
3	#5725.00	62.5 PK	68.2	-5.7	1.40 V	10	56.0	6.5
4	11400.00	59.4 PK	74.0	-14.6	1.52 V	215	41.5	17.9
5	11400.00	46.4 AV	54.0	-7.6	1.52 V	215	28.5	17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (HE20)

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	58.6 PK	74.0	-15.4	1.40 H	211	52.0	6.6
2	5150.00	44.4 AV	54.0	-9.6	1.40 H	211	37.8	6.6
3	*5260.00	109.6 PK			1.33 H	206	67.7	41.9
4	*5260.00	96.4 AV			1.33 H	206	54.5	41.9
5	#10520.00	59.1 PK	68.2	-9.1	1.44 H	325	41.5	17.6
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	1.63 V	192	51.6	6.6
2	5150.00	45.3 AV	54.0	-8.7	1.63 V	192	38.7	6.6
3	*5260.00	126.1 PK			1.66 V	190	84.2	41.9
4	*5260.00	113.1 AV			1.66 V	190	71.2	41.9
5	#10520.00	59.0 PK	68.2	-9.2	1.48 V	158	41.4	17.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	110.3 PK			1.23 H	201	68.4	41.9
2	*5300.00	97.3 AV			1.23 H	201	55.4	41.9
3	10600.00	58.6 PK	74.0	-15.4	1.00 H	334	41.4	17.2
4	10600.00	44.4 AV	54.0	-9.6	1.00 H	334	27.2	17.2
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	126.7 PK			1.62 V	186	84.8	41.9
2	*5300.00	113.2 AV			1.62 V	186	71.3	41.9
3	10600.00	59.1 PK	74.0	-14.9	1.49 V	171	41.9	17.2
4	10600.00	44.8 AV	54.0	-9.2	1.49 V	171	27.6	17.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	109.0 PK			1.33 H	200	67.0	42.0
2	*5320.00	95.6 AV			1.33 H	200	53.6	42.0
3	5350.00	57.4 PK	74.0	-16.6	1.34 H	198	51.0	6.4
4	5350.00	44.4 AV	54.0	-9.6	1.34 H	198	38.0	6.4
5	10640.00	58.5 PK	74.0	-15.5	1.48 H	311	41.1	17.4
6	10640.00	44.5 AV	54.0	-9.5	1.48 H	311	27.1	17.4
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	*5320.00	124.2 PK			1.63 V	186	82.2	42.0
2	*5320.00	111.0 AV			1.63 V	186	69.0	42.0
3	5350.00	62.3 PK	74.0	-11.7	1.38 V	196	55.9	6.4
4	5350.00	49.6 AV	54.0	-4.4	1.38 V	196	43.2	6.4
5	10640.00	59.5 PK	74.0	-14.5	1.39 V	158	42.1	17.4
6	10640.00	45.4 AV	54.0	-8.6	1.39 V	158	28.0	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	57.8 PK	74.0	-16.2	1.45 H	212	51.5	6.3
2	5460.00	45.0 AV	54.0	-9.0	1.45 H	212	38.7	6.3
3	#5470.00	58.4 PK	68.2	-9.8	1.48 H	216	52.1	6.3
4	*5500.00	103.5 PK			1.47 H	214	61.4	42.1
5	*5500.00	90.5 AV			1.47 H	214	48.4	42.1
6	11000.00	60.5 PK	74.0	-13.5	1.58 H	321	41.9	18.6
7	11000.00	47.2 AV	54.0	-6.8	1.58 H	321	28.6	18.6
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	59.8 PK	74.0	-14.2	1.73 V	141	53.5	6.3
2	5460.00	47.3 AV	54.0	-6.7	1.73 V	141	41.0	6.3
3	#5470.00	61.3 PK	68.2	-6.9	1.14 V	324	55.0	6.3
4	*5500.00	126.3 PK			1.73 V	324	84.2	42.1
5	*5500.00	113.3 AV			1.73 V	324	71.2	42.1
6	11000.00	60.3 PK	74.0	-13.7	1.55 V	225	41.7	18.6
7	11000.00	47.4 AV	54.0	-6.6	1.55 V	225	28.8	18.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	102.4 PK			1.39 H	201	60.3	42.1
2	*5580.00	89.7 AV			1.39 H	201	47.6	42.1
3	11160.00	60.6 PK	74.0	-13.4	1.52 H	318	42.1	18.5
4	11160.00	47.2 AV	54.0	-6.8	1.52 H	318	28.7	18.5
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	*5580.00	126.2 PK			1.45 V	10	84.1	42.1
2	*5580.00	113.2 AV			1.45 V	10	71.1	42.1
3	11160.00	60.6 PK	74.0	-13.4	1.61 V	231	42.1	18.5
4	11160.00	47.3 AV	54.0	-6.7	1.61 V	231	28.8	18.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	105.3 PK			1.37 H	200	63.0	42.3
2	*5700.00	92.3 AV			1.37 H	200	50.0	42.3
3	#5725.00	58.7 PK	68.2	-9.5	1.39 H	202	52.2	6.5
4	11400.00	60.0 PK	74.0	-14.0	1.66 H	328	42.1	17.9
5	11400.00	46.6 AV	54.0	-7.4	1.66 H	328	28.7	17.9
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	*5700.00	127.1 PK			1.48 V	329	84.8	42.3
2	*5700.00	113.8 AV			1.48 V	329	71.5	42.3
3	#5725.00	64.8 PK	68.2	-3.4	1.28 V	327	58.3	6.5
4	11400.00	59.4 PK	74.0	-14.6	1.59 V	231	41.5	17.9
5	11400.00	46.7 AV	54.0	-7.3	1.59 V	231	28.8	17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (HE40)

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	58.0 PK	74.0	-16.0	1.20 H	199	51.4	6.6
2	5150.00	44.4 AV	54.0	-9.6	1.20 H	199	37.8	6.6
3	*5270.00	108.3 PK			1.15 H	203	66.4	41.9
4	*5270.00	95.2 AV			1.15 H	203	53.3	41.9
5	5350.00	57.4 PK	74.0	-16.6	1.21 H	201	51.0	6.4
6	5350.00	44.4 AV	54.0	-9.6	1.21 H	201	38.0	6.4
7	#10540.00	58.9 PK	68.2	-9.3	1.43 H	327	41.3	17.6
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	59.2 PK	74.0	-14.8	1.53 V	189	52.6	6.6
2	5150.00	45.9 AV	54.0	-8.1	1.53 V	189	39.3	6.6
3	*5270.00	122.6 PK			1.60 V	191	80.7	41.9
4	*5270.00	109.9 AV			1.60 V	191	68.0	41.9
5	5350.00	59.2 PK	74.0	-14.8	1.30 V	179	52.8	6.4
6	5350.00	46.0 AV	54.0	-8.0	1.30 V	179	39.6	6.4
7	#10540.00	59.8 PK	68.2	-8.4	1.47 V	158	42.2	17.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	104.3 PK			1.15 H	200	62.3	42.0
2	*5310.00	91.7 AV			1.15 H	200	49.7	42.0
3	5350.00	57.6 PK	74.0	-16.4	1.26 H	206	51.2	6.4
4	5350.00	44.4 AV	54.0	-9.6	1.26 H	206	38.0	6.4
5	10620.00	58.3 PK	74.0	-15.7	1.42 H	327	40.9	17.4
6	10620.00	44.4 AV	54.0	-9.6	1.42 H	327	27.0	17.4
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	*5310.00	121.0 PK			1.59 V	193	79.0	42.0
2	*5310.00	107.6 AV			1.59 V	193	65.6	42.0
3	5350.00	67.0 PK	74.0	-7.0	1.60 V	191	60.6	6.4
4	5350.00	52.9 AV	54.0	-1.1	1.60 V	191	46.5	6.4
5	10620.00	58.7 PK	74.0	-15.3	1.55 V	170	41.3	17.4
6	10620.00	45.3 AV	54.0	-8.7	1.55 V	170	27.9	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	57.8 PK	74.0	-16.2	1.48 H	233	51.5	6.3
2	5460.00	44.8 AV	54.0	-9.2	1.48 H	233	38.5	6.3
3	#5470.00	58.2 PK	68.2	-10.0	1.52 H	235	51.9	6.3
4	*5510.00	99.7 PK			1.51 H	241	57.6	42.1
5	*5510.00	87.4 AV			1.51 H	241	45.3	42.1
6	11020.00	60.4 PK	74.0	-13.6	1.59 H	325	41.8	18.6
7	11020.00	47.2 AV	54.0	-6.8	1.59 H	325	28.6	18.6
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	60.7 PK	74.0	-13.3	1.46 V	336	54.4	6.3
2	5460.00	47.6 AV	54.0	-6.4	1.46 V	336	41.3	6.3
3	#5470.00	66.5 PK	68.2	-1.7	1.51 V	5	60.2	6.3
4	*5510.00	121.1 PK			1.88 V	333	79.0	42.1
5	*5510.00	108.0 AV			1.88 V	333	65.9	42.1
6	11020.00	60.1 PK	74.0	-13.9	1.58 V	228	41.5	18.6
7	11020.00	47.3 AV	54.0	-6.7	1.58 V	228	28.7	18.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	100.1 PK			1.71 H	206	58.0	42.1
2	*5550.00	87.5 AV			1.71 H	206	45.4	42.1
3	11100.00	60.2 PK	74.0	-13.8	1.45 H	322	41.9	18.3
4	11100.00	46.9 AV	54.0	-7.1	1.45 H	322	28.6	18.3
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	*5550.00	121.0 PK			1.67 V	332	78.9	42.1
2	*5550.00	107.9 AV			1.67 V	332	65.8	42.1
3	11100.00	59.9 PK	74.0	-14.1	1.62 V	233	41.6	18.3
4	11100.00	47.0 AV	54.0	-7.0	1.62 V	233	28.7	18.3

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	101.8 PK			1.73 H	198	59.6	42.2
2	*5670.00	88.8 AV			1.73 H	198	46.6	42.2
3	#5725.00	58.4 PK	68.2	-9.8	1.75 H	199	51.9	6.5
4	11340.00	60.2 PK	74.0	-13.8	1.49 H	314	42.1	18.1
5	11340.00	46.9 AV	54.0	-7.1	1.49 H	314	28.8	18.1
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	*5670.00	120.3 PK			1.73 V	326	78.1	42.2
2	*5670.00	107.1 AV			1.73 V	326	64.9	42.2
3	#5725.00	58.2 PK	68.2	-10.0	1.69 V	321	51.7	6.5
4	11340.00	59.6 PK	74.0	-14.4	1.61 V	224	41.5	18.1
5	11340.00	46.7 AV	54.0	-7.3	1.61 V	224	28.6	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (HE80)

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	57.8 PK	74.0	-16.2	1.22 H	211	51.2	6.6
2	5150.00	44.4 AV	54.0	-9.6	1.22 H	211	37.8	6.6
3	*5290.00	103.9 PK			1.14 H	202	62.0	41.9
4	*5290.00	90.3 AV			1.14 H	202	48.4	41.9
5	5350.00	57.6 PK	74.0	-16.4	1.18 H	207	51.2	6.4
6	5350.00	44.6 AV	54.0	-9.4	1.18 H	207	38.2	6.4
7	#10580.00	58.9 PK	68.2	-9.3	1.50 H	309	41.5	17.4
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	5150.00	59.0 PK	74.0	-15.0	1.64 V	189	52.4	6.6
2	5150.00	46.1 AV	54.0	-7.9	1.64 V	189	39.5	6.6
3	*5290.00	117.9 PK			1.64 V	186	76.0	41.9
4	*5290.00	105.8 AV			1.64 V	186	63.9	41.9
5	5350.00	64.8 PK	74.0	-9.2	1.65 V	188	58.4	6.4
6	5350.00	52.8 AV	54.0	-1.2	1.65 V	188	46.4	6.4
7	#10580.00	59.4 PK	68.2	-8.8	1.44 V	169	42.0	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	57.5 PK	74.0	-16.5	1.44 H	235	51.2	6.3
2	5460.00	44.7 AV	54.0	-9.3	1.44 H	235	38.4	6.3
3	#5470.00	57.8 PK	68.2	-10.4	1.42 H	233	51.5	6.3
4	*5530.00	97.7 PK			1.51 H	238	55.6	42.1
5	*5530.00	83.7 AV			1.51 H	238	41.6	42.1
6	#5725.00	58.2 PK	68.2	-10.0	1.52 H	239	51.7	6.5
7	11060.00	60.4 PK	74.0	-13.6	1.69 H	336	42.0	18.4
8	11060.00	47.1 AV	54.0	-6.9	1.69 H	336	28.7	18.4
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	5460.00	63.7 PK	74.0	-10.3	1.31 V	341	57.4	6.3
2	5460.00	48.4 AV	54.0	-5.6	1.31 V	341	42.1	6.3
3	#5470.00	67.1 PK	68.2	-1.1	1.41 V	331	60.8	6.3
4	*5530.00	117.6 PK			1.84 V	329	75.5	42.1
5	*5530.00	104.4 AV			1.84 V	329	62.3	42.1
6	#5725.00	58.7 PK	68.2	-9.5	1.43 V	336	52.2	6.5
7	11060.00	59.9 PK	74.0	-14.1	1.58 V	221	41.5	18.4
8	11060.00	46.9 AV	54.0	-7.1	1.58 V	221	28.5	18.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 122	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	1.45 H	147	51.2	6.3
2	5460.00	44.8 AV	54.0	-9.2	1.45 H	147	38.5	6.3
3	#5470.00	57.9 PK	68.2	-10.3	1.47 H	149	51.6	6.3
4	*5610.00	97.3 PK			1.48 H	154	55.2	42.1
5	*5610.00	85.2 AV			1.48 H	154	43.1	42.1
6	#5725.00	58.3 PK	68.2	-9.9	1.50 H	155	51.8	6.5
7	11220.00	60.7 PK	74.0	-13.3	1.66 H	321	42.2	18.5
8	11220.00	47.3 AV	54.0	-6.7	1.66 H	321	28.8	18.5
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	5460.00	59.0 PK	74.0	-15.0	1.68 V	328	52.7	6.3
2	5460.00	45.7 AV	54.0	-8.3	1.68 V	328	39.4	6.3
3	#5470.00	59.4 PK	68.2	-8.8	1.72 V	335	53.1	6.3
4	*5610.00	118.1 PK			1.97 V	332	76.0	42.1
5	*5610.00	104.9 AV			1.97 V	332	62.8	42.1
6	#5725.00	63.1 PK	68.2	-5.1	1.76 V	332	56.6	6.5
7	11220.00	60.0 PK	74.0	-14.0	1.49 V	224	41.5	18.5
8	11220.00	47.0 AV	54.0	-7.0	1.49 V	224	28.5	18.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Scanning radio:

802.11a

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	57.6 PK	74.0	-16.4	1.66 H	111	51.2	6.4
2	5150.00	44.6 AV	54.0	-9.4	1.66 H	111	38.2	6.4
3	*5260.00	104.4 PK			1.60 H	109	62.5	41.9
4	*5260.00	93.7 AV			1.60 H	109	51.8	41.9
5	#10520.00	58.4 PK	68.2	-9.8	1.79 H	51	40.2	18.2
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	5150.00	62.2 PK	74.0	-11.8	1.43 V	144	55.8	6.4
2	5150.00	49.6 AV	54.0	-4.4	1.43 V	144	43.2	6.4
3	*5260.00	120.4 PK			1.54 V	326	78.5	41.9
4	*5260.00	109.1 AV			1.54 V	326	67.2	41.9
5	#10520.00	59.2 PK	68.2	-9.0	2.03 V	152	41.0	18.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	104.2 PK			1.63 H	101	62.3	41.9
2	*5300.00	93.6 AV			1.63 H	101	51.7	41.9
3	10600.00	59.3 PK	74.0	-14.7	1.78 H	34	41.7	17.6
4	10600.00	45.7 AV	54.0	-8.3	1.78 H	34	28.1	17.6
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	121.1 PK			1.51 V	13	79.2	41.9
2	*5300.00	109.6 AV			1.51 V	13	67.7	41.9
3	10600.00	59.2 PK	74.0	-14.8	1.97 V	166	41.6	17.6
4	10600.00	46.0 AV	54.0	-8.0	1.97 V	166	28.4	17.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	103.6 PK			1.55 H	109	61.6	42.0
2	*5320.00	92.7 AV			1.55 H	109	50.7	42.0
3	5350.00	57.7 PK	74.0	-16.3	1.62 H	110	51.4	6.3
4	5350.00	45.0 AV	54.0	-9.0	1.62 H	110	38.7	6.3
5	10640.00	58.9 PK	74.0	-15.1	1.92 H	51	41.4	17.5
6	10640.00	45.0 AV	54.0	-9.0	1.92 H	51	27.5	17.5
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	*5320.00	119.2 PK			1.49 V	11	77.2	42.0
2	*5320.00	108.4 AV			1.49 V	11	66.4	42.0
3	5350.00	67.3 PK	74.0	-6.7	1.40 V	10	61.0	6.3
4	5350.00	52.5 AV	54.0	-1.5	1.40 V	10	46.2	6.3
5	10640.00	58.8 PK	74.0	-15.2	1.99 V	153	41.3	17.5
6	10640.00	45.6 AV	54.0	-8.4	1.99 V	153	28.1	17.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	57.7 PK	74.0	-16.3	1.40 H	188	51.4	6.3
2	5460.00	44.8 AV	54.0	-9.2	1.40 H	188	38.5	6.3
3	#5470.00	58.8 PK	68.2	-9.4	1.44 H	190	52.6	6.2
4	*5500.00	104.1 PK			1.41 H	189	62.0	42.1
5	*5500.00	93.2 AV			1.41 H	189	51.1	42.1
6	11000.00	59.3 PK	74.0	-14.7	1.81 H	55	41.2	18.1
7	11000.00	46.0 AV	54.0	-8.0	1.81 H	55	27.9	18.1
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	5460.00	65.4 PK	74.0	-8.6	1.37 V	145	59.1	6.3
2	5460.00	51.3 AV	54.0	-2.7	1.37 V	145	45.0	6.3
3	**#5470.00**	**67.2 PK**	**68.2**	**-1.0**	**1.30 V**	**143**	**61.0**	**6.2**
4	*5500.00	119.1 PK			1.37 V	140	77.0	42.1
5	*5500.00	107.4 AV			1.37 V	140	65.3	42.1
6	11000.00	60.1 PK	74.0	-13.9	2.17 V	172	42.0	18.1
7	11000.00	46.8 AV	54.0	-7.2	2.17 V	172	28.7	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	104.9 PK			1.44 H	179	62.8	42.1
2	*5580.00	93.4 AV			1.44 H	179	51.3	42.1
3	11160.00	59.3 PK	74.0	-14.7	1.89 H	57	40.9	18.4
4	11160.00	45.6 AV	54.0	-8.4	1.89 H	57	27.2	18.4
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	*5580.00	120.4 PK			1.45 V	139	78.3	42.1
2	*5580.00	109.1 AV			1.45 V	139	67.0	42.1
3	11160.00	60.6 PK	74.0	-13.4	2.13 V	163	42.2	18.4
4	11160.00	46.5 AV	54.0	-7.5	2.13 V	163	28.1	18.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	102.9 PK			1.13 H	182	60.6	42.3
2	*5700.00	91.2 AV			1.13 H	182	48.9	42.3
3	#5725.00	58.2 PK	68.2	-10.0	1.20 H	188	52.0	6.2
4	11400.00	59.0 PK	74.0	-15.0	1.72 H	60	41.1	17.9
5	11400.00	45.1 AV	54.0	-8.9	1.72 H	60	27.2	17.9
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	*5700.00	117.1 PK			1.45 V	142	74.8	42.3
2	*5700.00	105.7 AV			1.45 V	142	63.4	42.3
3	#5725.00	66.6 PK	68.2	-1.6	1.51 V	132	60.4	6.2
4	11400.00	59.8 PK	74.0	-14.2	2.01 V	166	41.9	17.9
5	11400.00	45.8 AV	54.0	-8.2	2.01 V	166	27.9	17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT20)

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	57.8 PK	74.0	-16.2	1.62 H	113	51.4	6.4
2	5150.00	44.6 AV	54.0	-9.4	1.62 H	113	38.2	6.4
3	*5260.00	102.4 PK			1.58 H	0	60.5	41.9
4	*5260.00	92.7 AV			1.58 H	0	50.8	41.9
5	#10520.00	59.3 PK	68.2	-8.9	1.72 H	49	41.1	18.2
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	5150.00	63.1 PK	74.0	-10.9	1.35 V	16	56.7	6.4
2	5150.00	39.1 AV	54.0	-14.9	1.35 V	16	32.7	6.4
3	*5260.00	119.1 PK			1.40 V	15	77.2	41.9
4	*5260.00	108.8 AV			1.40 V	15	66.9	41.9
5	#10520.00	59.0 PK	68.2	-9.2	2.01 V	162	40.8	18.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	104.1 PK			1.56 H	109	62.2	41.9
2	*5300.00	93.8 AV			1.56 H	109	51.9	41.9
3	10600.00	58.5 PK	74.0	-15.5	1.59 H	44	40.9	17.6
4	10600.00	45.2 AV	54.0	-8.8	1.59 H	44	27.6	17.6
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	119.1 PK			1.50 V	13	77.2	41.9
2	*5300.00	109.1 AV			1.50 V	13	67.2	41.9
3	10600.00	59.1 PK	74.0	-14.9	1.92 V	188	41.5	17.6
4	10600.00	45.7 AV	54.0	-8.3	1.92 V	188	28.1	17.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	102.0 PK			1.52 H	107	60.0	42.0
2	*5320.00	92.3 AV			1.52 H	107	50.3	42.0
3	5350.00	57.7 PK	74.0	-16.3	1.55 H	108	51.4	6.3
4	5350.00	44.6 AV	54.0	-9.4	1.55 H	108	38.3	6.3
5	10640.00	58.3 PK	74.0	-15.7	1.69 H	45	40.8	17.5
6	10640.00	45.5 AV	54.0	-8.5	1.69 H	45	28.0	17.5
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	*5320.00	118.2 PK			1.34 V	11	76.2	42.0
2	*5320.00	107.7 AV			1.34 V	11	65.7	42.0
3	5350.00	66.9 PK	74.0	-7.1	1.51 V	12	60.6	6.3
4	5350.00	52.7 AV	54.0	-1.3	1.51 V	12	46.4	6.3
5	10640.00	59.2 PK	74.0	-14.8	2.10 V	182	41.7	17.5
6	10640.00	45.8 AV	54.0	-8.2	2.10 V	182	28.3	17.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	58.4 PK	74.0	-15.6	1.44 H	182	52.1	6.3
2	5460.00	44.7 AV	54.0	-9.3	1.44 H	182	38.4	6.3
3	#5470.00	58.6 PK	68.2	-9.6	1.41 H	182	52.4	6.2
4	*5500.00	102.9 PK			1.40 H	190	60.8	42.1
5	*5500.00	92.5 AV			1.40 H	190	50.4	42.1
6	11000.00	59.1 PK	74.0	-14.9	1.99 H	38	41.0	18.1
7	11000.00	45.6 AV	54.0	-8.4	1.99 H	38	27.5	18.1
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	5460.00	65.3 PK	74.0	-8.7	1.30 V	144	59.0	6.3
2	5460.00	51.0 AV	54.0	-3.0	1.30 V	144	44.7	6.3
3	#5470.00	66.8 PK	68.2	-1.4	1.26 V	143	60.6	6.2
4	*5500.00	117.5 PK			1.44 V	144	75.4	42.1
5	*5500.00	107.2 AV			1.44 V	144	65.1	42.1
6	11000.00	60.4 PK	74.0	-13.6	2.00 V	175	42.3	18.1
7	11000.00	46.2 AV	54.0	-7.8	2.00 V	175	28.1	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	103.8 PK			1.27 H	187	61.7	42.1
2	*5580.00	93.1 AV			1.27 H	187	51.0	42.1
3	11160.00	59.8 PK	74.0	-14.2	1.77 H	29	41.4	18.4
4	11160.00	46.0 AV	54.0	-8.0	1.77 H	29	27.6	18.4
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	*5580.00	118.8 PK			1.38 V	143	76.7	42.1
2	*5580.00	108.5 AV			1.38 V	143	66.4	42.1
3	11160.00	60.5 PK	74.0	-13.5	2.15 V	176	42.1	18.4
4	11160.00	46.7 AV	54.0	-7.3	2.15 V	176	28.3	18.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	101.2 PK			1.22 H	186	58.9	42.3
2	*5700.00	90.8 AV			1.22 H	186	48.5	42.3
3	#5725.00	48.3 PK	68.2	-19.9	1.23 H	180	42.1	6.2
4	11400.00	59.1 PK	74.0	-14.9	1.72 H	51	41.2	17.9
5	11400.00	44.9 AV	54.0	-9.1	1.72 H	51	27.0	17.9
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	*5700.00	116.2 PK			1.32 V	141	73.9	42.3
2	*5700.00	105.7 AV			1.32 V	141	63.4	42.3
3	#5725.00	66.9 PK	68.2	-1.3	1.44 V	136	60.7	6.2
4	11400.00	59.1 PK	74.0	-14.9	2.03 V	167	41.2	17.9
5	11400.00	45.5 AV	54.0	-8.5	2.03 V	167	27.6	17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

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	57.8 PK	74.0	-16.2	1.73 H	120	51.4	6.4
2	5150.00	45.1 AV	54.0	-8.9	1.73 H	120	38.7	6.4
3	*5270.00	101.6 PK			1.74 H	112	59.7	41.9
4	*5270.00	91.4 AV			1.74 H	112	49.5	41.9
5	5350.00	58.2 PK	74.0	-15.8	1.71 H	0	51.9	6.3
6	5350.00	45.1 AV	54.0	-8.9	1.71 H	0	38.8	6.3
7	#10540.00	59.7 PK	68.2	-8.5	1.68 H	37	41.6	18.1
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	62.7 PK	74.0	-11.3	1.48 V	326	56.3	6.4
2	5150.00	49.9 AV	54.0	-4.1	1.48 V	326	43.5	6.4
3	*5270.00	117.5 PK			1.42 V	324	75.6	41.9
4	*5270.00	106.8 AV			1.42 V	324	64.9	41.9
5	5350.00	62.2 PK	74.0	-11.8	1.41 V	323	55.9	6.3
6	5350.00	50.1 AV	54.0	-3.9	1.41 V	323	43.8	6.3
7	#10540.00	59.3 PK	68.2	-8.9	1.89 V	158	41.2	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	94.5 PK			1.68 H	110	52.5	42.0
2	*5310.00	84.4 AV			1.68 H	110	42.4	42.0
3	5350.00	58.5 PK	74.0	-15.5	1.66 H	108	52.2	6.3
4	5350.00	45.0 AV	54.0	-9.0	1.66 H	108	38.7	6.3
5	10620.00	59.1 PK	74.0	-14.9	1.89 H	53	41.4	17.7
6	10620.00	45.3 AV	54.0	-8.7	1.89 H	53	27.6	17.7
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	*5310.00	110.0 PK			1.47 V	326	68.0	42.0
2	*5310.00	99.3 AV			1.47 V	326	57.3	42.0
3	5350.00	64.5 PK	74.0	-9.5	1.44 V	324	58.2	6.3
4	5350.00	52.5 AV	54.0	-1.5	1.44 V	324	46.2	6.3
5	10620.00	59.3 PK	74.0	-14.7	1.88 V	171	41.6	17.7
6	10620.00	45.8 AV	54.0	-8.2	1.88 V	171	28.1	17.7

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	57.6 PK	74.0	-16.4	1.37 H	182	51.3	6.3
2	5460.00	45.1 AV	54.0	-8.9	1.37 H	182	38.8	6.3
3	#5470.00	58.4 PK	68.2	-9.8	1.41 H	189	52.2	6.2
4	*5510.00	96.2 PK			1.38 H	189	54.1	42.1
5	*5510.00	85.0 AV			1.38 H	189	42.9	42.1
6	11020.00	59.4 PK	74.0	-14.6	1.85 H	50	41.3	18.1
7	11020.00	45.7 AV	54.0	-8.3	1.85 H	50	27.6	18.1
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	5460.00	62.0 PK	74.0	-12.0	1.33 V	145	55.7	6.3
2	5460.00	48.3 AV	54.0	-5.7	1.33 V	145	42.0	6.3
3	**#5470.00**	**67.2 PK**	**68.2**	**-1.0**	**1.34 V**	**141**	**61.0**	**6.2**
4	*5510.00	111.1 PK			1.36 V	141	69.0	42.1
5	*5510.00	99.5 AV			1.36 V	141	57.4	42.1
6	11020.00	59.9 PK	74.0	-14.1	1.97 V	177	41.8	18.1
7	11020.00	46.0 AV	54.0	-8.0	1.97 V	177	27.9	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	100.3 PK			1.38 H	192	58.2	42.1
2	*5550.00	89.6 AV			1.38 H	192	47.5	42.1
3	11100.00	59.0 PK	74.0	-15.0	1.66 H	41	40.8	18.2
4	11100.00	45.2 AV	54.0	-8.8	1.66 H	41	27.0	18.2
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	*5550.00	116.7 PK			1.26 V	144	74.6	42.1
2	*5550.00	106.0 AV			1.26 V	144	63.9	42.1
3	11100.00	59.4 PK	74.0	-14.6	1.99 V	167	41.2	18.2
4	11100.00	45.3 AV	54.0	-8.7	1.99 V	167	27.1	18.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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	99.4 PK			1.28 H	183	57.2	42.2
2	*5670.00	89.2 AV			1.28 H	183	47.0	42.2
3	#5725.00	57.5 PK	68.2	-10.7	1.28 H	183	51.3	6.2
4	11340.00	59.3 PK	74.0	-14.7	1.89 H	34	41.0	18.3
5	11340.00	45.5 AV	54.0	-8.5	1.89 H	34	27.2	18.3
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	*5670.00	114.7 PK			1.43 V	141	72.5	42.2
2	*5670.00	104.2 AV			1.43 V	141	62.0	42.2
3	#5725.00	62.4 PK	68.2	-5.8	1.39 V	138	56.2	6.2
4	11340.00	59.3 PK	74.0	-14.7	2.08 V	182	41.0	18.3
5	11340.00	45.8 AV	54.0	-8.2	2.08 V	182	27.5	18.3

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

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	58.2 PK	74.0	-15.8	1.61 H	117	51.8	6.4
2	5150.00	45.4 AV	54.0	-8.6	1.61 H	117	39.0	6.4
3	*5290.00	92.1 PK			1.56 H	107	50.2	41.9
4	*5290.00	79.3 AV			1.56 H	107	37.4	41.9
5	5350.00	57.8 PK	74.0	-16.2	1.58 H	109	51.5	6.3
6	5350.00	45.7 AV	54.0	-8.3	1.58 H	109	39.4	6.3
7	#10580.00	58.1 PK	68.2	-10.1	1.77 H	39	40.3	17.8
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	5150.00	58.1 PK	74.0	-15.9	1.36 V	324	51.7	6.4
2	5150.00	46.7 AV	54.0	-7.3	1.36 V	324	40.3	6.4
3	*5290.00	107.2 PK			1.30 V	326	65.3	41.9
4	*5290.00	94.4 AV			1.30 V	326	52.5	41.9
5	5350.00	65.8 PK	74.0	-8.2	1.41 V	324	59.5	6.3
6	5350.00	52.7 AV	54.0	-1.3	1.41 V	324	46.4	6.3
7	#10580.00	58.9 PK	68.2	-9.3	1.99 V	183	41.1	17.8

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	58.2 PK	74.0	-15.8	1.30 H	190	51.9	6.3
2	5460.00	45.8 AV	54.0	-8.2	1.30 H	190	39.5	6.3
3	#5470.00	59.2 PK	68.2	-9.0	1.38 H	188	53.0	6.2
4	*5530.00	89.4 PK			1.27 H	193	47.3	42.1
5	*5530.00	79.1 AV			1.27 H	193	37.0	42.1
6	#5725.00	57.8 PK	68.2	-10.4	1.28 H	190	51.6	6.2
7	11060.00	59.0 PK	74.0	-15.0	1.59 H	28	40.9	18.1
8	11060.00	45.3 AV	54.0	-8.7	1.59 H	28	27.2	18.1
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	5460.00	61.9 PK	74.0	-12.1	1.33 V	145	55.6	6.3
2	5460.00	49.5 AV	54.0	-4.5	1.33 V	145	43.2	6.3
3	**#5470.00**	**67.2 PK**	**68.2**	**-1.0**	**1.32 V**	**141**	**61.0**	**6.2**
4	*5530.00	104.3 PK			1.35 V	143	62.2	42.1
5	*5530.00	93.7 AV			1.35 V	143	51.6	42.1
6	#5725.00	60.4 PK	68.2	-7.8	1.37 V	150	54.2	6.2
7	11060.00	58.4 PK	74.0	-15.6	2.12 V	163	40.3	18.1
8	11060.00	45.2 AV	54.0	-8.8	2.12 V	163	27.1	18.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 122	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	58.0 PK	74.0	-16.0	1.22 H	179	51.7	6.3
2	5460.00	45.7 AV	54.0	-8.3	1.22 H	179	39.4	6.3
3	#5470.00	59.1 PK	68.2	-9.1	1.17 H	188	52.9	6.2
4	*5610.00	98.0 PK			1.12 H	187	55.9	42.1
5	*5610.00	87.1 AV			1.12 H	187	45.0	42.1
6	#5725.00	58.6 PK	68.2	-9.6	1.19 H	187	52.4	6.2
7	11220.00	59.8 PK	74.0	-14.2	1.68 H	47	41.3	18.5
8	11220.00	45.7 AV	54.0	-8.3	1.68 H	47	27.2	18.5
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	5460.00	52.9 PK	74.0	-21.1	1.34 V	145	46.6	6.3
2	5460.00	39.8 AV	54.0	-14.2	1.34 V	145	33.5	6.3
3	#5470.00	66.8 PK	68.2	-1.4	1.33 V	147	60.6	6.2
4	*5610.00	113.5 PK			1.39 V	144	71.4	42.1
5	*5610.00	102.3 AV			1.39 V	144	60.2	42.1
6	#5725.00	60.0 PK	68.2	-8.2	1.47 V	165	53.8	6.2
7	11220.00	60.0 PK	74.0	-14.0	2.03 V	158	41.5	18.5
8	11220.00	45.7 AV	54.0	-8.3	2.03 V	158	27.2	18.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Worst-Case

5G traffic radio:

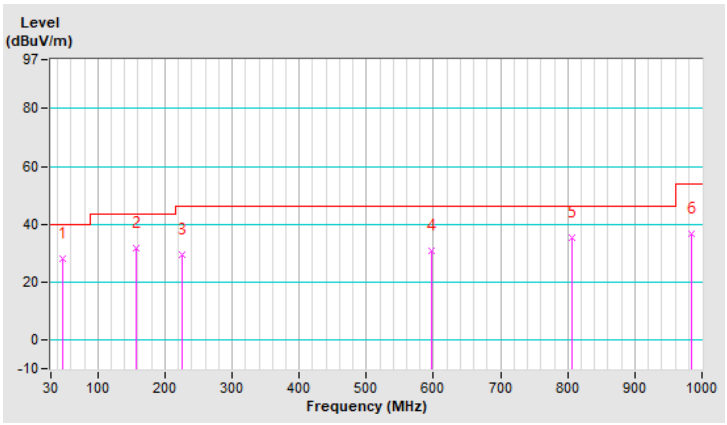
802.11ax (HE80)

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	48.28	28.0 QP	40.0	-12.0	1.00 H	261	37.1	-9.1
2	156.52	31.9 QP	43.5	-11.6	2.00 H	128	40.3	-8.4
3	225.41	29.5 QP	46.0	-16.5	1.00 H	148	40.0	-10.5
4	596.54	30.9 QP	46.0	-15.1	1.00 H	103	30.7	0.2
5	806.00	35.4 QP	46.0	-10.6	1.00 H	212	31.3	4.1
6	984.54	36.9 QP	54.0	-17.1	1.00 H	16	29.9	7.0

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 emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

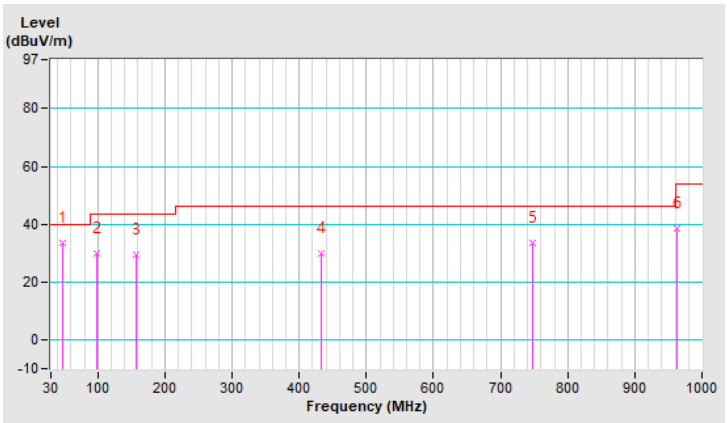


CHANNEL	TX Channel 106	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	48.28	33.5 QP	40.0	-6.5	1.00 V	119	42.6	-9.1
2	98.88	30.0 QP	43.5	-13.5	1.00 V	102	43.5	-13.5
3	156.52	29.4 QP	43.5	-14.1	1.00 V	289	37.8	-8.4
4	433.46	30.1 QP	46.0	-15.9	1.00 V	195	33.6	-3.5
5	748.36	33.6 QP	46.0	-12.4	1.00 V	155	30.3	3.3
6	962.04	38.7 QP	54.0	-15.3	1.00 V	280	31.9	6.8

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 emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



Scanning radio:

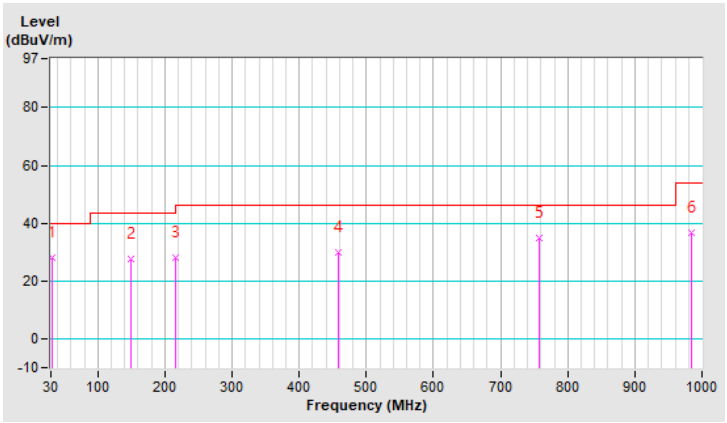
802.11ac (VHT40)

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	28.2 QP	40.0	-11.8	1.00 H	113	39.2	-11.0
2	149.49	27.5 QP	43.5	-16.0	1.50 H	129	36.1	-8.6
3	215.57	28.3 QP	43.5	-15.2	1.50 H	123	39.0	-10.7
4	457.36	29.9 QP	46.0	-16.1	1.50 H	236	33.0	-3.1
5	758.20	34.8 QP	46.0	-11.2	1.50 H	204	31.6	3.2
6	984.54	36.9 QP	54.0	-17.1	2.00 H	227	29.9	7.0

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 emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

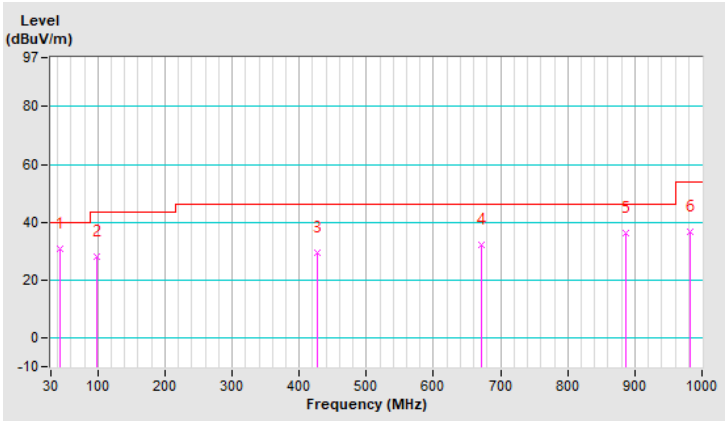


CHANNEL	TX Channel 62	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.06	30.9 QP	40.0	-9.1	1.00 V	91	40.1	-9.2
2	98.88	27.9 QP	43.5	-15.6	1.00 V	114	41.4	-13.5
3	426.43	29.5 QP	46.0	-16.5	1.50 V	16	33.3	-3.8
4	671.04	32.3 QP	46.0	-13.7	1.50 V	306	30.8	1.5
5	886.13	36.3 QP	46.0	-9.7	1.50 V	118	30.9	5.4
6	983.13	36.8 QP	54.0	-17.2	2.00 V	294	29.8	7.0

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 emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB 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 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Dec. 21, 2020	Dec. 20, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 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 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.

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.

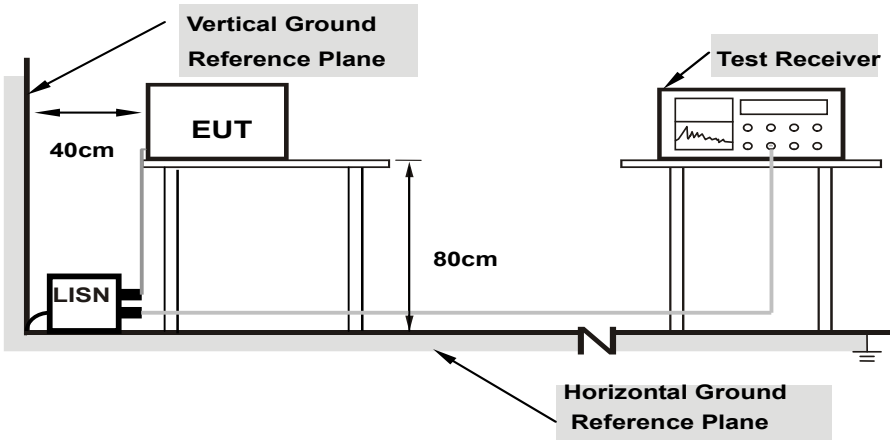
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

5G traffic radio:

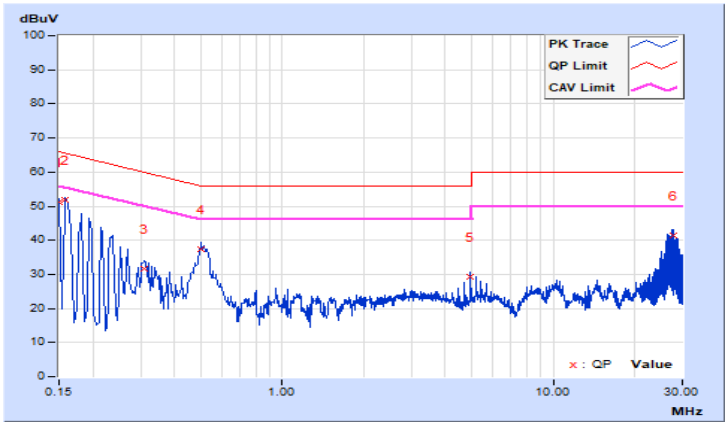
802.11ax (HE80)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.07	41.21	25.42	51.28	35.49	66.00	56.00	-14.72	-20.51
2	0.15800	10.07	41.62	25.33	51.69	35.40	65.57	55.57	-13.88	-20.17
3	0.30873	10.09	21.68	10.07	31.77	20.16	60.00	50.00	-28.23	-29.84
4	0.50200	10.10	27.25	21.12	37.35	31.22	56.00	46.00	-18.65	-14.78
5	4.95400	10.24	19.06	17.28	29.30	27.52	56.00	46.00	-26.70	-18.48
6	27.85000	10.25	31.22	28.60	41.47	38.85	60.00	50.00	-18.53	-11.15

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.

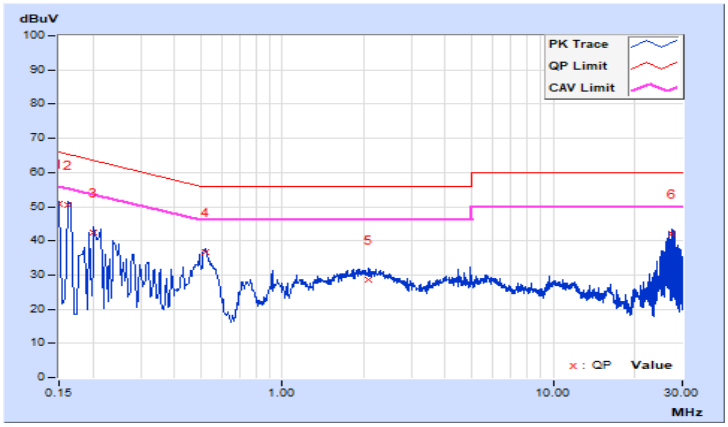


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.08	40.64	24.92	50.72	35.00	66.00	56.00	-15.28	-21.00
2	0.16190	10.08	40.51	23.89	50.59	33.97	65.37	55.37	-14.78	-21.40
3	0.20200	10.08	32.48	15.76	42.56	25.84	63.53	53.53	-20.97	-27.69
4	0.51879	10.11	26.63	21.58	36.74	31.69	56.00	46.00	-19.26	-14.31
5	2.08200	10.17	18.57	13.75	28.74	23.92	56.00	46.00	-27.26	-22.08
6	**27.61800**	**10.44**	**31.67**	**28.54**	**42.11**	**38.98**	**60.00**	**50.00**	**-17.89**	**-11.02**

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.



Scanning radio:

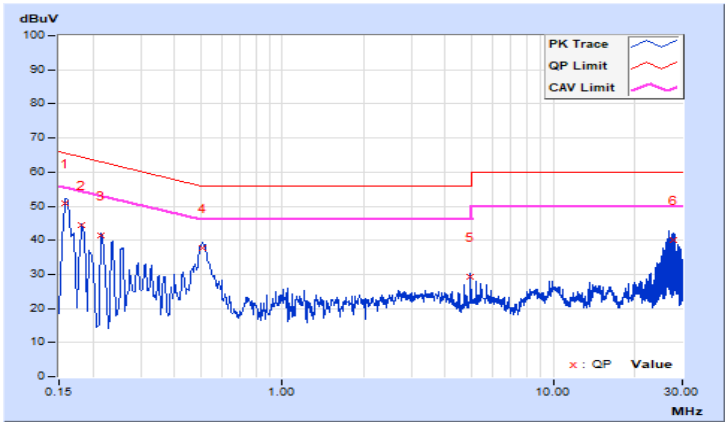
802.11ac (VHT40)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	10.07	40.63	24.50	50.70	34.57	65.57	55.57	-14.87	-21.00
2	0.18200	10.07	34.46	19.80	44.53	29.87	64.39	54.39	-19.86	-24.52
3	0.21400	10.08	31.19	15.97	41.27	26.05	63.05	53.05	-21.78	-27.00
4	0.50663	10.10	27.51	20.49	37.61	30.59	56.00	46.00	-18.39	-15.41
5	4.95800	10.24	19.19	17.51	29.43	27.75	56.00	46.00	-26.57	-18.25
6	27.85800	10.25	29.68	26.23	39.93	36.48	60.00	50.00	-20.07	-13.52

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.

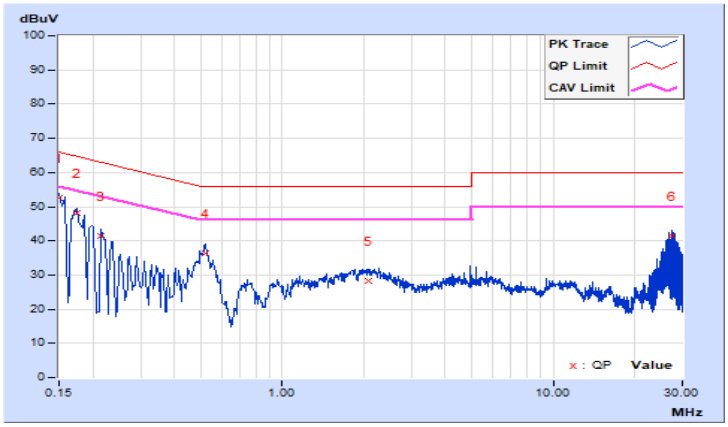


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.08	42.38	24.69	52.46	34.77	66.00	56.00	-13.54	-21.23
2	0.17384	10.08	38.02	21.48	48.10	31.56	64.77	54.77	-16.67	-23.21
3	0.21400	10.08	31.47	16.46	41.55	26.54	63.05	53.05	-21.50	-26.51
4	0.52153	10.11	26.39	21.13	36.50	31.24	56.00	46.00	-19.50	-14.76
5	2.07000	10.17	18.24	13.48	28.41	23.65	56.00	46.00	-27.59	-22.35
6	27.38200	10.45	31.12	24.43	41.57	34.88	60.00	50.00	-18.43	-15.12

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 ≦ 125mW(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	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3			1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

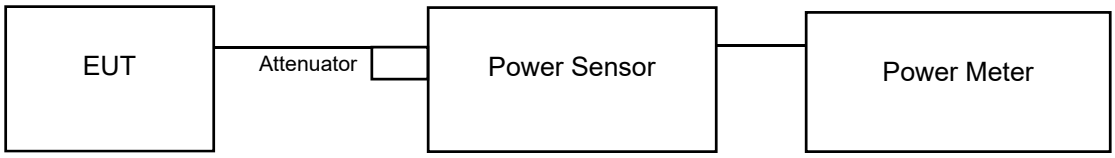
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

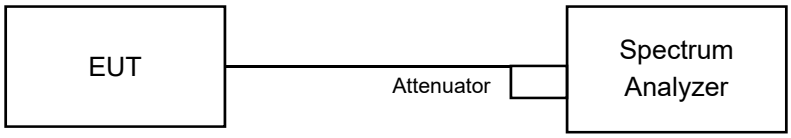
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

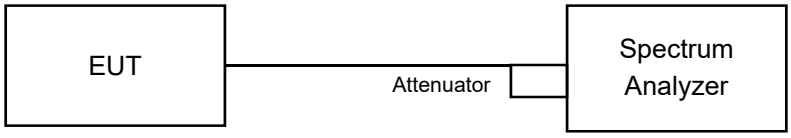
For Power Output
802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ax (HE20), 802.11ax (HE40)



802.11ac (VHT80), 802.11ax (HE80)



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ax (HE20), 802.11ax (HE40)

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.

For 802.11ac (VHT80) , 802.11ax (HE80)

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 26dB Bandwidth

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > 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 Result

Power Output:

5G traffic radio: CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	10.52	10.44	10.44	11.32	46.956	16.72	23.17	Pass
60	5300	10.41	10.62	10.65	11.23	47.413	16.76	23.18	Pass
64	5320	10.55	10.68	10.66	11.17	47.778	16.79	23.21	Pass
100	5500	10.85	11.15	11.22	11.74	53.365	17.27	22.73	Pass
116	5580	11.04	10.89	10.94	11.88	52.814	17.23	22.69	Pass
140	5700	10.86	11.09	11.07	11.81	53.007	17.24	22.68	Pass

Note:

1. For Ch 52: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 23.87 - (6.7 - 6) = 23.17dBm.
2. For Ch 60: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 23.88 - (6.7 - 6) = 23.18dBm.
3. For Ch 64: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 23.91 - (6.7 - 6) = 23.21dBm.
4. For Ch 100: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 23.93 - (7.2 - 6) = 22.73dBm.
5. For Ch 116: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 23.89 - (7.2 - 6) = 22.69dBm.
6. For Ch 140: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 23.88 - (7.2 - 6) = 22.68dBm.

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

Chain 0

1. 11dBm + 10log (19.79) = 23.96 < 24dBm
2. 11dBm + 10log (19.59) = 23.92 < 24dBm
3. 11dBm + 10log (19.58) = 23.91 < 24dBm
4. 11dBm + 10log (19.94) = 23.99 < 24dBm
5. 11dBm + 10log (19.74) = 23.95 < 24dBm
6. 11dBm + 10log (19.50) = 23.90 < 24dBm

Chain 1

1. 11dBm + 10log (19.40) = 23.87 < 24dBm
2. 11dBm + 10log (19.42) = 23.88 < 24dBm
3. 11dBm + 10log (19.59) = 23.92 < 24dBm
4. 11dBm + 10log (19.64) = 23.93 < 24dBm
5. 11dBm + 10log (19.47) = 23.89 < 24dBm
6. 11dBm + 10log (19.85) = 23.97 < 24dBm

Chain 2

1. 11dBm + 10log (19.67) = 23.93 < 24dBm
2. 11dBm + 10log (19.64) = 23.93 < 24dBm
3. 11dBm + 10log (19.84) = 23.97 < 24dBm
4. 11dBm + 10log (19.68) = 23.94 < 24dBm
5. 11dBm + 10log (19.54) = 23.90 < 24dBm
6. 11dBm + 10log (19.42) = 23.88 < 24dBm

Chain 3

1. 11dBm + 10log (19.60) = 23.92 < 24dBm
2. 11dBm + 10log (19.88) = 23.98 < 24dBm
3. 11dBm + 10log (19.68) = 23.94 < 24dBm
4. 11dBm + 10log (19.66) = 23.93 < 24dBm
5. 11dBm + 10log (19.56) = 23.91 < 24dBm
6. 11dBm + 10log (19.66) = 23.93 < 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	10.96	11.05	10.73	12.10	53.257	17.26	23.30	Pass
60	5300	11.05	11.10	10.80	11.67	52.329	17.19	23.30	Pass
64	5320	10.85	11.06	10.81	11.77	52.008	17.16	23.30	Pass
100	5500	11.53	11.37	11.60	12.30	59.369	17.74	22.80	Pass
116	5580	11.42	11.55	11.48	12.47	59.877	17.77	22.80	Pass
140	5700	11.56	11.38	11.34	12.50	59.460	17.74	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (21.46) = 24.31 > 24dBm
2. 11dBm + 10log (21.56) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.34) = 24.29 > 24dBm
5. 11dBm + 10log (22.04) = 24.43 > 24dBm
6. 11dBm + 10log (21.19) = 24.26 > 24dBm

Chain 1

1. 11dBm + 10log (21.27) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.58) = 24.34 > 24dBm
5. 11dBm + 10log (21.35) = 24.29 > 24dBm
6. 11dBm + 10log (21.50) = 24.32 > 24dBm

Chain 2

1. 11dBm + 10log (21.24) = 24.27 > 24dBm
2. 11dBm + 10log (21.44) = 24.31 > 24dBm
3. 11dBm + 10log (21.22) = 24.26 > 24dBm
4. 11dBm + 10log (21.64) = 24.35 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm

Chain 3

1. 11dBm + 10log (21.21) = 24.26 > 24dBm
2. 11dBm + 10log (21.38) = 24.30 > 24dBm
3. 11dBm + 10log (21.35) = 24.29 > 24dBm
4. 11dBm + 10log (21.28) = 24.27 > 24dBm
5. 11dBm + 10log (21.42) = 24.30 > 24dBm
6. 11dBm + 10log (21.23) = 24.26 > 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	13.50	13.40	13.68	14.31	94.577	19.76	23.30	Pass
62	5310	13.90	14.08	13.90	15.03	106.522	20.27	23.30	Pass
102	5510	13.57	13.36	13.52	14.33	94.020	19.73	22.80	Pass
110	5550	13.41	13.44	13.51	14.20	92.750	19.67	22.80	Pass
134	5670	13.53	13.43	13.41	14.33	93.602	19.71	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (41.82) = 27.21 > 24dBm
2. 11dBm + 10log (42.46) = 27.27 > 24dBm
3. 11dBm + 10log (42.26) = 27.25 > 24dBm
4. 11dBm + 10log (42.14) = 27.24 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

Chain 1

1. 11dBm + 10log (42.39) = 27.27 > 24dBm
2. 11dBm + 10log (42.21) = 27.25 > 24dBm
3. 11dBm + 10log (42.29) = 27.26 > 24dBm
4. 11dBm + 10log (42.31) = 27.26 > 24dBm
5. 11dBm + 10log (41.98) = 27.23 > 24dBm

Chain 2

1. 11dBm + 10log (42.42) = 27.27 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (42.11) = 27.24 > 24dBm
5. 11dBm + 10log (42.42) = 27.27 > 24dBm

Chain 3

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (42.27) = 27.26 > 24dBm
3. 11dBm + 10log (42.21) = 27.25 > 24dBm
4. 11dBm + 10log (42.22) = 27.25 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.02	14.90	14.80	16.00	132.682	21.23	23.30	Pass
106	5530	16.45	16.36	16.42	17.58	188.541	22.75	22.80	Pass
122	5610	16.50	16.46	16.52	17.42	189.009	22.76	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (83.50) = 30.21 > 24dBm
2. 11dBm + 10log (83.34) = 30.20 > 24dBm
3. 11dBm + 10log (83.06) = 30.19 > 24dBm

Chain 1

1. 11dBm + 10log (82.62) = 30.17 > 24dBm
2. 11dBm + 10log (82.94) = 30.18 > 24dBm
3. 11dBm + 10log (82.55) = 30.16 > 24dBm

Chain 2

1. 11dBm + 10log (82.68) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (82.58) = 30.16 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (83.02) = 30.19 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	10.98	11.07	10.76	12.12	53.531	17.29	23.30	Pass
60	5300	11.09	11.12	10.82	11.71	52.698	17.22	23.30	Pass
64	5320	10.87	11.08	10.83	11.79	52.248	17.18	23.30	Pass
100	5500	11.58	11.41	11.63	12.33	59.878	17.77	22.80	Pass
116	5580	11.44	11.57	11.51	12.49	60.186	17.79	22.80	Pass
140	5700	11.58	11.41	11.36	12.52	59.766	17.76	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (21.46) = 24.31 > 24dBm
2. 11dBm + 10log (21.56) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.34) = 24.29 > 24dBm
5. 11dBm + 10log (22.04) = 24.43 > 24dBm
6. 11dBm + 10log (21.19) = 24.26 > 24dBm

Chain 1

1. 11dBm + 10log (21.27) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.58) = 24.34 > 24dBm
5. 11dBm + 10log (21.35) = 24.29 > 24dBm
6. 11dBm + 10log (21.50) = 24.32 > 24dBm

Chain 2

1. 11dBm + 10log (21.24) = 24.27 > 24dBm
2. 11dBm + 10log (21.44) = 24.31 > 24dBm
3. 11dBm + 10log (21.22) = 24.26 > 24dBm
4. 11dBm + 10log (21.64) = 24.35 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm

Chain 3

1. 11dBm + 10log (21.21) = 24.26 > 24dBm
2. 11dBm + 10log (21.38) = 24.30 > 24dBm
3. 11dBm + 10log (21.35) = 24.29 > 24dBm
4. 11dBm + 10log (21.28) = 24.27 > 24dBm
5. 11dBm + 10log (21.42) = 24.30 > 24dBm
6. 11dBm + 10log (21.23) = 24.26 > 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	13.52	13.42	13.71	14.33	95.067	19.78	23.30	Pass
62	5310	13.92	14.11	13.93	15.07	107.277	20.31	23.30	Pass
102	5510	13.59	13.38	13.54	14.35	94.454	19.75	22.80	Pass
110	5550	13.43	13.48	13.53	14.23	93.341	19.70	22.80	Pass
134	5670	13.56	13.45	13.43	14.36	94.149	19.74	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (41.82) = 27.21 > 24dBm
2. 11dBm + 10log (42.46) = 27.27 > 24dBm
3. 11dBm + 10log (42.26) = 27.25 > 24dBm
4. 11dBm + 10log (42.14) = 27.24 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

Chain 1

1. 11dBm + 10log (42.39) = 27.27 > 24dBm
2. 11dBm + 10log (42.21) = 27.25 > 24dBm
3. 11dBm + 10log (42.29) = 27.26 > 24dBm
4. 11dBm + 10log (42.31) = 27.26 > 24dBm
5. 11dBm + 10log (41.98) = 27.23 > 24dBm

Chain 2

1. 11dBm + 10log (42.42) = 27.27 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (42.11) = 27.24 > 24dBm
5. 11dBm + 10log (42.42) = 27.27 > 24dBm

Chain 3

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (42.27) = 27.26 > 24dBm
3. 11dBm + 10log (42.21) = 27.25 > 24dBm
4. 11dBm + 10log (42.22) = 27.25 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.04	14.92	14.82	16.02	133.294	21.25	23.30	Pass
106	5530	16.47	16.38	16.44	17.61	189.544	22.78	22.80	Pass
122	5610	16.52	16.48	16.55	17.44	189.986	22.79	22.80	Pass

Note:

1. For U-NII-2A: Antenna gain = 6.7dBi > 6dBi, so the power limit shall be reduced to 24 - (6.7 - 6) = 23.30dBm.
2. For U-NII-2C: Antenna gain = 7.2dBi > 6dBi, so the power limit shall be reduced to 24 - (7.2 - 6) = 22.80dBm.

Note:

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

Chain 0

1. 11dBm + 10log (83.50) = 30.21 > 24dBm
2. 11dBm + 10log (83.34) = 30.20 > 24dBm
3. 11dBm + 10log (83.06) = 30.19 > 24dBm

Chain 1

1. 11dBm + 10log (82.62) = 30.17 > 24dBm
2. 11dBm + 10log (82.94) = 30.18 > 24dBm
3. 11dBm + 10log (82.55) = 30.16 > 24dBm

Chain 2

1. 11dBm + 10log (82.68) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (82.58) = 30.16 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (83.02) = 30.19 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm

5G traffic radio: Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	4.94	5.03	4.71	6.08	13.316	11.24	17.28	Pass
60	5300	5.03	5.08	4.78	5.65	13.084	11.17	17.28	Pass
64	5320	4.83	5.04	4.79	5.75	13.004	11.14	17.28	Pass
100	5500	5.51	5.35	5.58	6.28	14.844	11.72	16.78	Pass
116	5580	5.40	5.53	5.46	6.45	14.971	11.75	16.78	Pass
140	5700	5.54	5.36	5.32	6.48	14.867	11.72	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (21.46) = 24.31 > 24dBm
2. 11dBm + 10log (21.56) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.34) = 24.29 > 24dBm
5. 11dBm + 10log (22.04) = 24.43 > 24dBm
6. 11dBm + 10log (21.19) = 24.26 > 24dBm

Chain 1
1. 11dBm + 10log (21.27) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.58) = 24.34 > 24dBm
5. 11dBm + 10log (21.35) = 24.29 > 24dBm
6. 11dBm + 10log (21.50) = 24.32 > 24dBm

Chain 2
1. 11dBm + 10log (21.24) = 24.27 > 24dBm
2. 11dBm + 10log (21.44) = 24.31 > 24dBm
3. 11dBm + 10log (21.22) = 24.26 > 24dBm
4. 11dBm + 10log (21.64) = 24.35 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm

Chain 3

1. 11dBm + 10log (21.21) = 24.26 > 24dBm
2. 11dBm + 10log (21.38) = 24.30 > 24dBm
3. 11dBm + 10log (21.35) = 24.29 > 24dBm
4. 11dBm + 10log (21.28) = 24.27 > 24dBm
5. 11dBm + 10log (21.42) = 24.30 > 24dBm
6. 11dBm + 10log (21.23) = 24.26 > 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	7.48	7.38	7.66	8.29	23.647	13.74	17.28	Pass
62	5310	7.88	8.06	7.88	9.01	26.634	14.25	17.28	Pass
102	5510	7.55	7.34	7.50	8.31	23.508	13.71	16.78	Pass
110	5550	7.39	7.42	7.49	8.18	23.191	13.65	16.78	Pass
134	5670	7.51	7.41	7.39	8.31	23.404	13.69	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

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

Chain 0

1. 11dBm + 10log (41.82) = 27.21 > 24dBm
2. 11dBm + 10log (42.46) = 27.27 > 24dBm
3. 11dBm + 10log (42.26) = 27.25 > 24dBm
4. 11dBm + 10log (42.14) = 27.24 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

Chain 1

1. 11dBm + 10log (42.39) = 27.27 > 24dBm
2. 11dBm + 10log (42.21) = 27.25 > 24dBm
3. 11dBm + 10log (42.29) = 27.26 > 24dBm
4. 11dBm + 10log (42.31) = 27.26 > 24dBm
5. 11dBm + 10log (41.98) = 27.23 > 24dBm

Chain 2

1. 11dBm + 10log (42.42) = 27.27 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (42.11) = 27.24 > 24dBm
5. 11dBm + 10log (42.42) = 27.27 > 24dBm

Chain 3

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (42.27) = 27.26 > 24dBm
3. 11dBm + 10log (42.21) = 27.25 > 24dBm
4. 11dBm + 10log (42.22) = 27.25 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	9.00	8.88	8.78	9.98	33.175	15.21	17.28	Pass
106	5530	10.43	10.34	10.40	11.56	47.142	16.73	16.78	Pass
122	5610	10.48	10.44	10.50	11.40	47.259	16.74	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0

1. 11dBm + 10log (83.50) = 30.21 > 24dBm
2. 11dBm + 10log (83.34) = 30.20 > 24dBm
3. 11dBm + 10log (83.06) = 30.19 > 24dBm

Chain 1

1. 11dBm + 10log (82.62) = 30.17 > 24dBm
2. 11dBm + 10log (82.94) = 30.18 > 24dBm
3. 11dBm + 10log (82.55) = 30.16 > 24dBm

Chain 2

1. 11dBm + 10log (82.68) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (82.58) = 30.16 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (83.02) = 30.19 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	4.96	5.05	4.74	6.10	13.385	11.27	17.28	Pass
60	5300	5.07	5.10	4.80	5.69	13.176	11.20	17.28	Pass
64	5320	4.85	5.06	4.81	5.77	13.064	11.16	17.28	Pass
100	5500	5.56	5.39	5.61	6.31	14.972	11.75	16.78	Pass
116	5580	5.42	5.55	5.49	6.47	15.049	11.78	16.78	Pass
140	5700	5.56	5.39	5.34	6.50	14.944	11.74	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (21.46) = 24.31 > 24dBm
2. 11dBm + 10log (21.56) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.34) = 24.29 > 24dBm
5. 11dBm + 10log (22.04) = 24.43 > 24dBm
6. 11dBm + 10log (21.19) = 24.26 > 24dBm

Chain 1
1. 11dBm + 10log (21.27) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.58) = 24.34 > 24dBm
5. 11dBm + 10log (21.35) = 24.29 > 24dBm
6. 11dBm + 10log (21.50) = 24.32 > 24dBm

Chain 2
1. 11dBm + 10log (21.24) = 24.27 > 24dBm
2. 11dBm + 10log (21.44) = 24.31 > 24dBm
3. 11dBm + 10log (21.22) = 24.26 > 24dBm
4. 11dBm + 10log (21.64) = 24.35 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm

Chain 3
1. 11dBm + 10log (21.21) = 24.26 > 24dBm
2. 11dBm + 10log (21.38) = 24.30 > 24dBm
3. 11dBm + 10log (21.35) = 24.29 > 24dBm
4. 11dBm + 10log (21.28) = 24.27 > 24dBm
5. 11dBm + 10log (21.42) = 24.30 > 24dBm
6. 11dBm + 10log (21.23) = 24.26 > 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	7.50	7.40	7.69	8.31	23.770	13.76	17.28	Pass
62	5310	7.90	8.09	7.91	9.05	26.823	14.29	17.28	Pass
102	5510	7.57	7.36	7.52	8.33	23.617	13.73	16.78	Pass
110	5550	7.41	7.46	7.51	8.21	23.338	13.68	16.78	Pass
134	5670	7.54	7.43	7.41	8.34	23.540	13.72	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

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

Chain 0

1. 11dBm + 10log (41.82) = 27.21 > 24dBm
2. 11dBm + 10log (42.46) = 27.27 > 24dBm
3. 11dBm + 10log (42.26) = 27.25 > 24dBm
4. 11dBm + 10log (42.14) = 27.24 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

Chain 1

1. 11dBm + 10log (42.39) = 27.27 > 24dBm
2. 11dBm + 10log (42.21) = 27.25 > 24dBm
3. 11dBm + 10log (42.29) = 27.26 > 24dBm
4. 11dBm + 10log (42.31) = 27.26 > 24dBm
5. 11dBm + 10log (41.98) = 27.23 > 24dBm

Chain 2

1. 11dBm + 10log (42.42) = 27.27 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (42.11) = 27.24 > 24dBm
5. 11dBm + 10log (42.42) = 27.27 > 24dBm

Chain 3

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (42.27) = 27.26 > 24dBm
3. 11dBm + 10log (42.21) = 27.25 > 24dBm
4. 11dBm + 10log (42.22) = 27.25 > 24dBm
5. 11dBm + 10log (42.16) = 27.24 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	9.02	8.90	8.80	10.00	33.328	15.23	17.28	Pass
106	5530	10.45	10.36	10.42	11.59	47.393	16.76	16.78	Pass
122	5610	10.50	10.46	10.53	11.42	47.503	16.77	16.78	Pass

*For U-NII-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 24-(12.72-6) = 17.28dBm.
For U-NII-2C: Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 24-(13.22-6) = 16.78dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (83.50) = 30.21 > 24dBm
2. 11dBm + 10log (83.34) = 30.20 > 24dBm
3. 11dBm + 10log (83.06) = 30.19 > 24dBm

Chain 1
1. 11dBm + 10log (82.62) = 30.17 > 24dBm
2. 11dBm + 10log (82.94) = 30.18 > 24dBm
3. 11dBm + 10log (82.55) = 30.16 > 24dBm

Chain 2
1. 11dBm + 10log (82.68) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm
3. 11dBm + 10log (82.58) = 30.16 > 24dBm

Chain 3
1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (83.02) = 30.19 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm

Scanning radio:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	14.73	15.74	67.214	18.27	23.30	Pass
60	5300	14.77	15.64	66.635	18.24	23.30	Pass
64	5320	14.78	15.65	66.789	18.25	23.30	Pass
100	5500	15.44	17.24	87.961	19.44	22.80	Pass
116	5580	15.97	16.49	84.102	19.25	22.80	Pass
140	5700	15.53	16.06	76.092	18.81	22.80	Pass

* For U-NII-2A: Antenna gain = 6.7 dBi > 6dBi, so the limit shall be reduced to 24-(6.7-6) = 23.30dBm.
For U-NII-2C: Antenna gain = 7.2 dBi > 6dBi, so the limit shall be reduced to 24-(7.2-6) = 22.80dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (23.69) = 24.74 > 24dBm
2. 11dBm + 10log (23.35) = 24.68 > 24dBm
3. 11dBm + 10log (23.25) = 24.66 > 24dBm
4. 11dBm + 10log (23.50) = 24.71 > 24dBm
5. 11dBm + 10log (23.31) = 24.67 > 24dBm
6. 11dBm + 10log (22.84) = 24.58 > 24dBm

Chain 1
1. 11dBm + 10log (23.49) = 24.70 > 24dBm
2. 11dBm + 10log (23.87) = 24.77 > 24dBm
3. 11dBm + 10log (23.40) = 24.69 > 24dBm
4. 11dBm + 10log (23.25) = 24.66 > 24dBm
5. 11dBm + 10log (22.95) = 24.60 > 24dBm
6. 11dBm + 10log (22.54) = 24.52 > 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	14.86	15.62	67.095	18.27	23.30	Pass
60	5300	14.95	15.58	67.402	18.29	23.30	Pass
64	5320	14.73	15.67	66.614	18.24	23.30	Pass
100	5500	15.54	17.42	91.017	19.59	22.80	Pass
116	5580	15.96	16.39	82.997	19.19	22.80	Pass
140	5700	15.21	15.75	70.773	18.50	22.80	Pass

* For U-NII-2A: Antenna gain = 6.7 dBi > 6dBi, so the limit shall be reduced to 24-(6.7-6) = 23.30dBm.
For U-NII-2C: Antenna gain = 7.2 dBi > 6dBi, so the limit shall be reduced to 24-(7.2-6) = 22.80dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (23.94) = 24.79 > 24dBm
2. 11dBm + 10log (23.78) = 24.76 > 24dBm
3. 11dBm + 10log (23.97) = 24.79 > 24dBm
4. 11dBm + 10log (23.74) = 24.75 > 24dBm
5. 11dBm + 10log (24.36) = 24.86 > 24dBm
6. 11dBm + 10log (23.50) = 24.71 > 24dBm

Chain 1
1. 11dBm + 10log (24.05) = 24.81 > 24dBm
2. 11dBm + 10log (23.73) = 24.75 > 24dBm
3. 11dBm + 10log (23.69) = 24.74 > 24dBm
4. 11dBm + 10log (24.56) = 24.90 > 24dBm
5. 11dBm + 10log (23.90) = 24.78 > 24dBm
6. 11dBm + 10log (23.56) = 24.72 > 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	19.47	20.06	189.903	22.79	23.30	Pass
62	5310	12.74	13.75	42.507	16.28	23.30	Pass
102	5510	11.97	13.94	40.514	16.08	22.80	Pass
110	5550	19.28	20.07	186.348	22.70	22.80	Pass
134	5670	19.14	20.01	182.266	22.61	22.80	Pass

* For U-NII-2A: Antenna gain = 6.7 dBi > 6dBi, so the limit shall be reduced to 24-(6.7-6) = 23.30dBm.
For U-NII-2C: Antenna gain = 7.2 dBi > 6dBi, so the limit shall be reduced to 24-(7.2-6) = 22.80dBm.

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (72.33) = 29.59 > 24dBm
2. 11dBm + 10log (46.20) = 27.64 > 24dBm
3. 11dBm + 10log (47.10) = 27.73 > 24dBm
4. 11dBm + 10log (58.02) = 28.63 > 24dBm
5. 11dBm + 10log (50.14) = 28.00 > 24dBm

Chain 1
1. 11dBm + 10log (70.51) = 29.48 > 24dBm
2. 11dBm + 10log (46.51) = 27.67 > 24dBm
3. 11dBm + 10log (45.58) = 27.58 > 24dBm
4. 11dBm + 10log (56.22) = 28.49 > 24dBm
5. 11dBm + 10log (53.67) = 28.29 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	10.37	11.65	25.511	14.07	23.30	Pass
106	5530	8.24	10.01	16.691	12.22	22.80	Pass
122	5610	19.17	19.72	176.360	22.46	22.80	Pass

* For U-NII-2A: Antenna gain = 6.7 dBi > 6dBi, so the limit shall be reduced to 24-(6.7-6) = 23.30dBm.
For U-NII-2C: Antenna gain = 7.2 dBi > 6dBi, so the limit shall be reduced to 24-(7.2-6) = 22.80dBm.

Note:

For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (86.66) = 30.37 > 24dBm
2. 11dBm + 10log (86.52) = 30.37 > 24dBm
3. 11dBm + 10log (109.79) = 31.40 > 24dBm

Chain 1
1. 11dBm + 10log (86.44) = 30.36 > 24dBm
2. 11dBm + 10log (86.63) = 30.37 > 24dBm
3. 11dBm + 10log (114.81) = 31.59 > 24dBm

26dB Bandwidth:

5G traffic radio:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.79	19.40	19.67	19.60
60	5300	19.59	19.42	19.64	19.88
64	5320	19.58	19.59	19.84	19.68
100	5500	19.94	19.64	19.68	19.66
116	5580	19.74	19.47	19.54	19.56
140	5700	19.50	19.85	19.42	19.66

802.11ax (HE20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.46	21.27	21.24	21.21
60	5300	21.56	21.50	21.44	21.38
64	5320	21.57	21.45	21.22	21.35
100	5500	21.34	21.58	21.64	21.28
116	5580	22.04	21.35	21.36	21.42
140	5700	21.19	21.50	21.60	21.23

802.11ax (HE40)

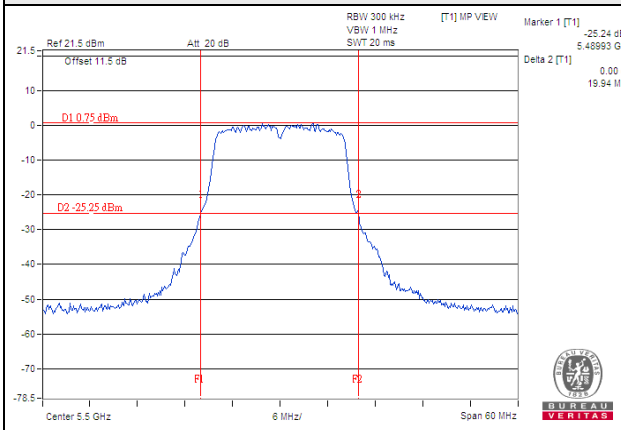
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.82	42.39	42.42	42.12
62	5310	42.46	42.21	42.36	42.27
102	5510	42.26	42.29	42.03	42.21
110	5550	42.14	42.31	42.11	42.22
134	5670	42.16	41.98	42.42	42.16

802.11ax (HE80)

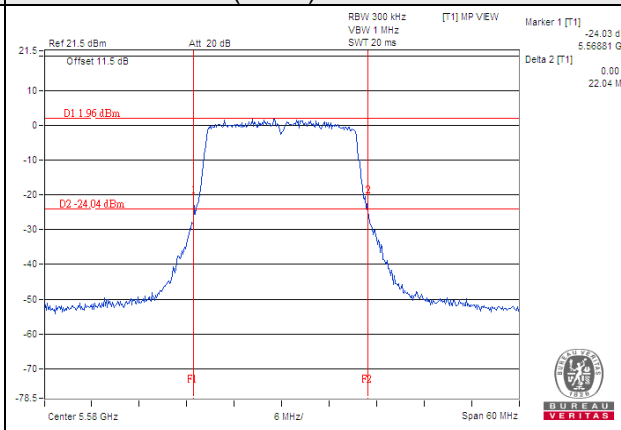
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.50	82.62	82.68	83.01
106	5530	83.34	82.94	83.32	83.02
122	5610	83.06	82.55	82.58	82.91

Spectrum Plot of Worst Value

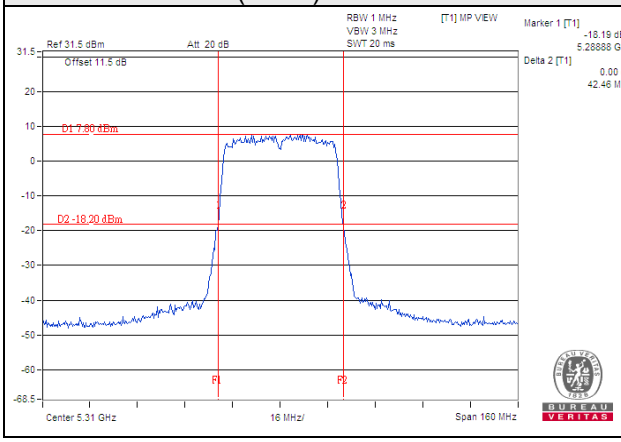
802.11a / Chain 0 / Ch 100



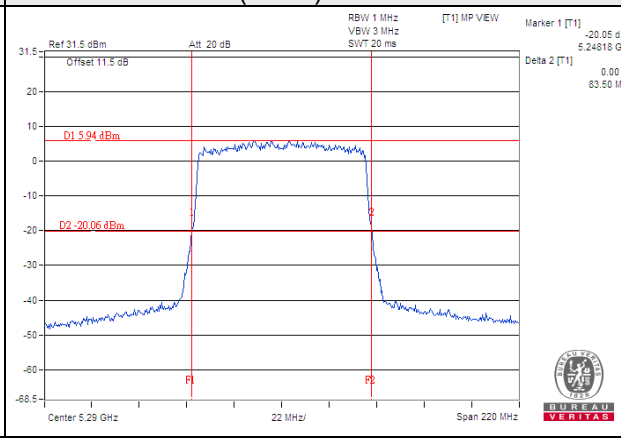
802.11ax (HE20) / Chain 0 / Ch 116



802.11ax (HE40) / Chain 0 / Ch 62



802.11ax (HE80) / Chain 0 / Ch 58



Scanning radio:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	23.69	23.49
60	5300	23.35	23.87
64	5320	23.25	23.40
100	5500	23.50	23.25
116	5580	23.31	22.95
140	5700	22.84	22.54

802.11ac (VHT20)

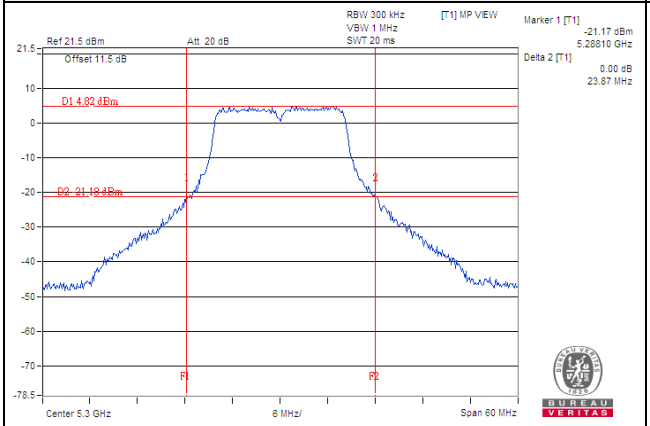
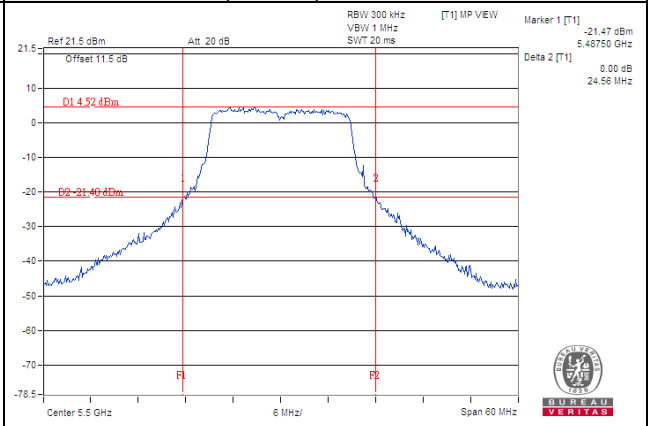
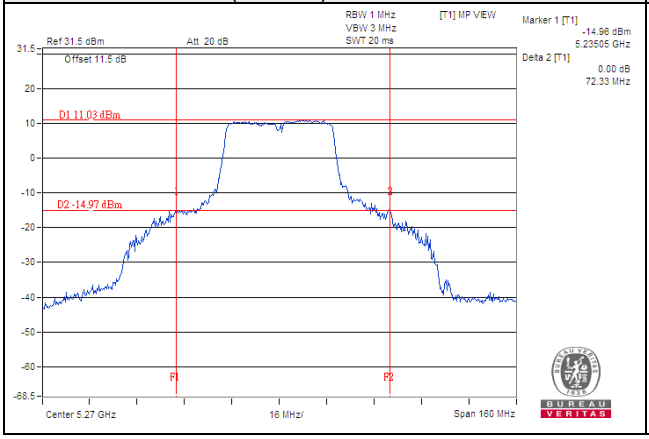
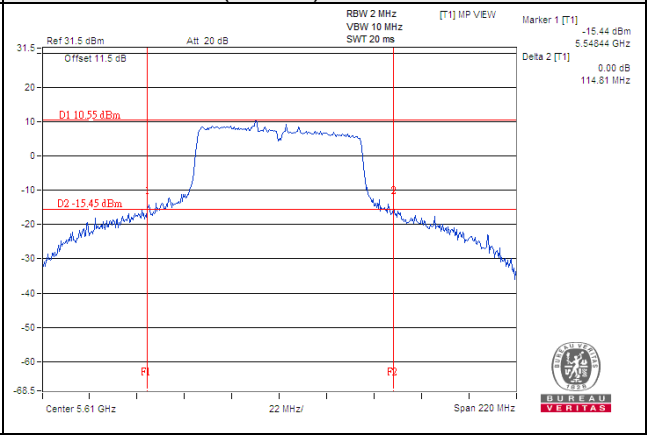
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	23.94	24.05
60	5300	23.78	23.73
64	5320	23.97	23.69
100	5500	23.74	24.56
116	5580	24.36	23.90
140	5700	23.50	23.56

802.11ac (VHT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	72.33	70.51
62	5310	46.20	46.51
102	5510	47.10	45.58
110	5550	58.02	56.22
134	5670	50.14	53.67

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	86.66	86.44
106	5530	86.52	86.63
122	5610	109.79	114.81

Spectrum Plot of Worst Value	
802.11a / Chain 1 / Ch 60	802.11ac (VHT20) / Chain 1 / Ch 100
	
802.11ac (VHT40) / Chain 0 / Ch 54	802.11ac (VHT80) / Chain 1 / Ch 122
	

EUT Maximum Conducted Power

5G traffic radio: CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	47.778	16.79
5470~5725	53.365	17.27

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	53.257	17.26
5470~5725	59.877	17.77

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	106.522	20.27
5470~5725	94.020	19.73

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	132.682	21.23
5470~5725	189.009	22.76

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	53.531	17.29
5470~5725	60.186	17.79

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	107.277	20.31
5470~5725	94.454	19.75

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	133.294	21.25
5470~5725	189.986	22.79

5G traffic radio: Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	13.316	11.24
5470~5725	14.971	11.75

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	26.634	14.25
5470~5725	23.508	13.71

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	33.175	15.21
5470~5725	47.259	16.74

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	13.385	11.27
5470~5725	15.049	11.78

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	26.823	14.29
5470~5725	23.617	13.73

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	33.328	15.23
5470~5725	47.503	16.77

Scanning radio:

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	67.214	18.27
5470~5725	87.961	19.44

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	67.402	18.29
5470~5725	91.017	19.59

802.11ac (VHT40)

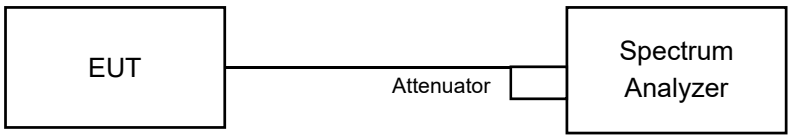
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	189.903	22.79
5470~5725	186.348	22.70

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	25.511	14.07
5470~5725	176.360	22.46

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 sampling. 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 Result

5G traffic radio:

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	16.56	16.43	16.44	16.44
60	5300	16.44	16.44	16.44	16.44
64	5320	16.44	16.44	16.44	16.44
100	5500	16.44	16.56	16.44	16.44
116	5580	16.44	16.44	16.44	16.44
140	5700	16.56	16.44	16.44	16.44

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	18.96	19.08	18.84	18.96
60	5300	19.08	19.08	19.08	18.96
64	5320	18.96	19.08	18.96	18.96
100	5500	18.84	18.96	18.96	18.96
116	5580	18.96	18.96	18.96	18.96
140	5700	18.96	19.08	18.96	18.96

802.11ax (HE40)

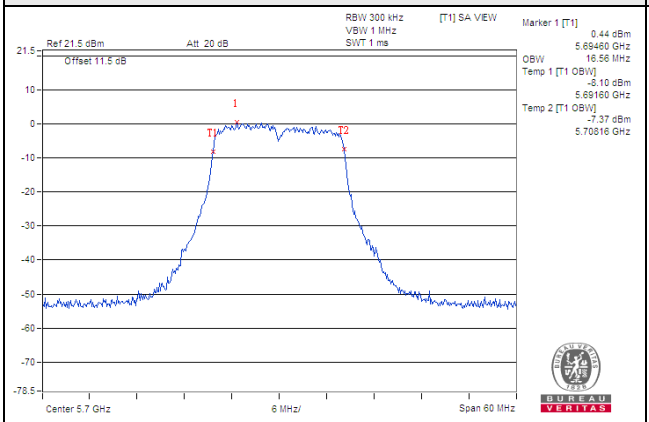
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	38.04	38.04	38.04	38.04
62	5310	38.04	38.04	38.04	38.04
102	5510	38.04	38.04	38.04	38.04
110	5550	38.04	37.92	38.16	38.04
134	5670	37.92	37.80	38.16	38.04

802.11ax (HE80)

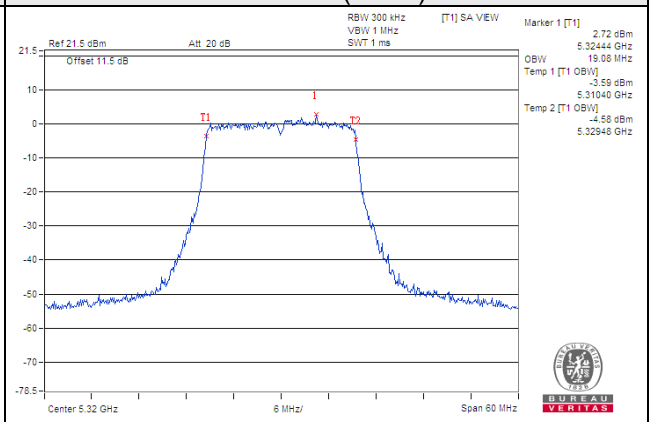
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	77.28	77.52	77.28
106	5530	77.28	77.52	77.28	77.52
122	5610	77.04	77.28	77.28	77.52

Spectrum Plot of Worst Value

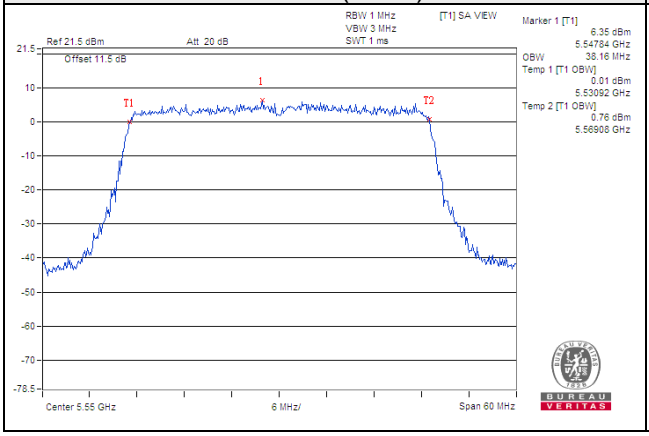
802.11a



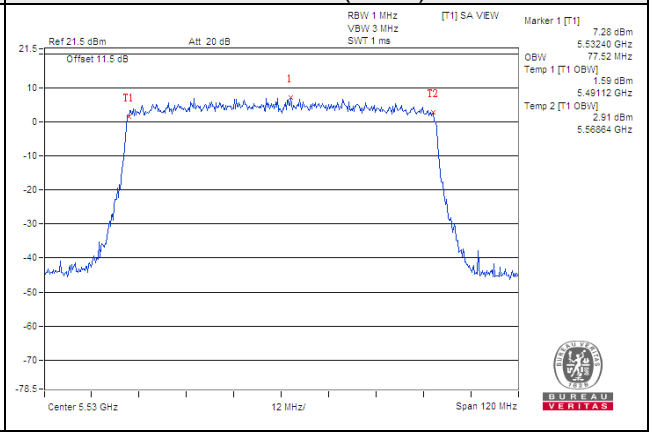
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Scanning radio:

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	16.80	16.92
60	5300	16.80	16.92
64	5320	16.80	16.92
100	5500	16.92	16.92
116	5580	16.92	16.92
140	5700	16.80	16.92

802.11ac (VHT20)

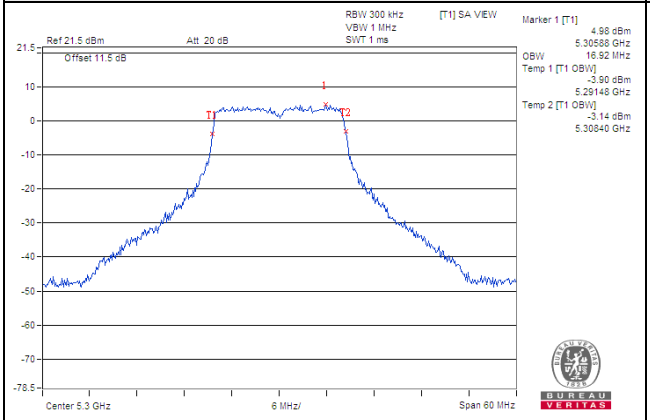
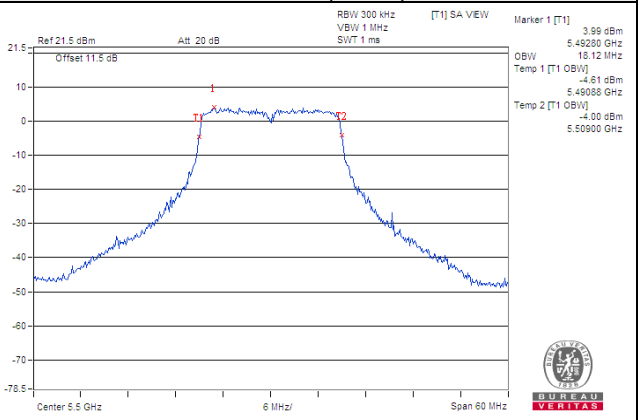
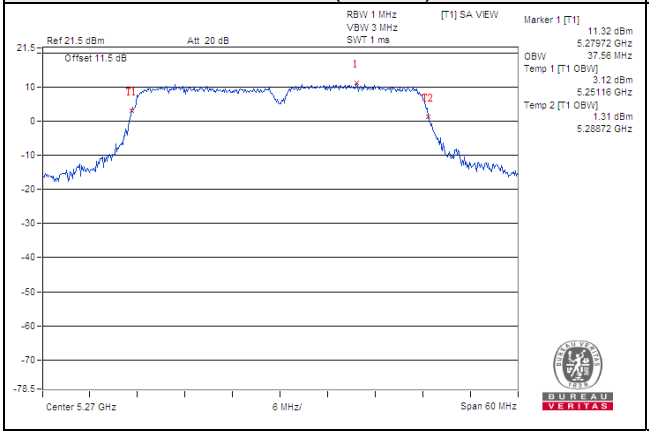
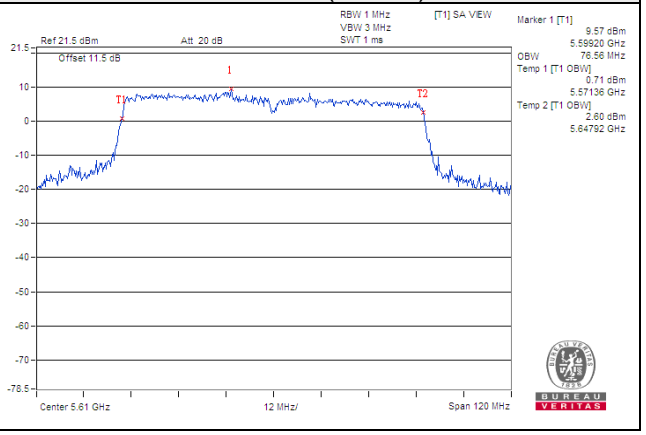
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.00	17.88
60	5300	18.00	18.00
64	5320	18.00	18.00
100	5500	18.12	17.88
116	5580	18.00	18.00
140	5700	17.88	18.00

802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	37.56	37.44
62	5310	36.96	36.96
102	5510	36.96	36.96
110	5550	37.32	37.32
134	5670	37.20	37.20

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	76.08	76.08
106	5530	75.84	75.84
122	5610	76.32	76.56

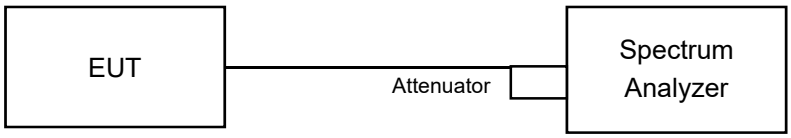
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

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	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3			30dBm/ 500kHz

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

Duty cycle of test signal is < 98%
Using method SA-2
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

5G traffic radio:

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	-2.38	-2.15	-2.44	-2.48	0.32	3.98	4.28	Pass
60	5300	-2.20	-2.16	-2.55	-2.35	0.32	4.03	4.28	Pass
64	5320	-2.33	-2.28	-2.31	-2.34	0.32	4.03	4.28	Pass
100	5500	-2.67	-2.87	-2.82	-2.83	0.32	3.54	3.78	Pass
116	5580	-3.23	-2.95	-2.71	-3.20	0.32	3.32	3.78	Pass
140	5700	-2.90	-3.02	-2.82	-3.21	0.32	3.36	3.78	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-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 11-(12.72-6) = 4.28dBm.
   For U-NII-2C: 1 Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 11-(13.22-6) = 3.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	-2.53	-2.23	-2.51	-2.45	0.19	3.79	4.28	Pass
60	5300	-2.28	-2.26	-2.28	-1.99	0.19	4.01	4.28	Pass
64	5320	-2.99	-2.63	-2.27	-2.76	0.19	3.56	4.28	Pass
100	5500	-3.05	-2.99	-2.71	-2.84	0.19	3.32	3.78	Pass
116	5580	-2.60	-2.73	-3.17	-4.25	0.19	3.07	3.78	Pass
140	5700	-2.74	-3.22	-3.32	-2.62	0.19	3.25	3.78	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-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 11-(12.72-6) = 4.28dBm.
   For U-NII-2C: 1 Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 11-(13.22-6) = 3.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	-4.40	-2.24	-2.73	-2.16	0.27	3.49	4.28	Pass
62	5310	-2.88	-2.18	-2.14	-2.22	0.27	3.94	4.28	Pass
102	5510	-3.98	-3.10	-3.15	-2.71	0.27	3.08	3.78	Pass
110	5550	-3.54	-3.70	-2.60	-2.73	0.27	3.17	3.78	Pass
134	5670	-3.48	-3.83	-2.81	-2.61	0.27	3.13	3.78	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-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 11-(12.72-6) = 4.28dBm.
   For U-NII-2C: 1 Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 11-(13.22-6) = 3.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-3.27	-3.39	-3.33	-2.52	0.26	3.17	4.28	Pass
106	5530	-4.66	-4.68	-4.55	-3.92	0.26	1.84	3.78	Pass
122	5610	-3.25	-3.44	-3.53	-2.41	0.26	3.15	3.78	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-2A: Directional Gain = 6.7 dBi + 10log(4) = 12.72 dBi > 6dBi, so the limit shall be reduced to 11-(12.72-6) = 4.28dBm.
   For U-NII-2C: 1 Directional Gain = 7.2 dBi + 10log(4) = 13.22 dBi > 6dBi, so the limit shall be reduced to 11-(13.22-6) = 3.78dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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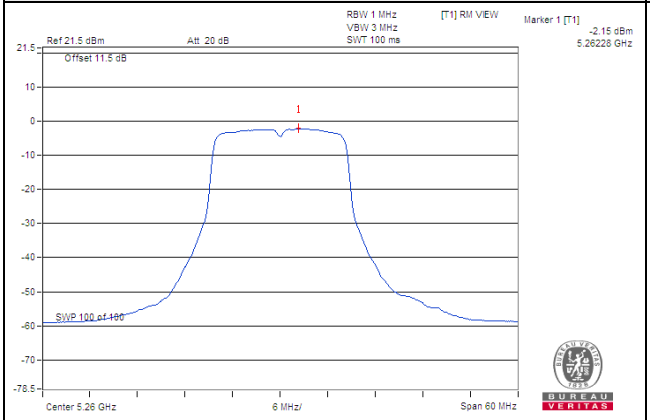
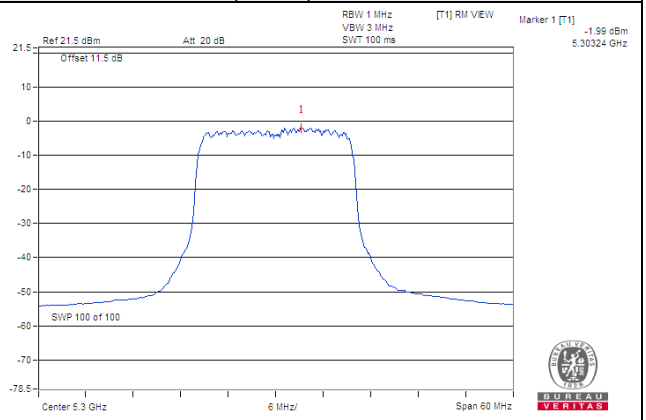
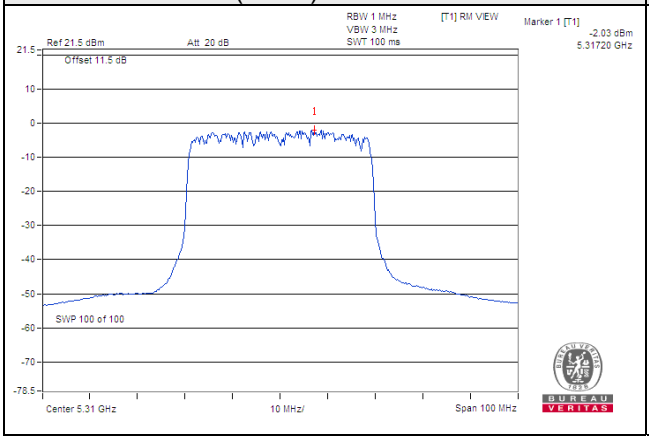
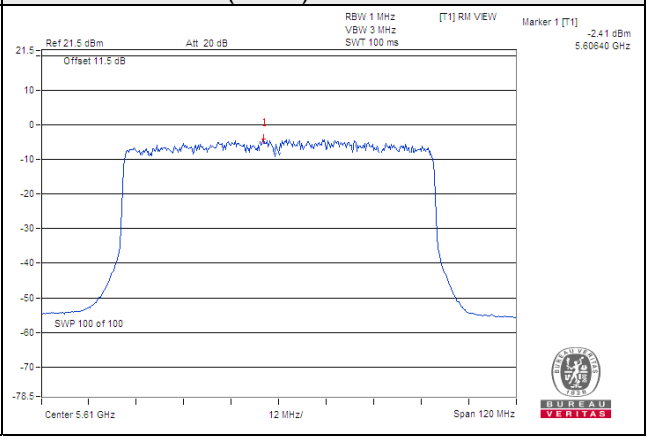
Spectrum Plot of Worst Value	
802.11a / Chain 1 / CH 52	802.11ax (HE20) / Chain 3 / CH 60
	
802.11ax (HE40) / Chain 2 / CH 62	802.11ax (HE80) / Chain 3 / CH 122
	

Scanning radio:

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	2.51	4.54	0.22	6.87	7.29	Pass
60	5300	2.92	4.94	0.22	7.28	7.29	Pass
64	5320	2.85	4.77	0.22	7.15	7.29	Pass
100	5500	2.44	4.39	0.22	6.76	6.79	Pass
116	5580	2.53	4.20	0.22	6.68	6.79	Pass
140	5700	2.35	4.33	0.22	6.68	6.79	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-2A: Directional Gain = 6.7dBi + 10log(2) = 9.71dBi > 6dBi, so the limit shall be reduced to 11-(9.71-6) = 7.29dBm.
   For U-NII-2C: Directional Gain = 7.2dBi + 10log(2) = 10.21dBi > 6dBi, so the limit shall be reduced to 11-(10.21-6) = 6.79dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	2.88	4.57	0.20	7.02	7.29	Pass
60	5300	2.72	4.64	0.20	7.00	7.29	Pass
64	5320	2.68	4.63	0.20	6.98	7.29	Pass
100	5500	2.31	4.30	0.20	6.63	6.79	Pass
116	5580	2.32	4.44	0.20	6.72	6.79	Pass
140	5700	2.50	3.91	0.20	6.47	6.79	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-2A: Directional Gain = 6.7dBi + 10log(2) = 9.71dBi > 6dBi, so the limit shall be reduced to 11-(9.71-6) = 7.29dBm.
   For U-NII-2C: Directional Gain = 7.2dBi + 10log(2) = 10.21dBi > 6dBi, so the limit shall be reduced to 11-(10.21-6) = 6.79dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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802.11ac (VHT40)

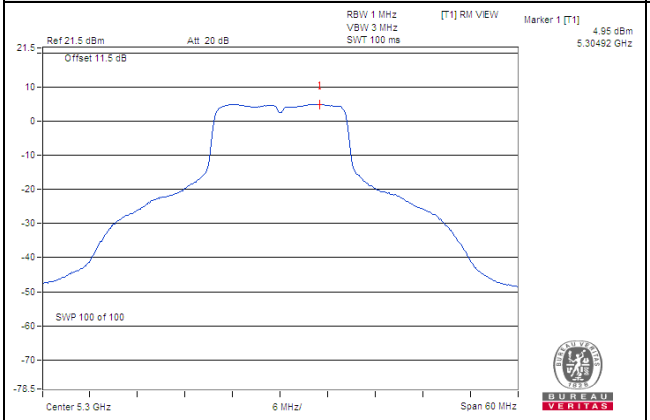
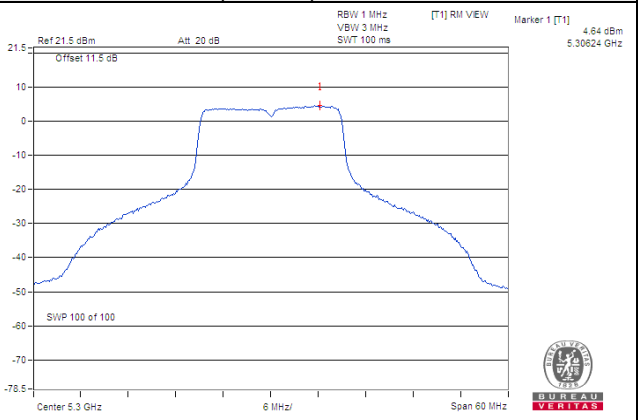
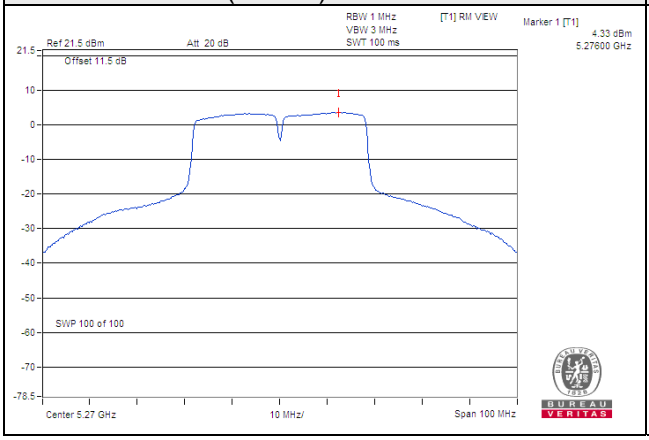
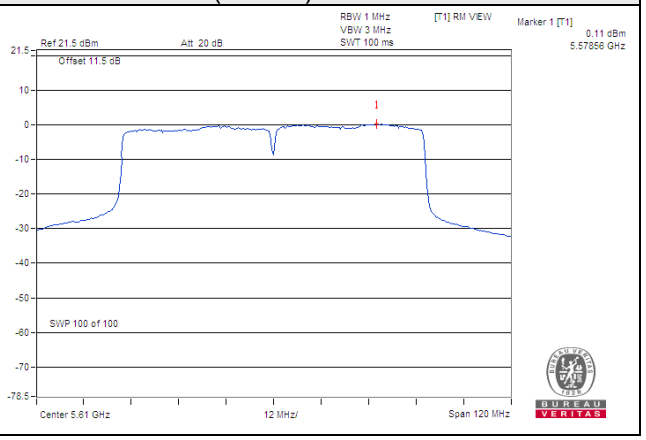
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
54	5270	3.47	4.33	0.18	7.11	7.29	Pass
62	5310	-3.11	-4.07	0.18	-0.37	7.29	Pass
102	5510	-4.88	-4.01	0.18	-1.23	6.79	Pass
110	5550	3.29	3.31	0.18	6.49	6.79	Pass
134	5670	3.11	3.85	0.18	6.69	6.79	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-2A: Directional Gain = 6.7dBi + 10log(2) = 9.71dBi > 6dBi, so the limit shall be reduced to 11-(9.71-6) = 7.29dBm.
   For U-NII-2C: Directional Gain = 7.2dBi + 10log(2) = 10.21dBi > 6dBi, so the limit shall be reduced to 11-(10.21-6) = 6.79dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
58	5290	-8.37	-7.78	0.60	-4.45	7.29	Pass
106	5530	-9.78	-9.75	0.60	-6.15	6.79	Pass
122	5610	0.11	-0.69	0.60	3.34	6.79	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-2A: Directional Gain = 6.7dBi + 10log(2) = 9.71dBi > 6dBi, so the limit shall be reduced to 11-(9.71-6) = 7.29dBm.
   For U-NII-2C: Directional Gain = 7.2dBi + 10log(2) = 10.21dBi > 6dBi, so the limit shall be reduced to 11-(10.21-6) = 6.79dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

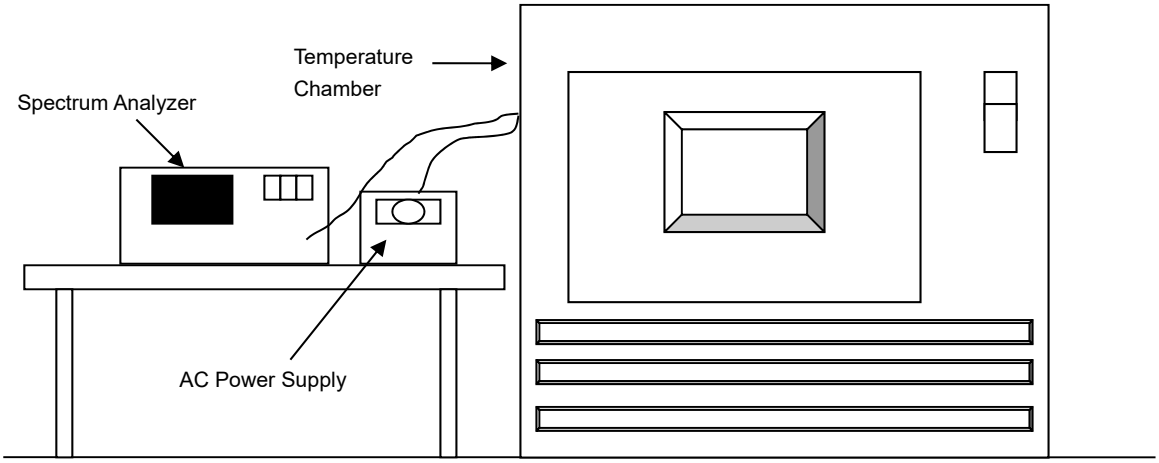
Spectrum Plot of Worst Value	
802.11a / Chain 1 / CH 60	802.11ac (VHT20) / Chain 1 / CH 60
	
802.11ac (VHT40) / Chain 1 / CH 54	802.11ac (VHT80) / Chain 0 / CH 122
	

4.6 Frequency Stability

4.6.1 Limits 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
Standard Temperature And Humidity Chamber GIANT FORCE	GTH-120-40-CP-AR	MAA1306-019	Sep. 09, 2020	Sep. 08, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
AC Power Supply Extech	CFW-105	E000603	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.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC 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

5G traffic radio:

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
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
60	120	5260.0160	PASS	5260.0188	PASS	5260.0157	PASS	5260.0174	PASS
50	120	5260.0083	PASS	5260.0073	PASS	5260.0090	PASS	5260.0077	PASS
40	120	5259.9836	PASS	5259.9809	PASS	5259.9836	PASS	5259.9823	PASS
30	120	5260.0135	PASS	5260.0128	PASS	5260.0117	PASS	5260.0112	PASS
20	120	5260.0077	PASS	5260.0055	PASS	5260.0046	PASS	5260.0070	PASS
10	120	5259.9954	PASS	5259.9945	PASS	5259.9927	PASS	5259.9959	PASS
0	120	5260.0048	PASS	5260.0036	PASS	5260.0038	PASS	5260.0036	PASS
-10	120	5260.0014	PASS	5260.0016	PASS	5260.0011	PASS	5260.0040	PASS
-20	120	5259.9771	PASS	5259.9736	PASS	5259.9766	PASS	5259.9783	PASS
-30	120	5260.0174	PASS	5260.0141	PASS	5260.0190	PASS	5260.0142	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
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	5260.0072	PASS	5260.0045	PASS	5260.0053	PASS	5260.0072	PASS
	120	5260.0077	PASS	5260.0055	PASS	5260.0046	PASS	5260.0070	PASS
	102	5260.0081	PASS	5260.0046	PASS	5260.0041	PASS	5260.0076	PASS

Scanning radio:

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
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
60	120	5259.9834	PASS	5259.9829	PASS	5259.9866	PASS	5259.9832	PASS
50	120	5260.0174	PASS	5260.0178	PASS	5260.0146	PASS	5260.0143	PASS
40	120	5259.9817	PASS	5259.9812	PASS	5259.9843	PASS	5259.9812	PASS
30	120	5260.0153	PASS	5260.0168	PASS	5260.0136	PASS	5260.0161	PASS
20	120	5259.9832	PASS	5259.9792	PASS	5259.9805	PASS	5259.9809	PASS
10	120	5260.0187	PASS	5260.0204	PASS	5260.0205	PASS	5260.0199	PASS
0	120	5260.0024	PASS	5260.0011	PASS	5260.0039	PASS	5260.0003	PASS
-10	120	5260.0228	PASS	5260.0215	PASS	5260.0198	PASS	5260.0230	PASS
-20	120	5260.0015	PASS	5260.0021	PASS	5260.0000	PASS	5260.0006	PASS
-30	120	5259.9898	PASS	5259.9849	PASS	5259.9885	PASS	5259.9895	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
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	5259.9837	PASS	5259.9785	PASS	5259.9806	PASS	5259.9814	PASS
	120	5259.9832	PASS	5259.9792	PASS	5259.9805	PASS	5259.9809	PASS
	102	5259.9837	PASS	5259.9790	PASS	5259.9798	PASS	5259.9812	PASS

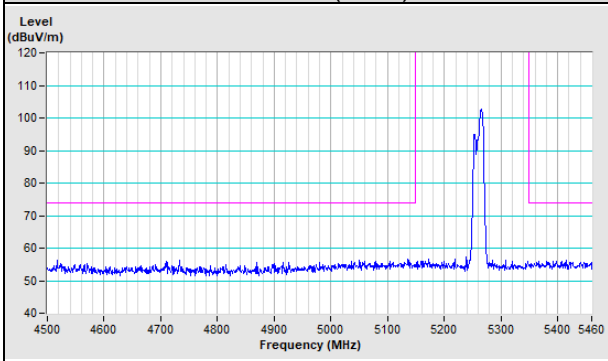
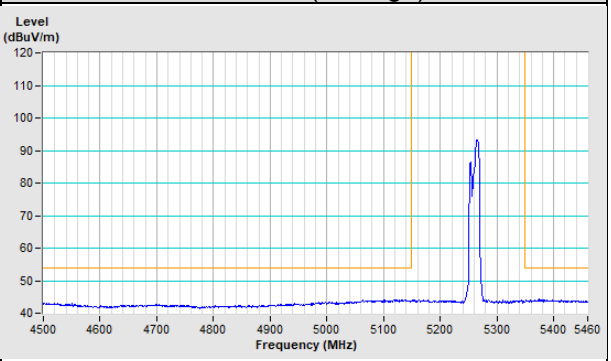
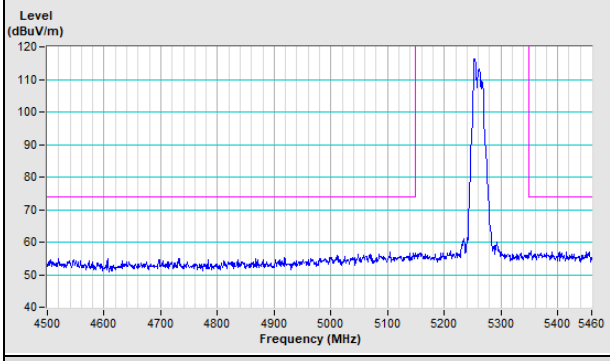
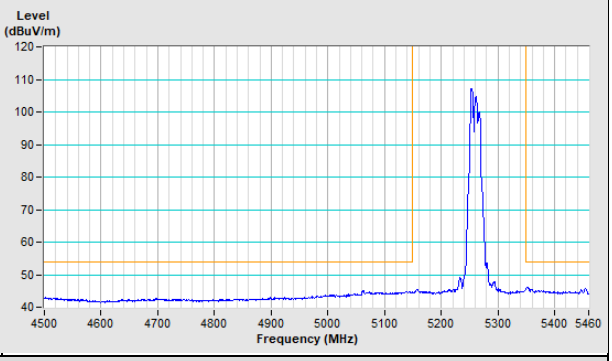
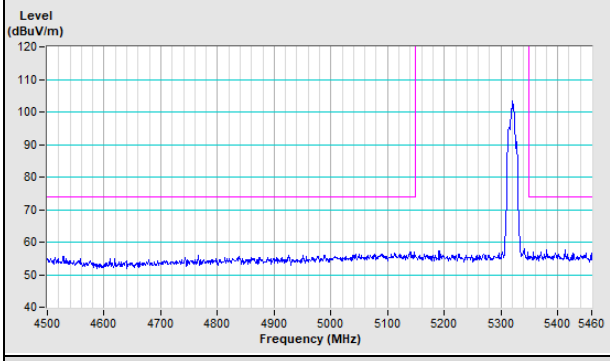
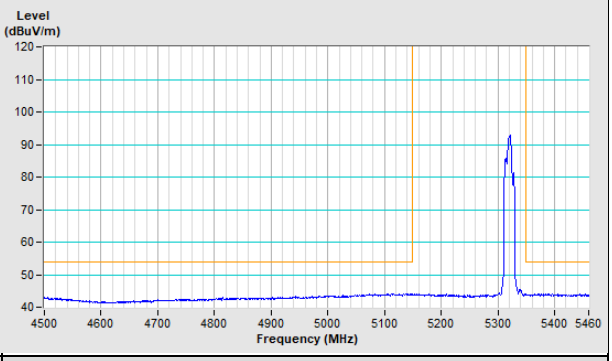
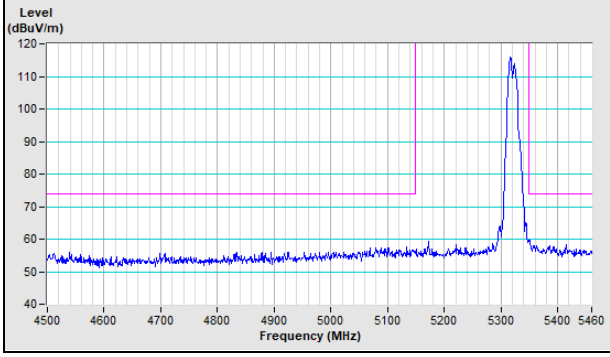
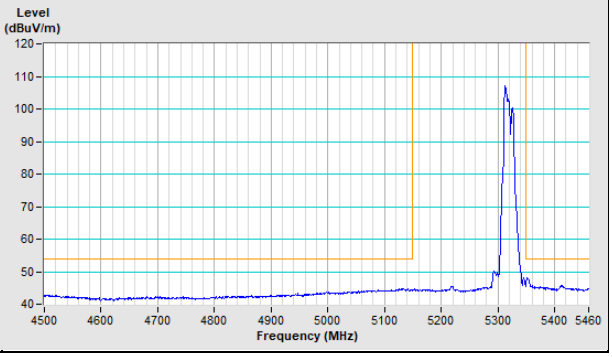
5 Pictures of Test Arrangements

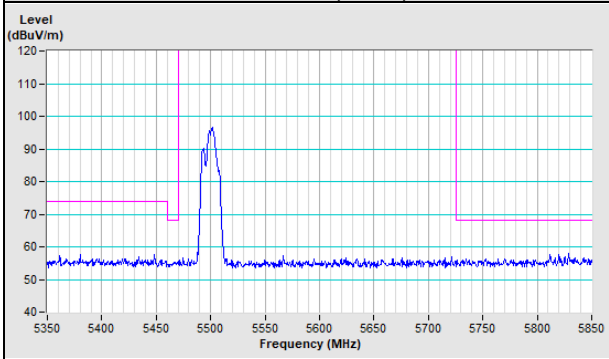
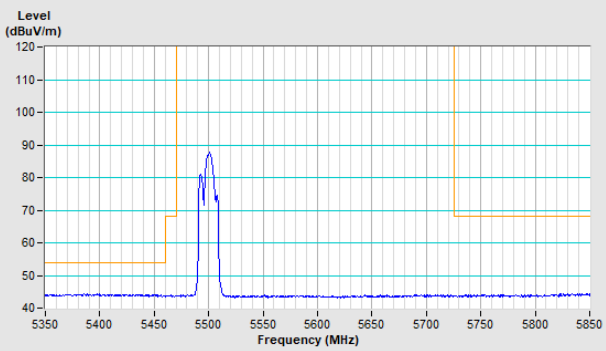
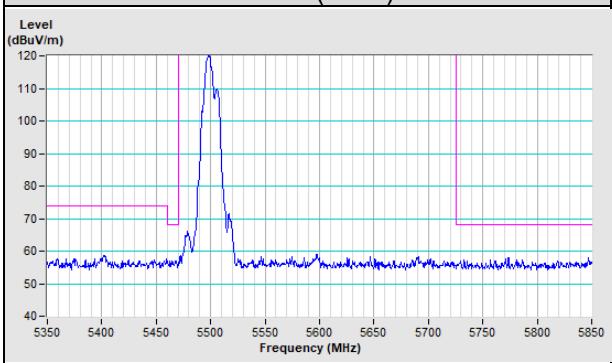
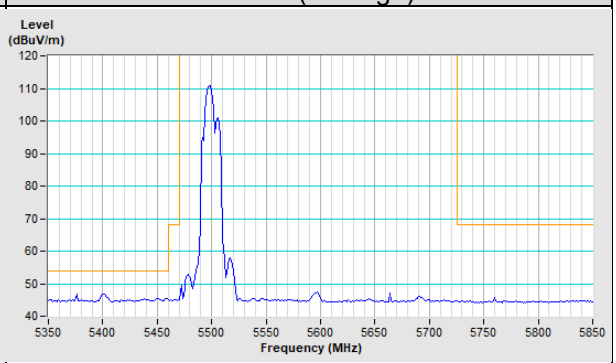
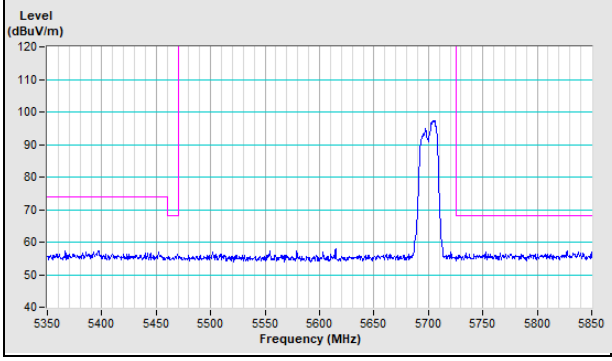
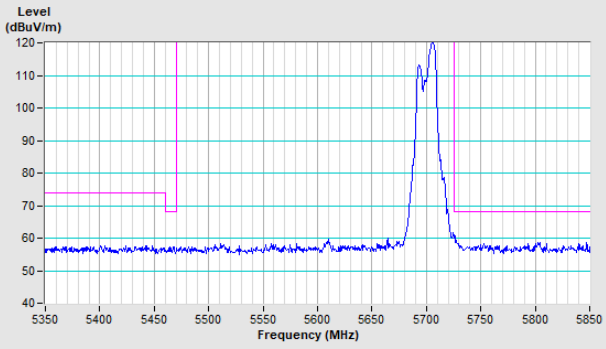
Please refer to the attached file (Test Setup Photo).

Annex A- Band Edge Measurement

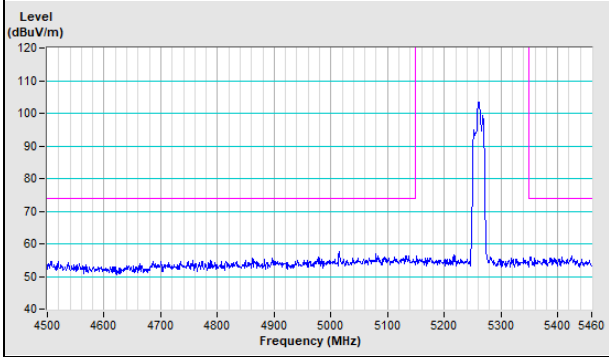
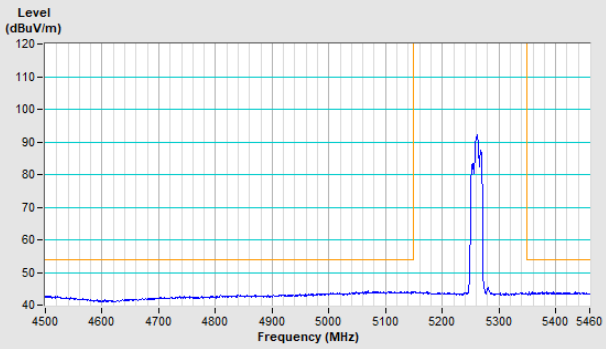
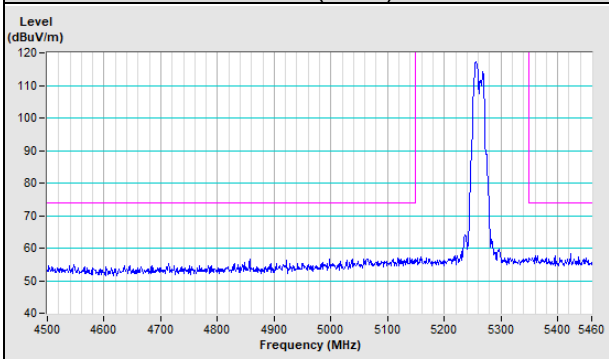
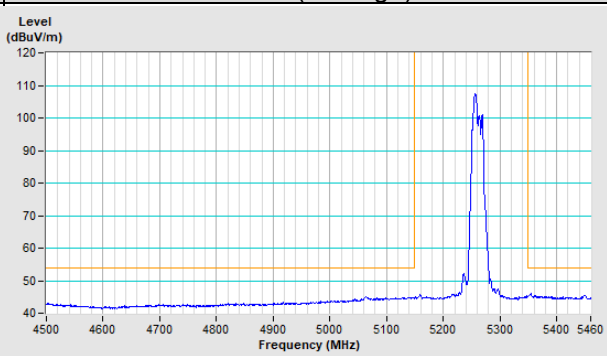
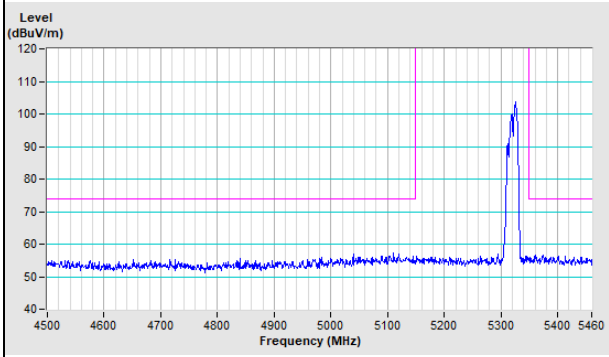
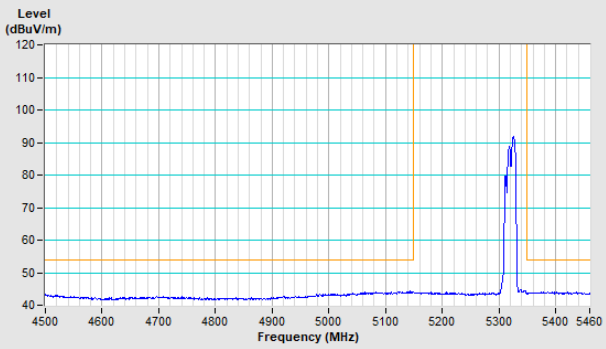
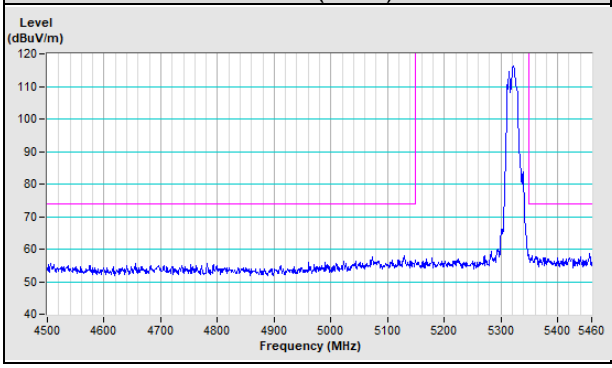
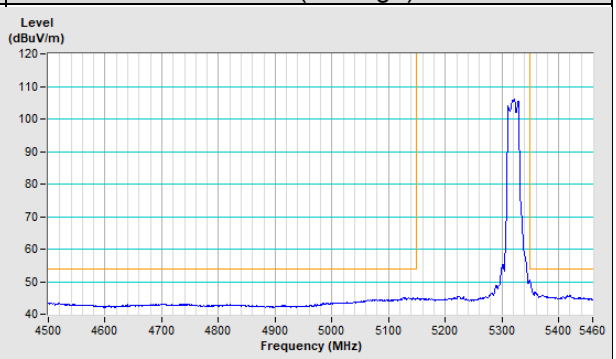
5G traffic radio:

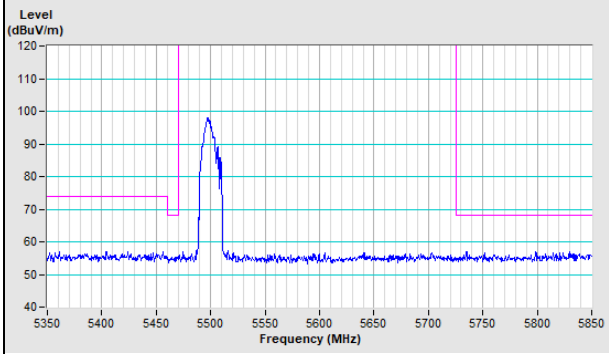
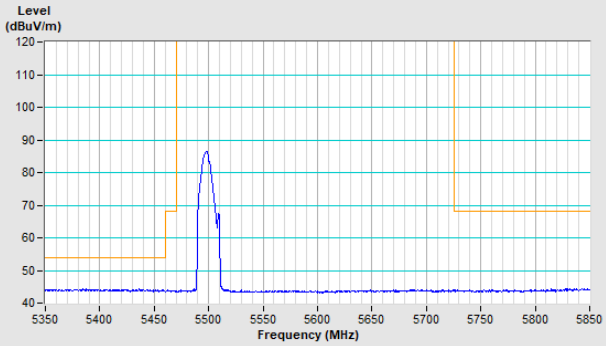
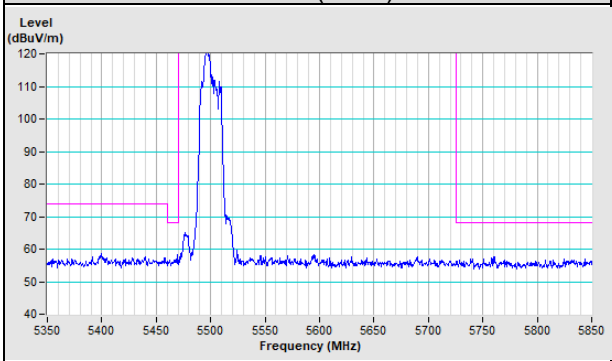
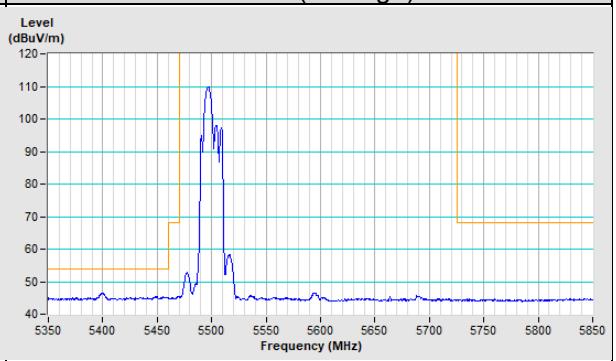
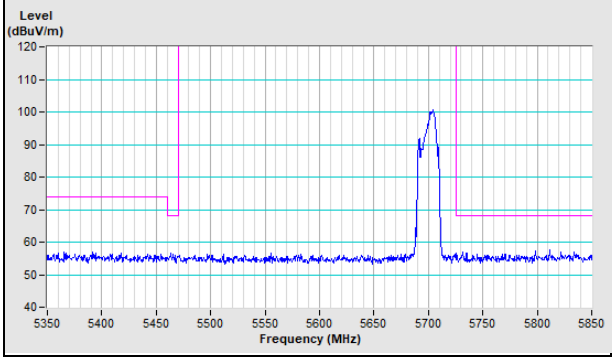
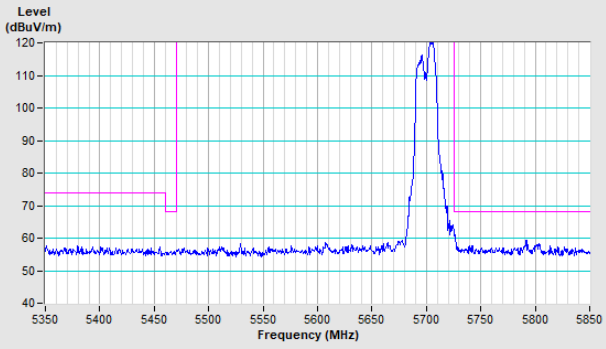
802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

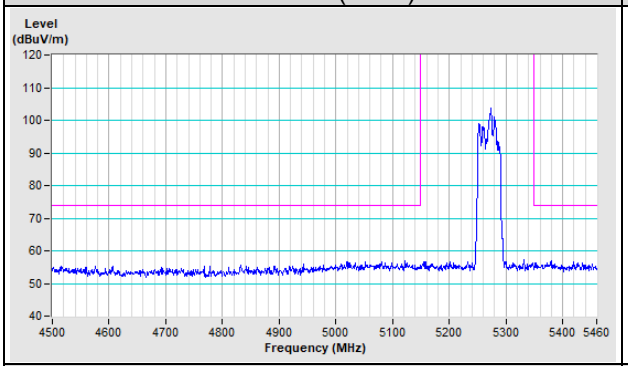
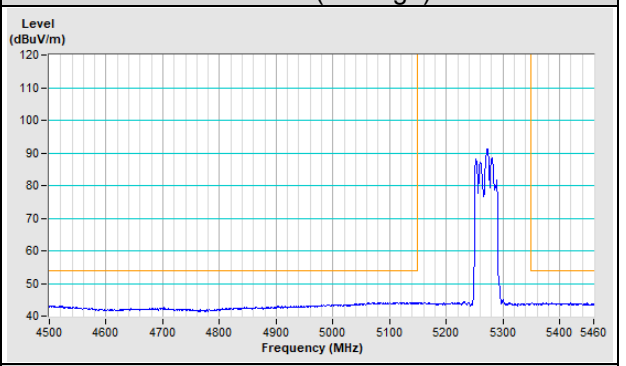
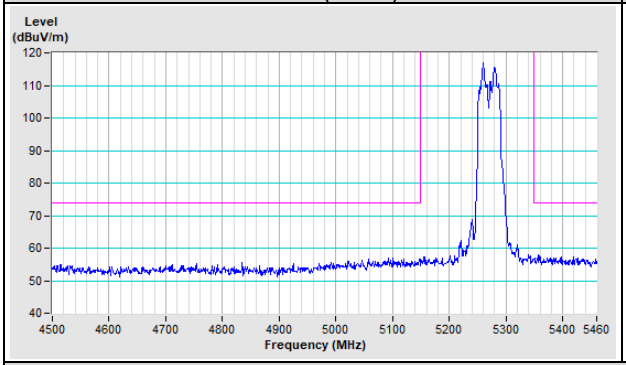
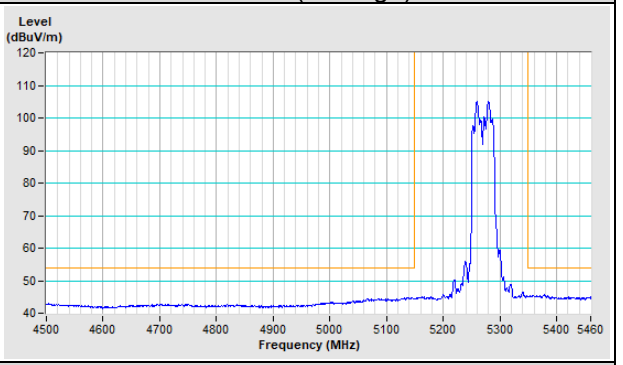
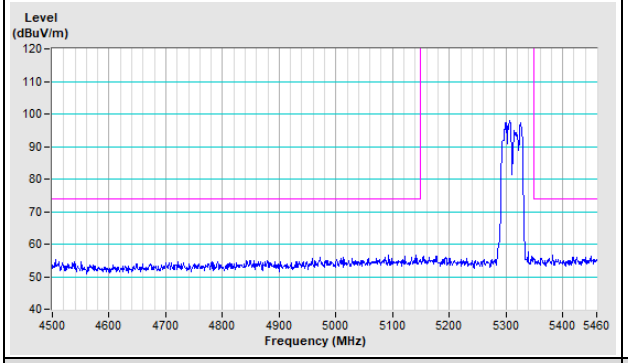
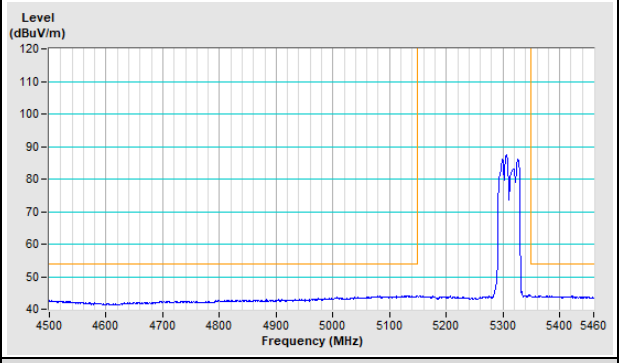
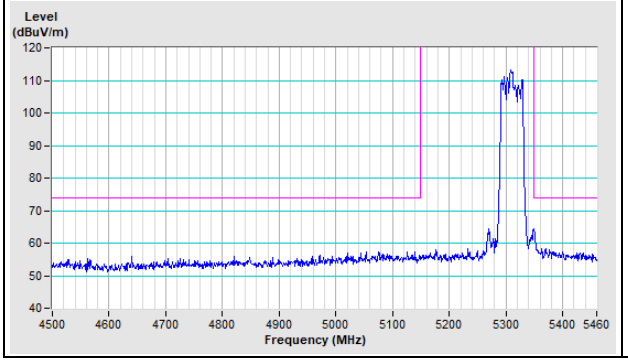
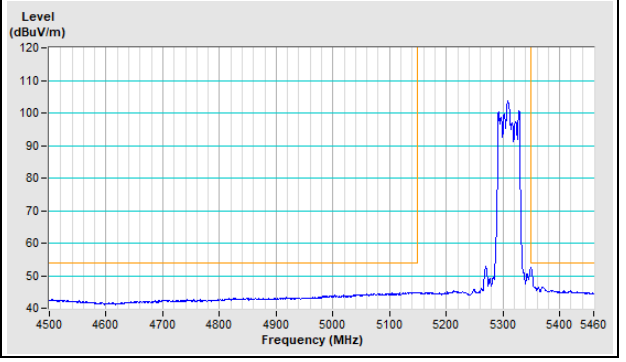
Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	

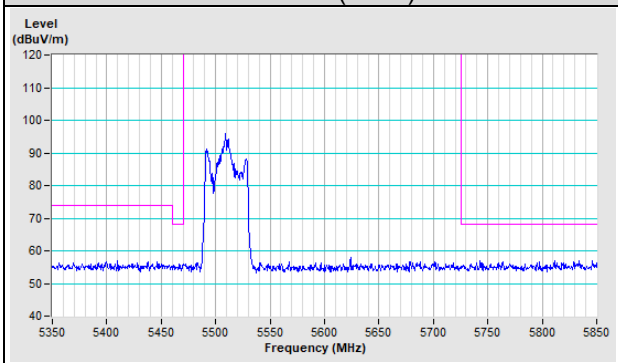
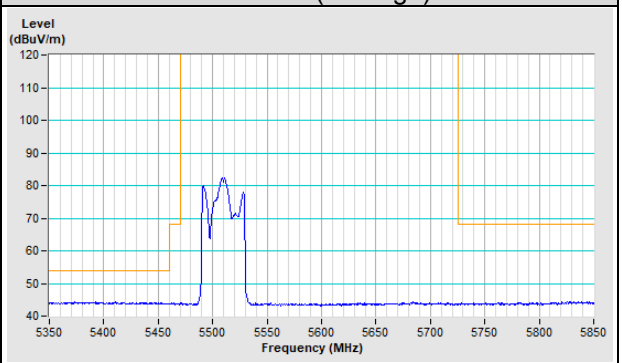
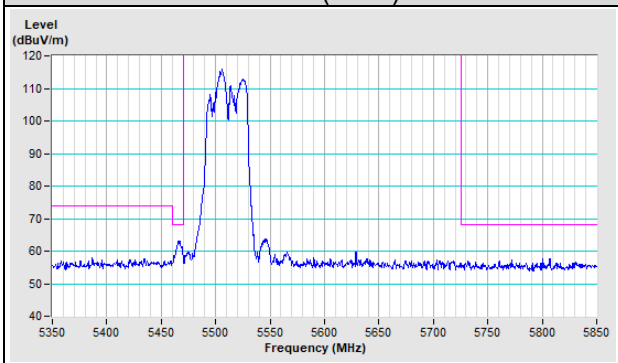
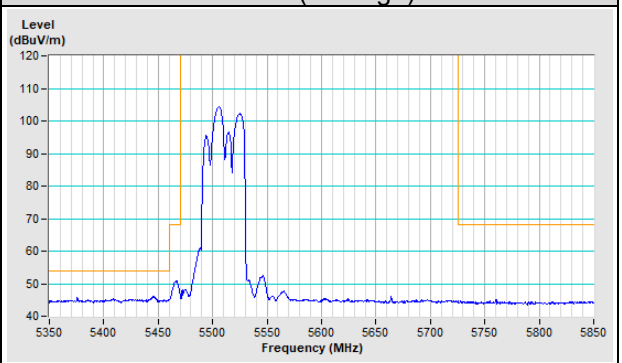
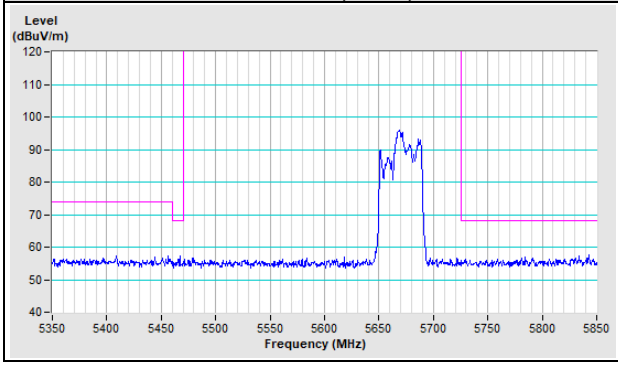
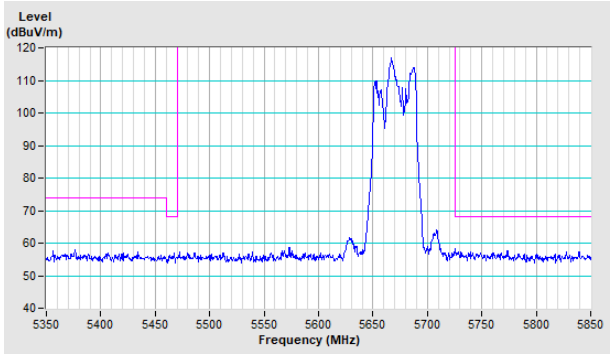
802.11ax (HE20)

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE40)

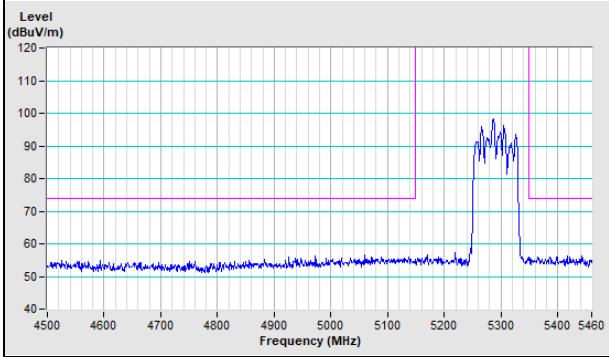
Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 134	
Horizontal (Peak)	Vertical (Peak)
	

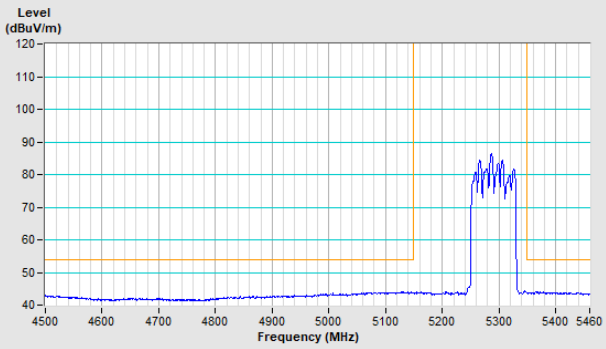
802.11ax (HE80)

Channel 58

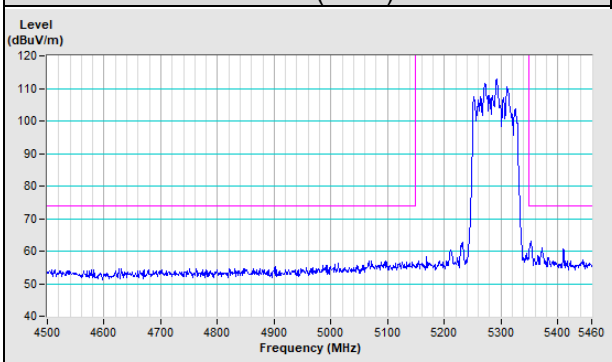
Horizontal (Peak)



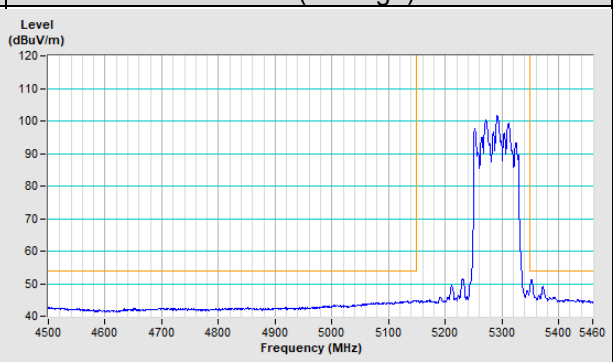
Horizontal (Average)



Vertical (Peak)

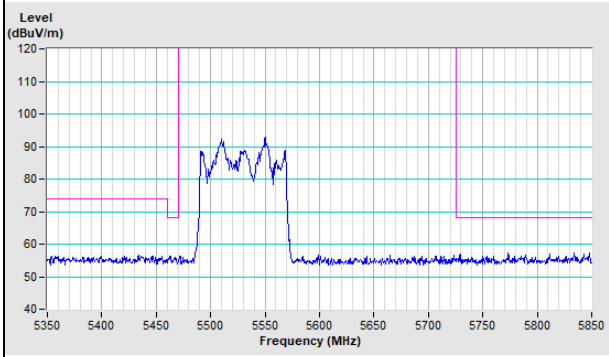


Vertical (Average)

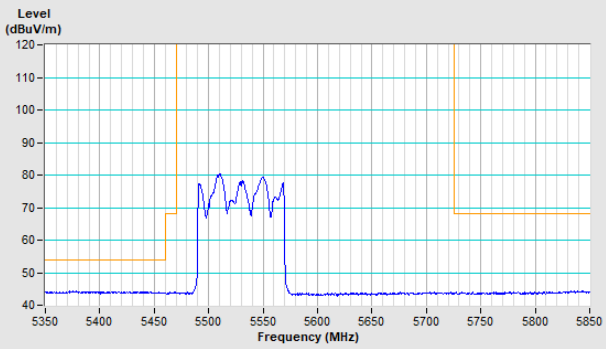


Channel 106

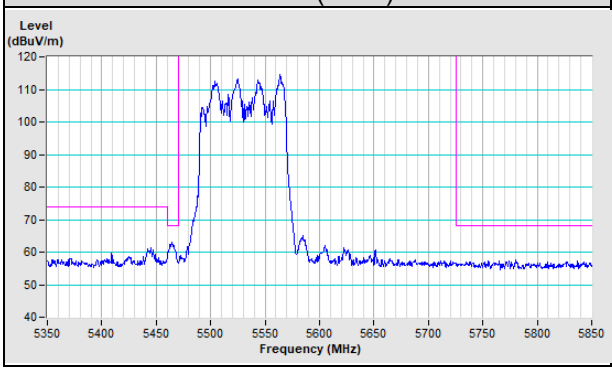
Horizontal (Peak)



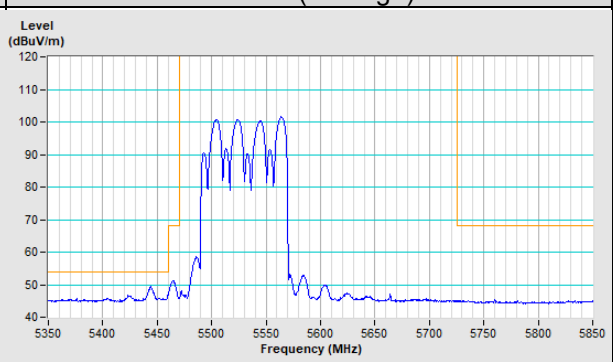
Horizontal (Average)

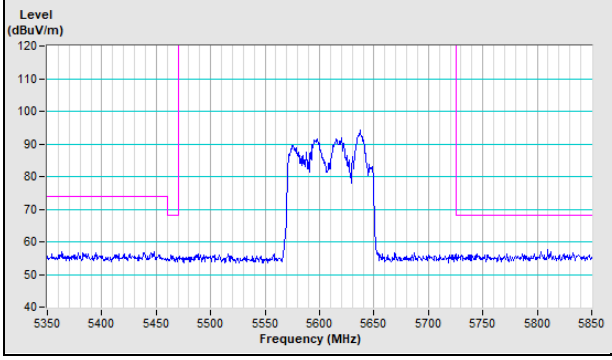
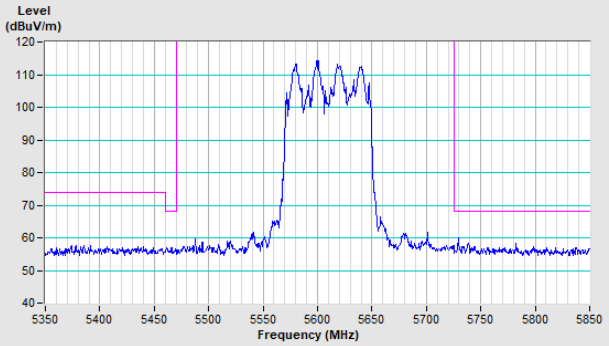


Vertical (Peak)



Vertical (Average)



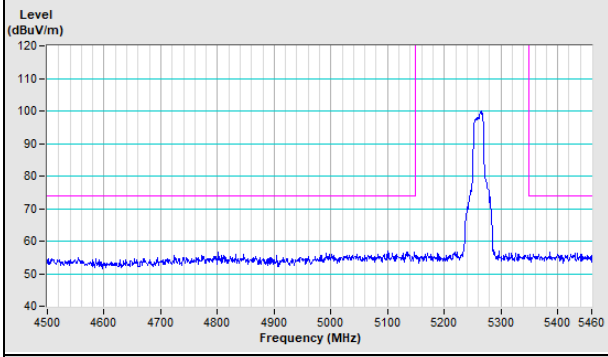
Channel 122	
Horizontal (Peak)	Vertical (Peak)
	

Scanning radio:

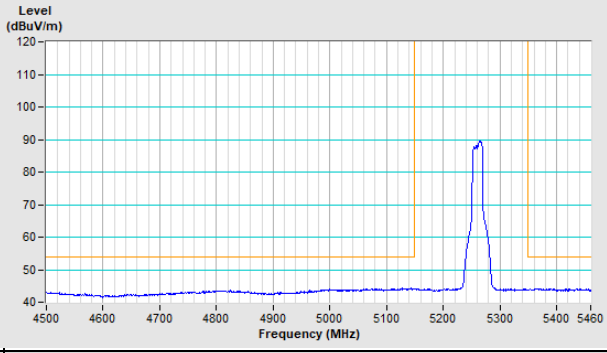
802.11a

Channel 52

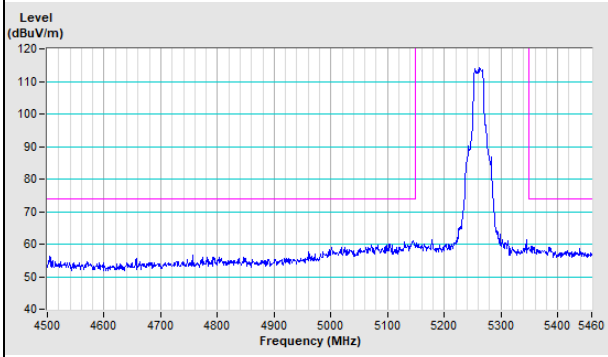
Horizontal (Peak)



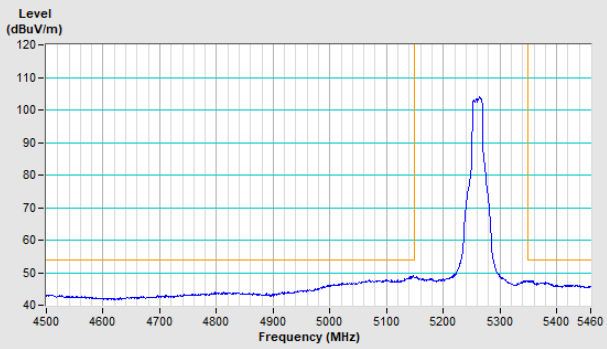
Horizontal (Average)



Vertical (Peak)

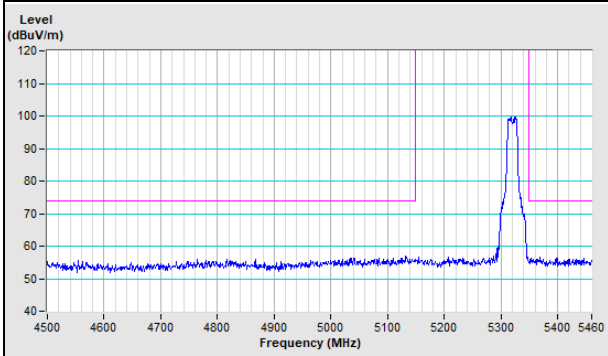


Vertical (Average)

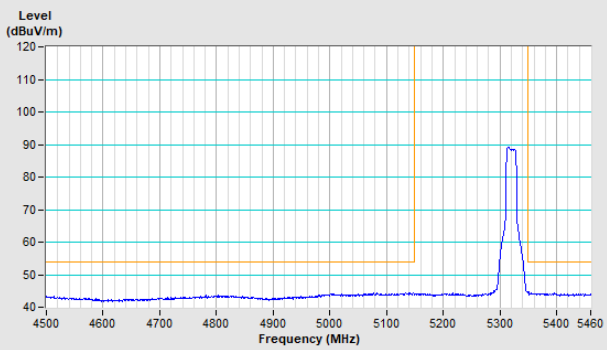


Channel 64

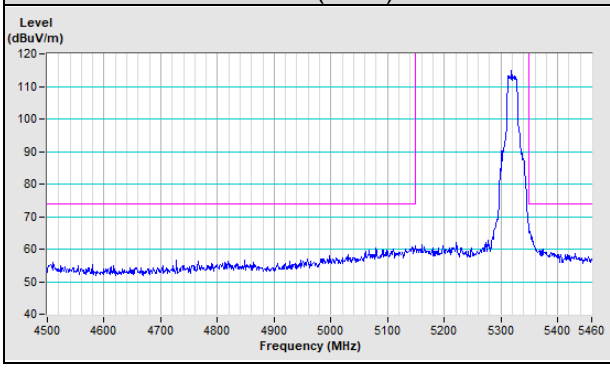
Horizontal (Peak)



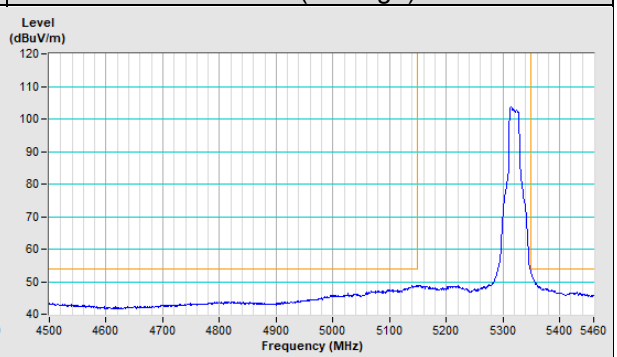
Horizontal (Average)

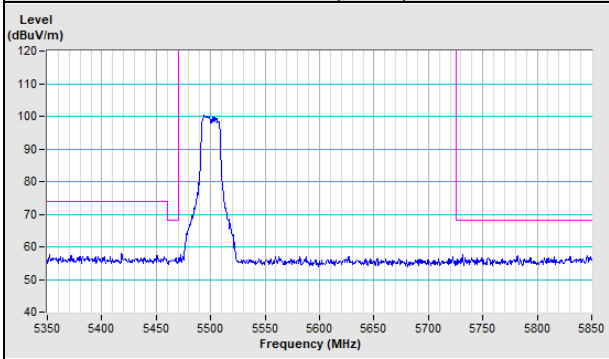
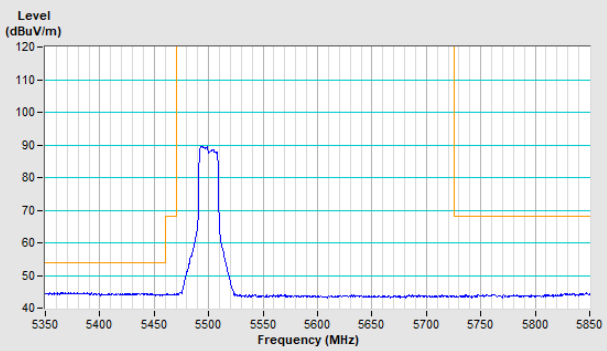
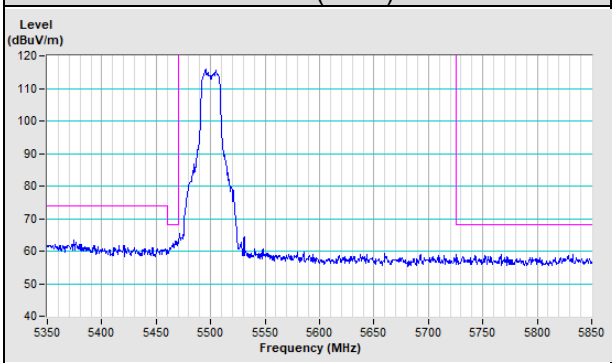
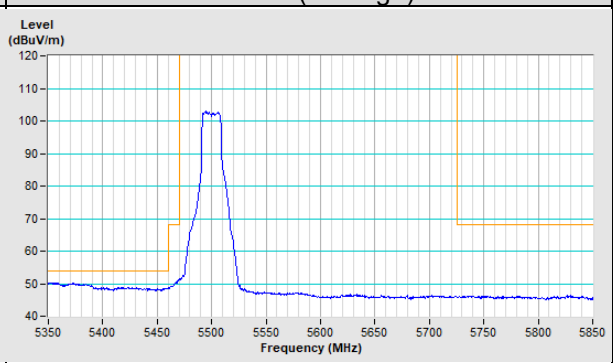
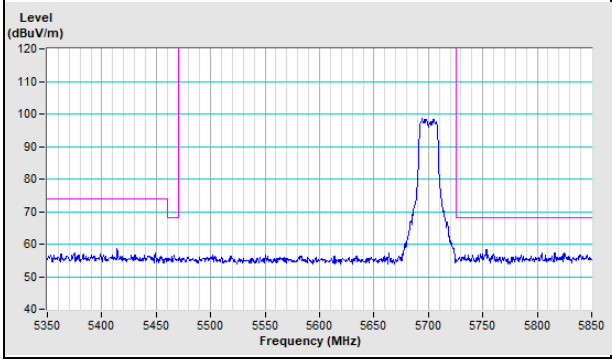
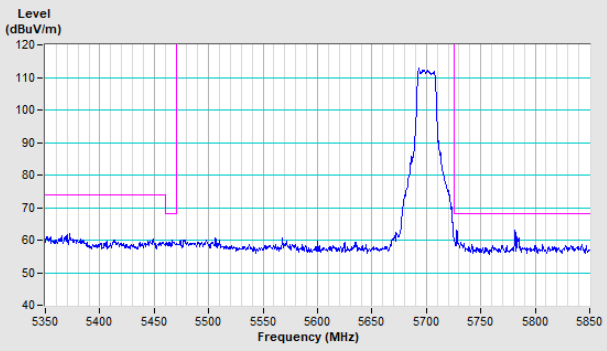


Vertical (Peak)

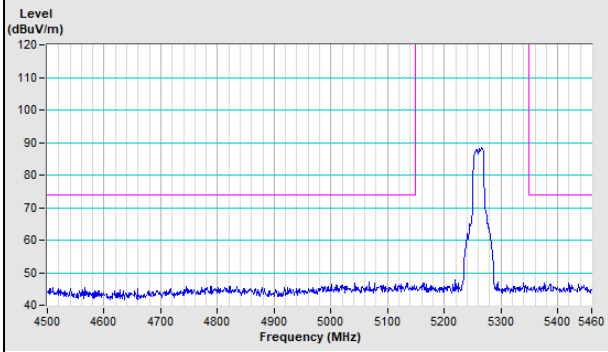
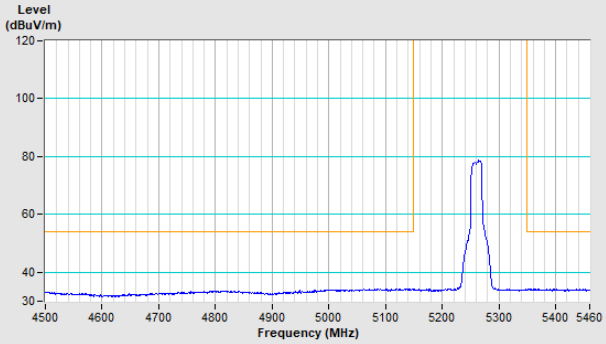
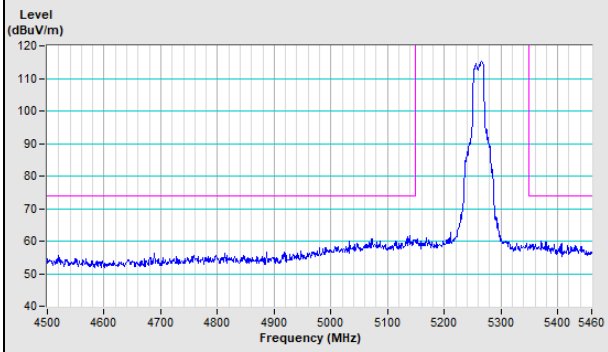
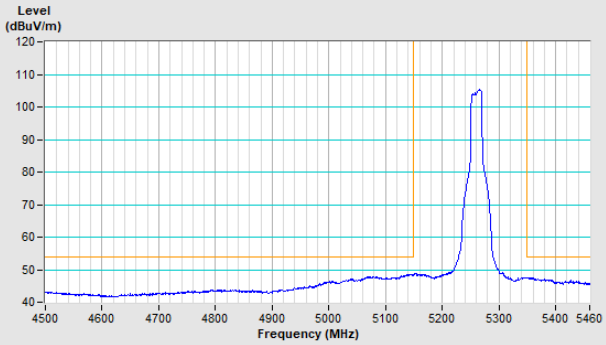
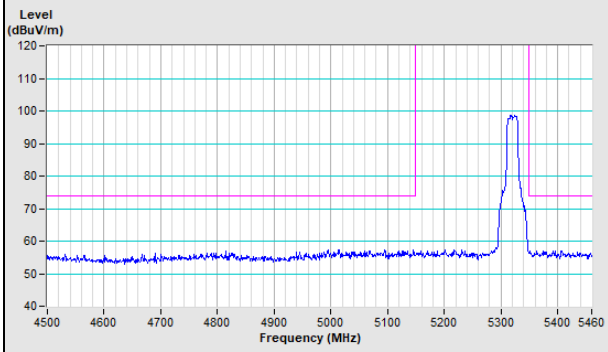
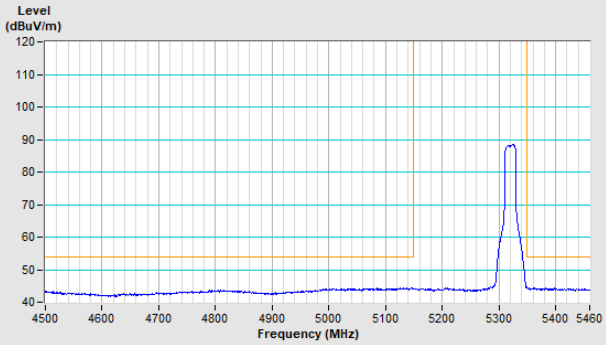
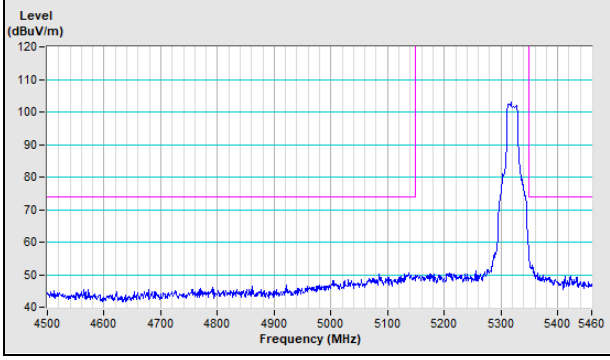
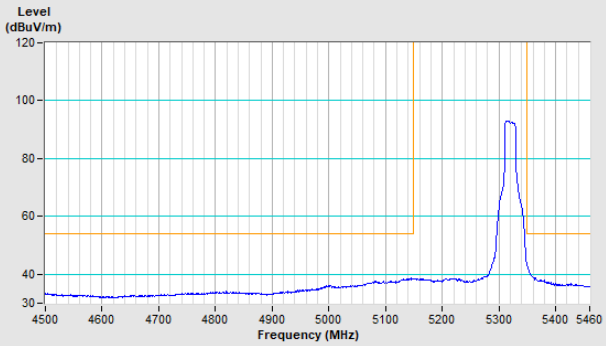


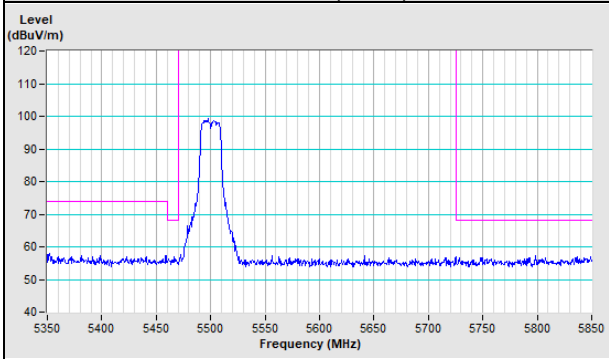
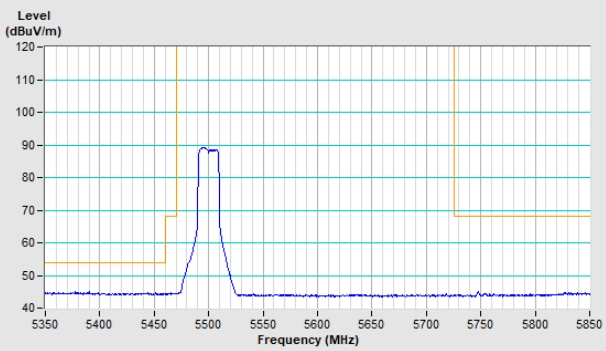
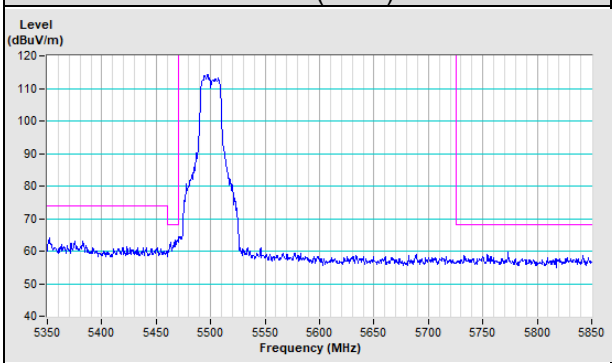
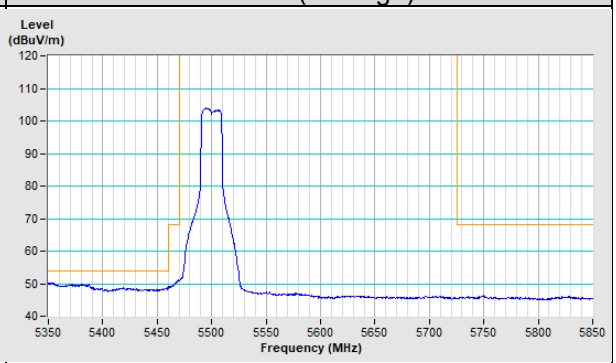
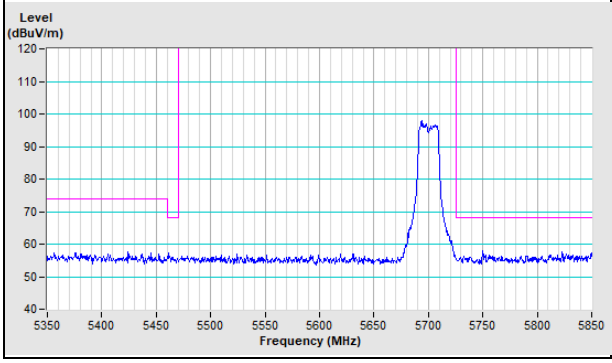
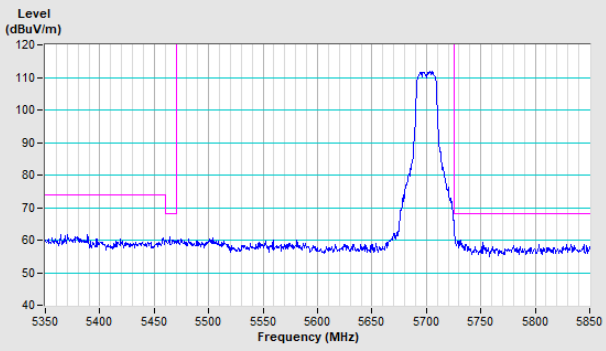
Vertical (Average)



Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	

802.11ac (VHT20)

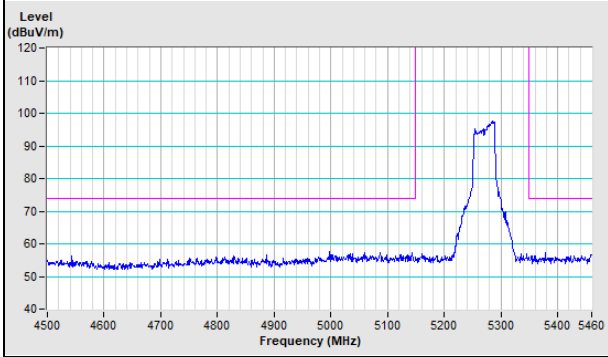
Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	

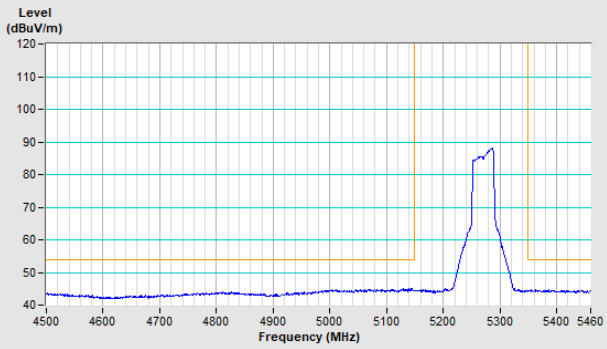
802.11ac (VHT40)

Channel 54

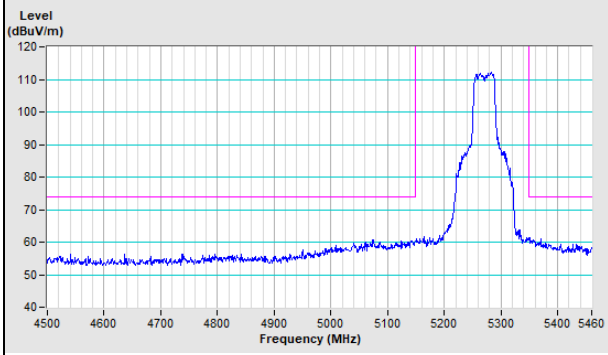
Horizontal (Peak)



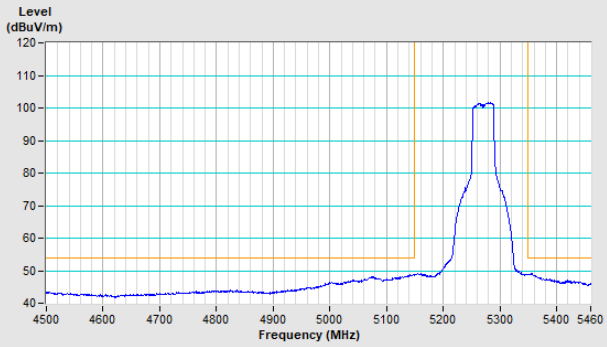
Horizontal (Average)



Vertical (Peak)

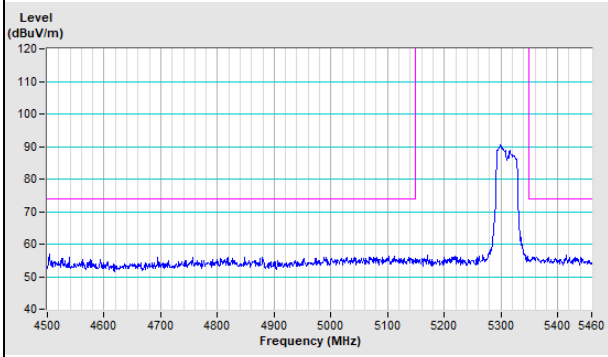


Vertical (Average)

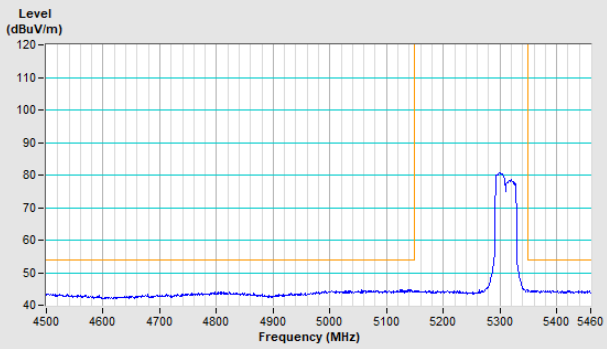


Channel 62

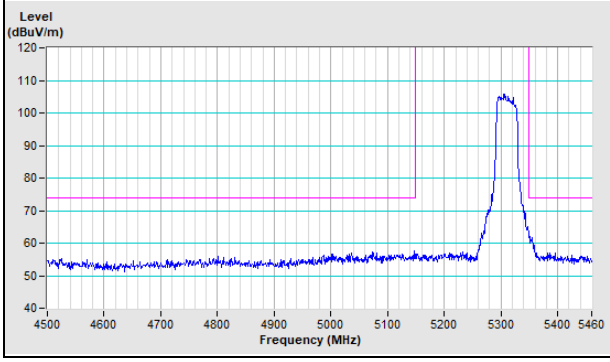
Horizontal (Peak)



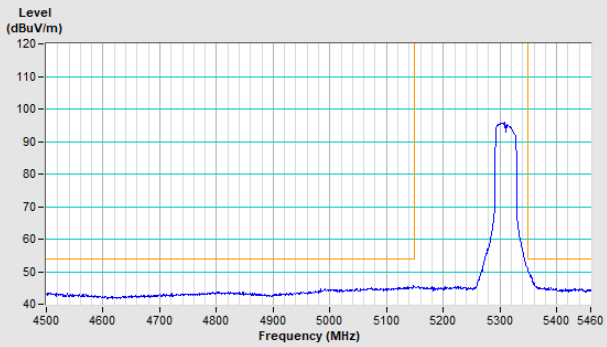
Horizontal (Average)

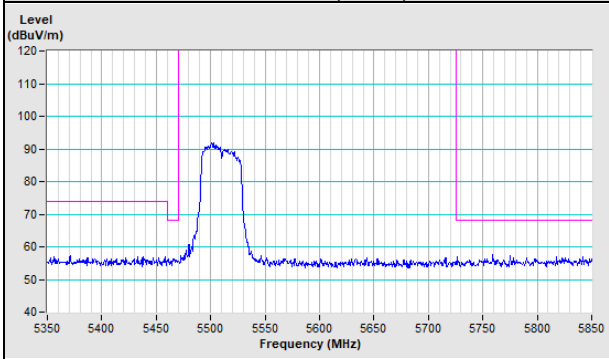
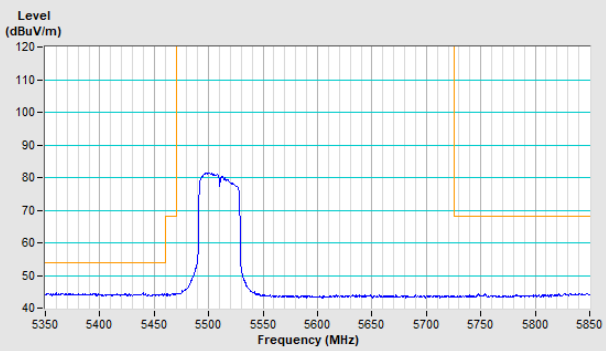
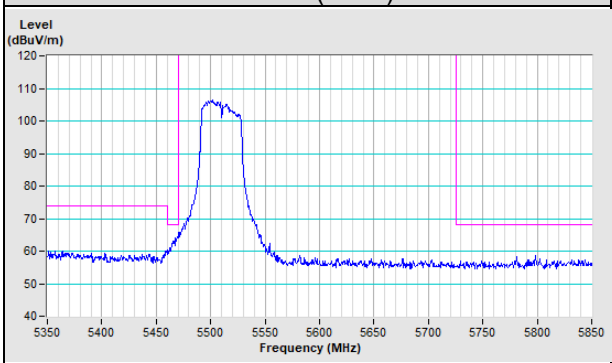
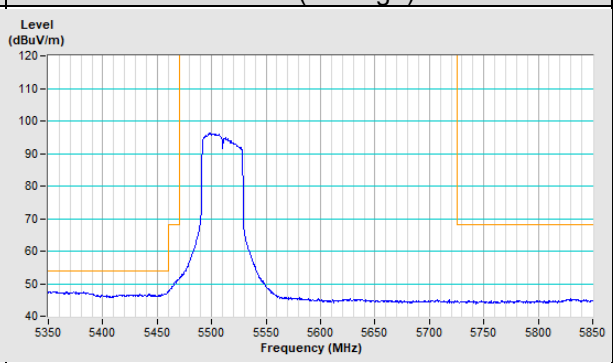
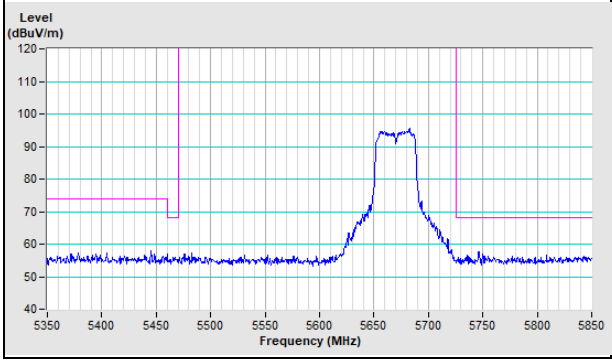
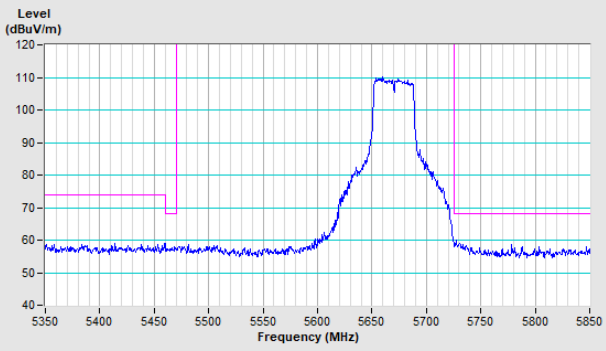


Vertical (Peak)



Vertical (Average)

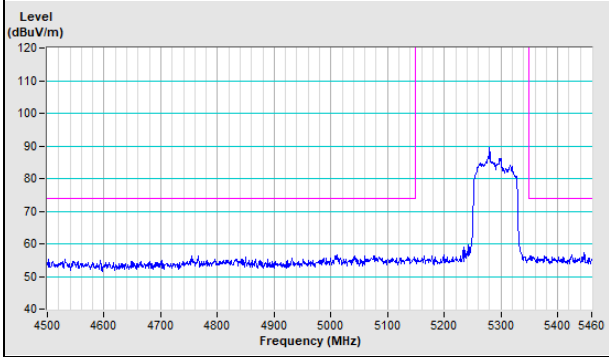


Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 134	
Horizontal (Peak)	Vertical (Peak)
	

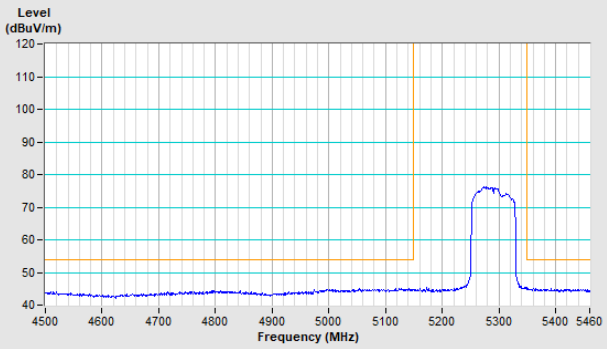
802.11ac (VHT80)

Channel 58

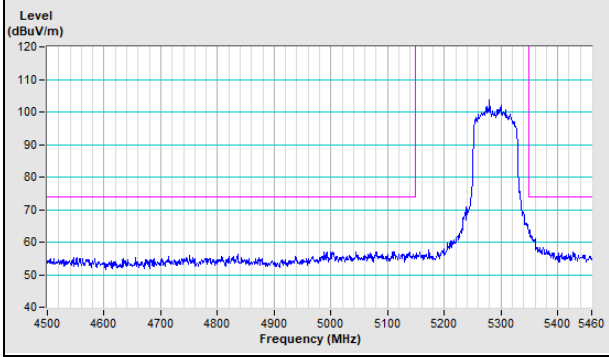
Horizontal (Peak)



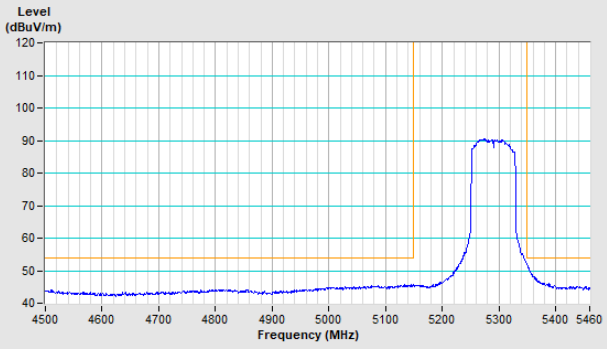
Horizontal (Average)



Vertical (Peak)

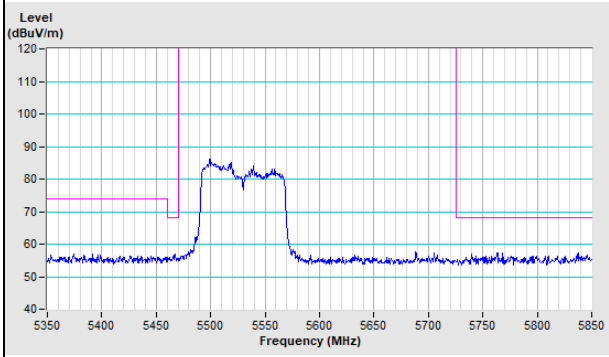


Vertical (Average)

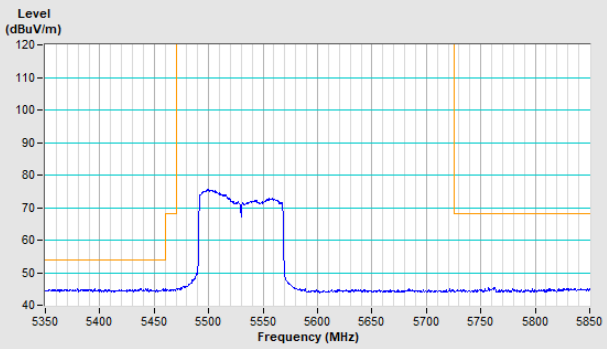


Channel 106

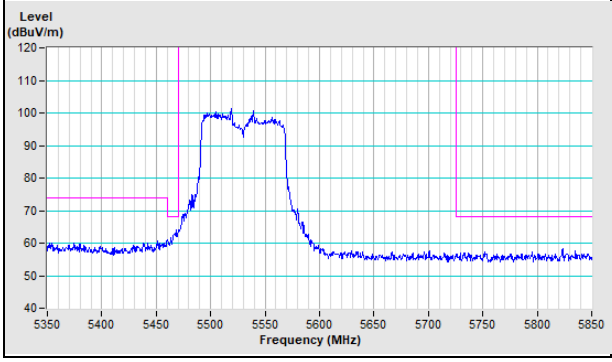
Horizontal (Peak)



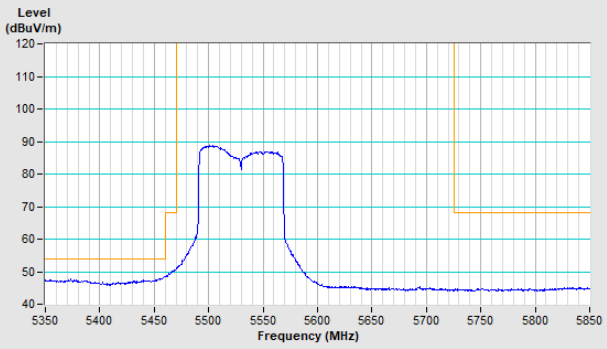
Horizontal (Average)

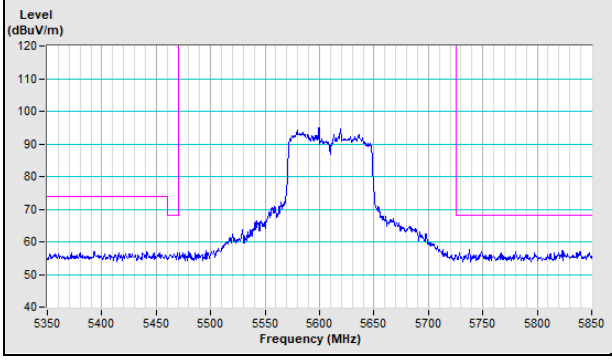
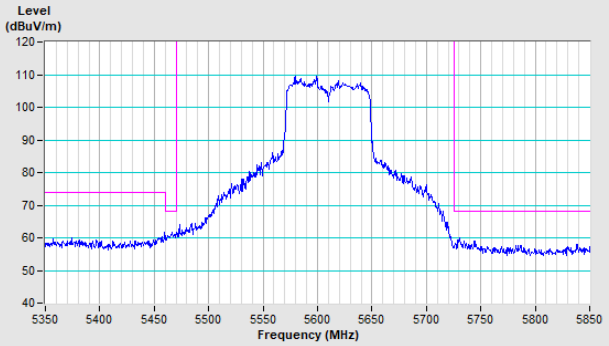


Vertical (Peak)



Vertical (Average)



Channel 122	
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 and approved according to ISO/IEC 17025.

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

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

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