FCC Test Report

Report No.: RFBCKS-WTW-P21061072-1

FCC ID: 2AWHPR201

Test Model: UTR-201

Received Date: June 29, 2021

Test Date: July 17 to 30, 2021

Issued Date: Aug. 20, 2021

Applicant: Space Exploration Technologies Corp.

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

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FCC Registration / Designation Number: 723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P21061072-1	Original release.	Aug. 20, 2021

1 Certificate of Conformity

Product: Starlink Router

Brand: SPACEX,

Test Model: UTR-201

Sample Status: ENGINEERING SAMPLE

Applicant: Space Exploration Technologies Corp.

Test Date: July 17 to 30, 2021

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

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

Prepared by : Vivian Huang , **Date:** Aug. 20, 2021
Vivian Huang / Specialist

Approved by : , **Date:** Aug. 20, 2021
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.99dB at 0.16562MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -3.0dB at 5144.00MHz.
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	NA	Refer to Note 1 below
15.407(e)	6dB bandwidth	NA	Refer to Note 1 below
15.407(g)	Frequency Stability	NA	Refer to Note 1 below
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:
1. AC Power Conducted Emission & Radiated Emissions & Band Edge Measurement & Max Average Transmit Power were performed for this addendum. The others testing data refer to original test report.
2. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
3. For U-NII-1 band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
4. 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	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Starlink Router
Brand	SPACEX,
Test Model	UTR-201
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	56Vdc from PoE adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	**2.4GHz:** 2.412GHz ~ 2.462GHz **5GHz:** 5.18 ~ 5.24GHz, 5.26 ~ 5.32 GHz, 5.50~5.72GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20), VHT20: 11 802.11n (HT40), VHT40: 7 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	**CDD Mode:** **2.412 ~ 2.462 GHz:** 882.202 mW **5.18 ~ 5.24 GHz:** 744.049 mW **5.26 ~ 5.32GHz:** 233.326 mW **5.5 ~ 5.72GHz:** 238.065 mW **5.745 ~ 5.825 GHz:** 726.102 mW **Beamforming Mode:** **2.412 ~ 2.462 GHz:** 677.871 mW **5.18 ~ 5.24 GHz:** 744.049 mW **5.26 ~ 5.32GHz:** 232.062 mW **5.5 ~ 5.72GHz:** 238.065 mW **5.745 ~ 5.825 GHz:** 726.102mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	PoE adapter x 1
Data Cable Supplied	RJ45 cable x1 (shielded, 210cm)

Note:

1. This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RF200522E11-1 & RF200522E11A-1 design is as the following information:
   - Added two new sources for both Main Board / Crystal (only difference is manufactory), below the following:

	Brand	Model
PCB 1	COMPEQ	48SAQ460.0GBKOM
PCB 2	CPC	48SAQ460.0GBCPC
Crystal 1	Kyocera	CX2016DB48000E0DLFA1
Crystal 2	TXC	8Y48090008

   - Added 2nd PoE, below the following:

Original			
No.	Brand	Model No.	Spec.
1	Acbel	UTP-201A	AC Input: 100-240Vac, 2.5A, 50-60Hz DC Output: 56V, 0.3A
Newly			
No.	Brand	Model No.	Spec.
2	Sysgration	UTP-201S	AC Input: 100-240Vac, 2.5A, 50-60Hz DC Output: 56V, 0.3A

2. According to the above conditions, only conducted power & conducted emission & radiated emissions and band edge test items need to be performed. And all data was verified to meet the requirements.
3. The EUT has two radios as following table:

Radio 1	Radio 2
WLAN 2.4GHz	WLAN 5GHz

4. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (5GHz)
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

5. The antennas provided to the EUT, please refer to the following table:

Antenna NO.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type	Cable Length (mm)
1	1.4	2.4~2.4835GHz	PCB	None	NA
	2.3	5.15~5.85GHz			
2	2.3	2.4~2.4835GHz	PCB	None	NA
	3.6	5.15~5.85GHz			

6. The EUT was pre-tested for conducted emissions & radiated emissions test under following test modes:

Pre-test Mode	Description
Sample 1	CPC PCB+ 2nd crystal (TXC)；PoE Adapter : UTP-201S
Sample 2	**Compaq PCB + 2nd crystal (TXC)；PoE Adapter : UTP-201S**
Sample 3	CPC PCB + 1st crystal (Kyocera)；PoE Adapter : UTP-201S
The worst conducted emissions & radiated emissions were found in **Sample 2**. Therefore only the test data of the mode was recorded in this report.	

7. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX

Note:
1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz), therefore the manufacturer will control the power for 802.11n mode power as same as 802.11ac mode and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

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

3.2 Description of Test Modes

FOR 5180 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

2 channel is provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720MHz

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

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	144	5720 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 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 **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT40)	5180-5240 5500-5720 5745-5825	38 to 46 151 to 159	46	OFDM	BPSK	13.5

Power Line Conducted Emission Test:

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

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

CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT40)	5180-5240 5500-5720 5745-5825	38 to 46 151 to 159	46	OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

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

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

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

CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11a	5180-5240	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3
Beamforming Mode (output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT20)	5180-5240	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	13.5
802.11ac (VHT80)		38 to 62	38, 46, 54, 62	OFDM	BPSK	29.3
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		100 to 144	100, 116, 140, 144	OFDM	BPSK	13.5
802.11ac (VHT80)		102 to 142	102, 110, 134, 142	OFDM	BPSK	29.3
802.11ac (VHT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Test Condition:

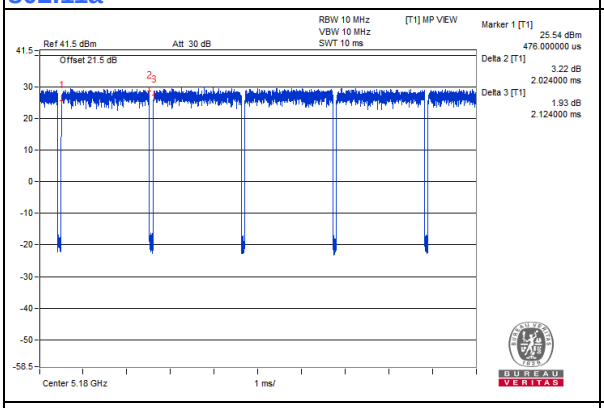
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
RE<1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
PLC	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

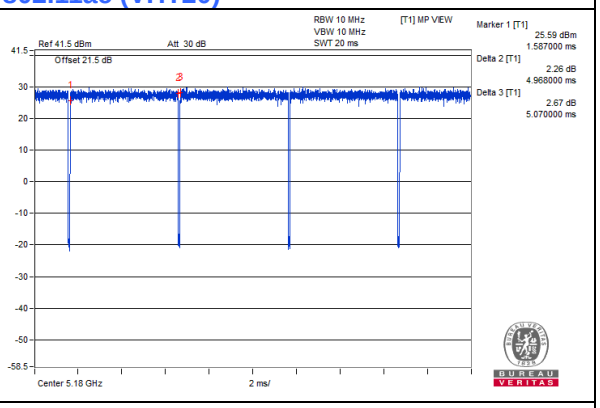
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.024 ms/2.124 ms = 0.953, Duty factor = 10 * log (1/Duty cycle) =0.21 dB
802.11ac (VHT20): Duty cycle = 4.968 ms/5.07 ms = 0.98
802.11ac (VHT40): Duty cycle = 2.412 ms/2.504 ms = 0.963, Duty factor = 10 * log (1/Duty cycle) = 0.16 dB
802.11ac (VHT80): Duty cycle = 1.133 ms/1.214 ms = 0.933, Duty factor = 10 * log (1/Duty cycle) = 0.30 dB

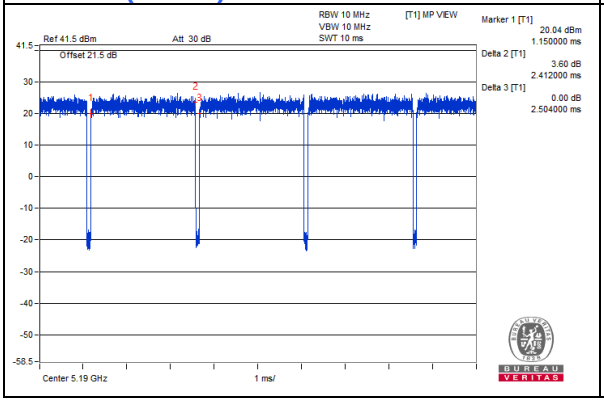
802.11a



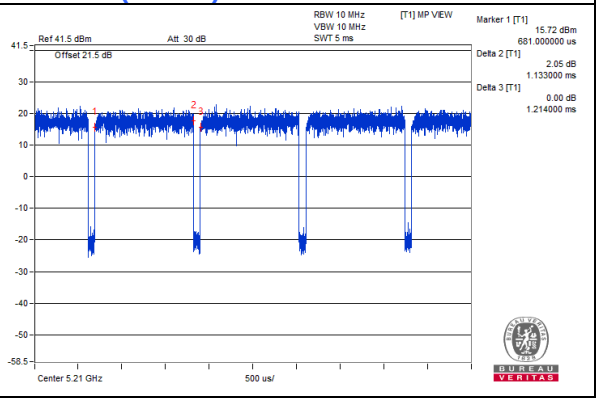
802.11ac (VHT20)



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.

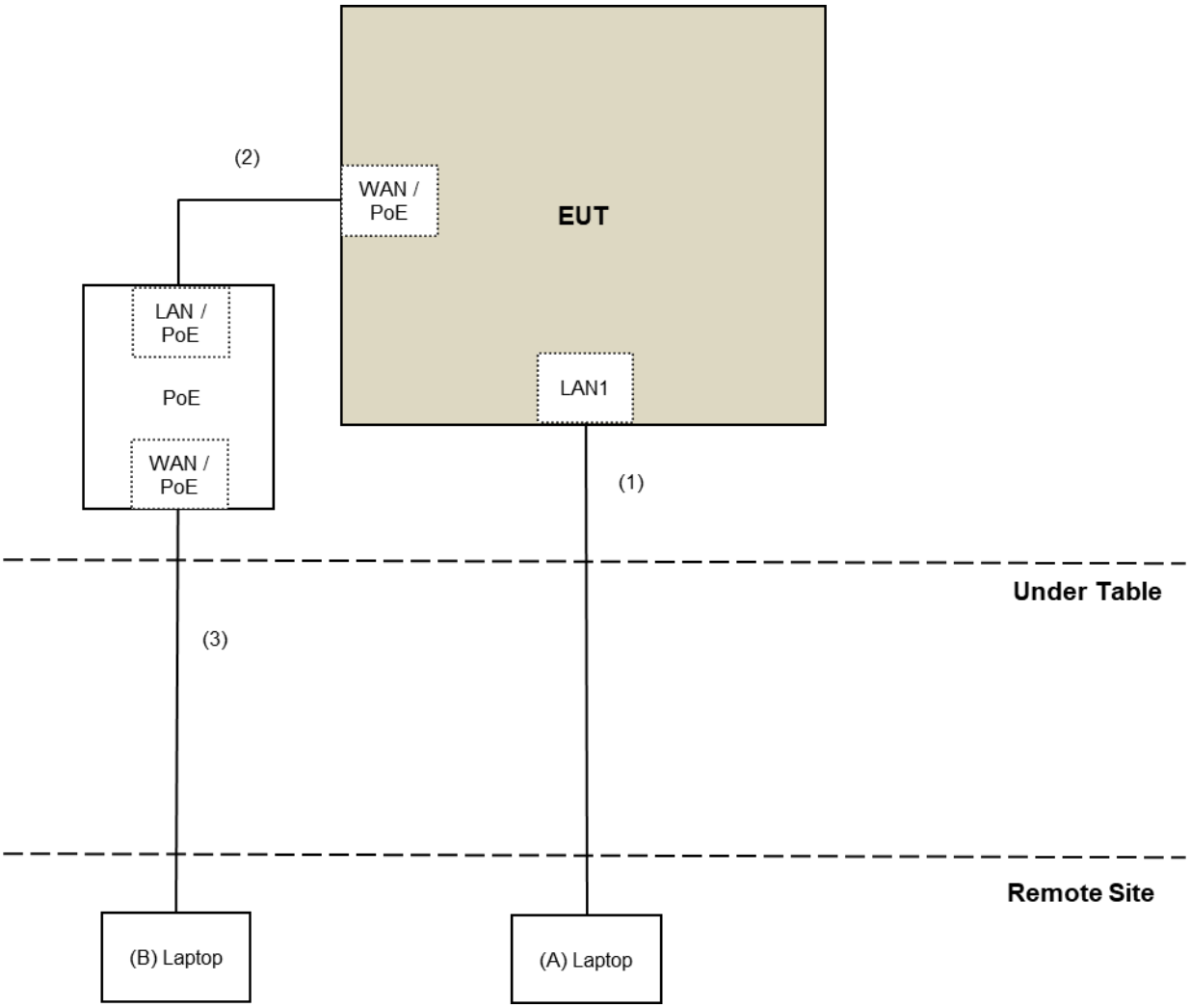
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	Yes	0	Provided by Lab
2.	RJ-45 Cable	1	2.1	Yes	0	Supplied by client
3.	RJ-45 Cable	1	10	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and references

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

Test Standard:

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

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

References Test Guidance:

KDB 789033 D02 General UNII Test 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

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

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

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

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

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

Note:

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

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

4.1.2 Test Instruments

For Radiated Emission & Bandedge & OOBE test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2021	July 05, 2022
Pre-Amplifier EMCI	EMC001340	980142	May 24, 2021	May 23, 2022
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	Oct. 20, 2020	Oct. 19, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 05, 2020	Nov. 04, 2021
RF Cable	8D	966-3-1	Mar. 16, 2021	Mar. 15, 2022
RF Cable	8D	966-3-2	Mar. 16, 2021	Mar. 15, 2022
RF Cable	8D	966-3-3	Mar. 16, 2021	Mar. 15, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC104-SM-SM-1500	180504	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-2000	180601	June 08, 2021	June 07, 2022
RF Cable	EMC104-SM-SM-6000	210201	May 13, 2021	May 12, 2022
Spectrum Analyzer Keysight	N9030A	MY54490679	July 09, 2021	July 08, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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 966 Chamber No. 3.
3. Tested Date: July 17 to 30, 2021

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	Mar. 08, 2021	Mar. 07, 2022
Power meter Anritsu	ML2495A	1529002	June 21, 2021	June 20, 2022
Power sensor Anritsu	MA2411B	1339443	May 31, 2021	May 30, 2022
10dB Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

NOTE:
1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: July 30, 2021

4.1.3 Test Procedure

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 detects 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:

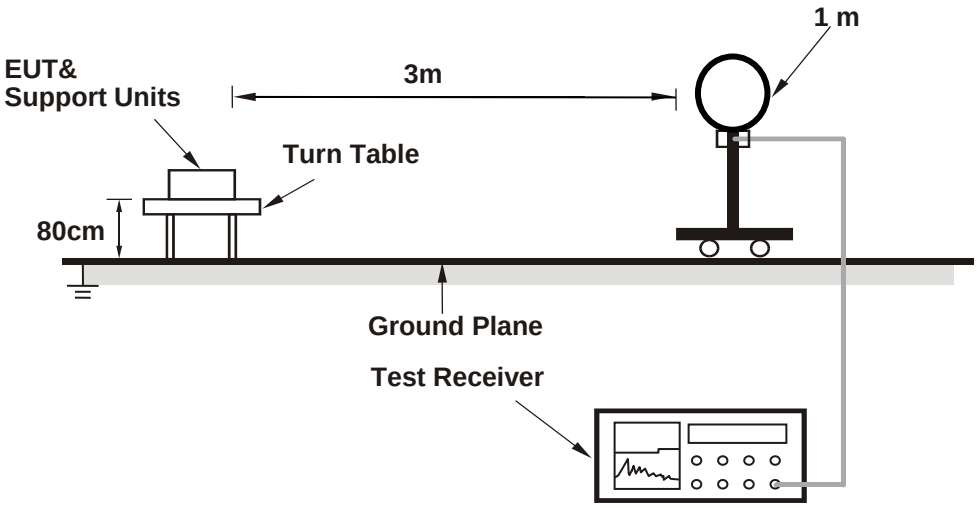
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

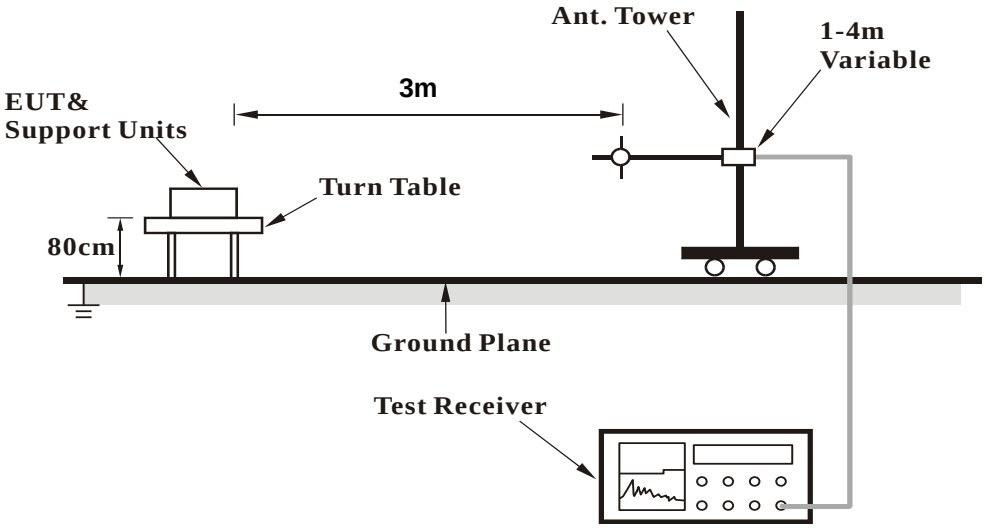
No deviation.

4.1.5 Test Setup

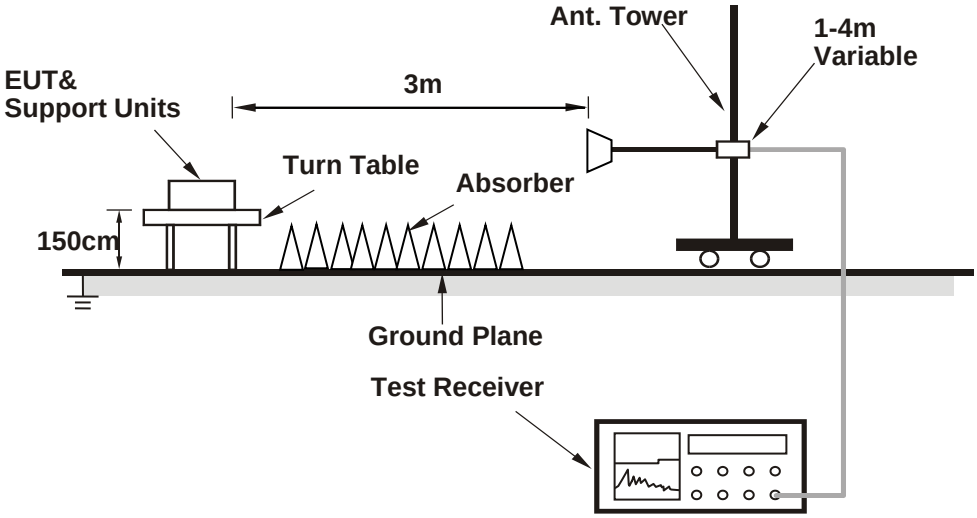
For Radiated emission below 30MHz



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 Condition

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (QDART_Installer_00037.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

RF Mode	TX 802.11a	**Channel**	CH 36：5180 MHz
Frequency Range	1GHz ~ 40GHz	**Detector Function**	Peak (PK) Average (AV)

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	62.4 PK	74.0	-11.6	1.87 H	123	57.7	4.7
2	5150.00	49.6 AV	54.0	-4.4	1.87 H	123	44.9	4.7
3	*5180.00	116.7 PK			1.87 H	123	112.1	4.6
4	*5180.00	107.1 AV			1.87 H	123	102.5	4.6
5	#10360.00	51.2 PK	68.2	-17.0	2.16 H	197	37.8	13.4
6	15540.00	45.8 PK	74.0	-28.2	1.64 H	235	31.3	14.5
7	15540.00	35.1 AV	54.0	-18.9	1.64 H	235	20.6	14.5
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	5150.00	63.2 PK	74.0	-10.8	3.25 V	353	58.5	4.7
2	5150.00	47.5 AV	54.0	-6.5	3.25 V	353	42.8	4.7
3	*5180.00	116.6 PK			3.25 V	353	112.0	4.6
4	*5180.00	106.9 AV			3.25 V	353	102.3	4.6
5	#10360.00	47.5 PK	68.2	-20.7	2.20 V	204	34.1	13.4
6	15540.00	46.2 PK	74.0	-27.8	1.36 V	185	31.7	14.5
7	15540.00	34.9 AV	54.0	-19.1	1.36 V	185	20.4	14.5

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 40：5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	118.4 PK			1.86 H	134	114.0	4.4
2	*5200.00	108.3 AV			1.86 H	134	103.9	4.4
3	#10400.00	55.1 PK	68.2	-13.1	2.14 H	193	41.5	13.6
4	15600.00	48.8 PK	74.0	-25.2	1.65 H	241	34.3	14.5
5	15600.00	37.6 AV	54.0	-16.4	1.65 H	241	23.1	14.5
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	*5200.00	118.6 PK			3.57 V	337	114.2	4.4
2	*5200.00	107.8 AV			3.57 V	337	103.4	4.4
3	#10400.00	51.1 PK	68.2	-17.1	2.22 V	216	37.5	13.6
4	15600.00	46.2 PK	74.0	-27.8	1.33 V	199	31.7	14.5
5	15600.00	35.0 AV	54.0	-19.0	1.33 V	199	20.5	14.5

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 48：5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	118.3 PK			1.85 H	123	113.9	4.4
2	*5240.00	108.0 AV			1.85 H	123	103.6	4.4
3	5353.20	52.6 PK	74.0	-21.4	1.85 H	123	48.3	4.3
4	5353.20	40.3 AV	54.0	-13.7	1.85 H	123	36.0	4.3
5	5376.00	50.6 PK	74.0	-23.4	1.85 H	123	46.2	4.4
6	5376.00	42.7 AV	54.0	-11.3	1.85 H	123	38.3	4.4
7	#10480.00	55.7 PK	68.2	-12.5	2.15 H	204	42.0	13.7
8	15720.00	48.3 PK	74.0	-25.7	1.68 H	248	33.9	14.4
9	15720.00	37.2 AV	54.0	-16.8	1.68 H	248	22.8	14.4
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	*5240.00	118.4 PK			3.52 V	353	114.0	4.4
2	*5240.00	107.9 AV			3.52 V	353	103.5	4.4
3	5376.10	51.9 PK	74.0	-22.1	3.52 V	353	47.5	4.4
4	5376.10	41.4 AV	54.0	-12.6	3.52 V	353	37.0	4.4
5	#10480.00	50.7 PK	68.2	-17.5	2.18 V	206	37.0	13.7
6	15720.00	46.6 PK	74.0	-27.4	1.39 V	191	32.2	14.4
7	15720.00	35.2 AV	54.0	-18.8	1.39 V	191	20.8	14.4

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 52：5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5115.80	52.9 PK	74.0	-21.1	1.79 H	124	48.1	4.8
2	5115.80	41.8 AV	54.0	-12.2	1.79 H	124	37.0	4.8
3	*5260.00	112.3 PK			1.79 H	124	108.0	4.3
4	*5260.00	102.8 AV			1.79 H	124	98.5	4.3
5	#10520.00	49.5 PK	68.2	-18.7	2.17 H	211	35.7	13.8
6	15780.00	46.6 PK	74.0	-27.4	1.64 H	239	32.3	14.3
7	15780.00	35.1 AV	54.0	-18.9	1.64 H	239	20.8	14.3
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	5119.90	51.1 PK	74.0	-22.9	3.73 V	353	46.3	4.8
2	5119.90	42.2 AV	54.0	-11.8	3.73 V	353	37.4	4.8
3	5135.95	52.5 PK	74.0	-21.5	3.73 V	353	47.7	4.8
4	5135.95	41.2 AV	54.0	-12.8	3.73 V	353	36.4	4.8
5	*5260.00	114.1 PK			3.73 V	353	109.8	4.3
6	*5260.00	103.4 AV			3.73 V	353	99.1	4.3
7	#10520.00	47.0 PK	68.2	-21.2	2.14 V	196	33.2	13.8
8	15780.00	46.0 PK	74.0	-28.0	1.34 V	185	31.7	14.3
9	15780.00	34.5 AV	54.0	-19.5	1.34 V	185	20.2	14.3

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 60：5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	111.8 PK			1.78 H	134	107.5	4.3
2	*5300.00	102.2 AV			1.78 H	134	97.9	4.3
3	10600.00	49.9 PK	74.0	-24.1	2.21 H	210	36.3	13.6
4	10600.00	38.5 AV	54.0	-15.5	2.21 H	210	24.9	13.6
5	15900.00	46.8 PK	74.0	-27.2	1.60 H	249	32.7	14.1
6	15900.00	35.4 AV	54.0	-18.6	1.60 H	249	21.3	14.1
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	*5300.00	112.7 PK			3.53 V	343	108.4	4.3
2	*5300.00	102.5 AV			3.53 V	343	98.2	4.3
3	10600.00	47.5 PK	74.0	-26.5	2.10 V	196	33.9	13.6
4	10600.00	36.5 AV	54.0	-17.5	2.10 V	196	22.9	13.6
5	15900.00	46.5 PK	74.0	-27.5	1.39 V	183	32.4	14.1
6	15900.00	35.5 AV	54.0	-18.5	1.39 V	183	21.4	14.1

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 64：5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	112.3 PK			1.78 H	129	108.0	4.3
2	*5320.00	102.4 AV			1.78 H	129	98.1	4.3
3	5350.00	54.6 PK	74.0	-19.4	1.78 H	129	50.3	4.3
4	5350.00	43.3 AV	54.0	-10.7	1.78 H	129	39.0	4.3
5	5376.00	54.5 PK	74.0	-19.5	1.78 H	129	50.1	4.4
6	5376.00	45.1 AV	54.0	-8.9	1.78 H	129	40.7	4.4
7	10640.00	50.3 PK	74.0	-23.7	2.24 H	205	36.6	13.7
8	10640.00	38.7 AV	54.0	-15.3	2.24 H	205	25.0	13.7
9	15960.00	46.9 PK	74.0	-27.1	1.65 H	238	32.8	14.1
10	15960.00	35.7 AV	54.0	-18.3	1.65 H	238	21.6	14.1
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	*5320.00	112.1 PK			3.48 V	357	107.8	4.3
2	*5320.00	102.2 AV			3.48 V	357	97.9	4.3
3	5350.00	54.2 PK	74.0	-19.8	3.48 V	357	49.9	4.3
4	5350.00	43.5 AV	54.0	-10.5	3.48 V	357	39.2	4.3
5	10640.00	47.8 PK	74.0	-26.2	2.05 V	202	34.1	13.7
6	10640.00	36.6 AV	54.0	-17.4	2.05 V	202	22.9	13.7
7	15960.00	46.5 PK	74.0	-27.5	1.41 V	185	32.4	14.1
8	15960.00	35.4 AV	54.0	-18.6	1.41 V	185	21.3	14.1

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 100：5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5459.50	54.2 PK	74.0	-19.8	1.86 H	118	49.8	4.4
2	5459.50	41.9 AV	54.0	-12.1	1.86 H	118	37.5	4.4
3	#5469.20	55.7 PK	68.2	-12.5	1.86 H	118	51.2	4.5
4	*5500.00	113.6 PK			1.86 H	118	108.9	4.7
5	*5500.00	103.6 AV			1.86 H	118	98.9	4.7
6	11000.00	49.8 PK	74.0	-24.2	2.26 H	207	35.5	14.3
7	11000.00	38.3 AV	54.0	-15.7	2.26 H	207	24.0	14.3
8	#16500.00	46.8 PK	68.2	-21.4	1.58 H	247	31.0	15.8
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	5374.25	52.1 PK	74.0	-21.9	2.40 V	188	47.7	4.4
2	5374.25	39.7 AV	54.0	-14.3	2.40 V	188	35.3	4.4
3	5460.00	50.9 PK	74.0	-23.1	2.40 V	188	46.5	4.4
4	5460.00	41.3 AV	54.0	-12.7	2.40 V	188	36.9	4.4
5	#5468.80	54.1 PK	68.2	-14.1	2.40 V	188	49.6	4.5
6	*5500.00	112.8 PK			2.40 V	188	108.1	4.7
7	*5500.00	103.4 AV			2.40 V	188	98.7	4.7
8	11000.00	46.9 PK	74.0	-27.1	2.09 V	194	32.6	14.3
9	11000.00	36.1 AV	54.0	-17.9	2.09 V	194	21.8	14.3
10	#16500.00	46.3 PK	68.2	-21.9	1.33 V	176	30.5	15.8

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 116：5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	113.8 PK			1.84 H	116	109.3	4.5
2	*5580.00	103.5 AV			1.84 H	116	99.0	4.5
3	11160.00	50.1 PK	74.0	-23.9	2.24 H	207	36.0	14.1
4	11160.00	38.5 AV	54.0	-15.5	2.24 H	207	24.4	14.1
5	#16740.00	47.2 PK	68.2	-21.0	1.62 H	259	30.4	16.8
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	*5580.00	112.6 PK			2.34 V	165	108.1	4.5
2	*5580.00	103.4 AV			2.34 V	165	98.9	4.5
3	11160.00	47.4 PK	74.0	-26.6	2.05 V	199	33.3	14.1
4	11160.00	36.1 AV	54.0	-17.9	2.05 V	199	22.0	14.1
5	#16740.00	46.6 PK	68.2	-21.6	1.42 V	179	29.8	16.8

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 140：5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	114.2 PK			1.87 H	120	109.6	4.6
2	*5700.00	103.8 AV			1.87 H	120	99.2	4.6
3	#5725.00	62.3 PK	68.2	-5.9	1.87 H	120	57.6	4.7
4	11400.00	50.6 PK	74.0	-23.4	2.18 H	198	36.1	14.5
5	11400.00	38.9 AV	54.0	-15.1	2.18 H	198	24.4	14.5
6	#17100.00	46.5 PK	68.2	-21.7	1.59 H	251	28.7	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	*5700.00	113.0 PK			2.35 V	162	108.4	4.6
2	*5700.00	104.2 AV			2.35 V	162	99.6	4.6
3	#5725.00	62.5 PK	68.2	-5.7	2.35 V	162	57.8	4.7
4	11400.00	47.8 PK	74.0	-26.2	2.08 V	204	33.3	14.5
5	11400.00	36.7 AV	54.0	-17.3	2.08 V	204	22.2	14.5
6	#17100.00	46.9 PK	68.2	-21.3	1.41 V	190	29.1	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11a	Channel	CH 144：5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	50.5 PK	74.0	-23.5	1.89 H	109	46.1	4.4
2	5460.00	38.6 AV	54.0	-15.4	1.89 H	109	34.2	4.4
3	#5470.00	51.3 PK	68.2	-16.9	1.89 H	109	46.8	4.5
4	*5720.00	112.7 PK			1.89 H	109	108.0	4.7
5	*5720.00	103.1 AV			1.89 H	109	98.4	4.7
6	#5850.00	50.6 PK	68.2	-17.6	1.89 H	109	45.6	5.0
7	11440.00	49.6 PK	74.0	-24.4	2.23 H	226	35.0	14.6
8	11440.00	38.2 AV	54.0	-15.8	2.23 H	226	23.6	14.6
9	#17160.00	46.2 PK	68.2	-22.0	1.65 H	253	28.4	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	5460.00	50.9 PK	74.0	-23.1	2.38 V	176	46.5	4.4
2	5460.00	38.7 AV	54.0	-15.3	2.38 V	176	34.3	4.4
3	#5470.00	51.6 PK	68.2	-16.6	2.38 V	176	47.1	4.5
4	*5720.00	112.8 PK			2.38 V	176	108.1	4.7
5	*5720.00	103.7 AV			2.38 V	176	99.0	4.7
6	#5850.00	50.4 PK	68.2	-17.8	2.38 V	176	45.4	5.0
7	11440.00	47.7 PK	74.0	-26.3	2.06 V	195	33.1	14.6
8	11440.00	36.8 AV	54.0	-17.2	2.06 V	195	22.2	14.6
9	#17160.00	46.5 PK	68.2	-21.7	1.39 V	176	28.7	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11a	Channel	CH 149：5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5604.92	53.7 PK	68.2	-14.5	1.79 H	121	49.2	4.5
2	*5745.00	119.6 PK			1.79 H	121	114.6	5.0
3	*5745.00	109.9 AV			1.79 H	121	104.9	5.0
4	#5981.23	52.0 PK	68.2	-16.2	1.79 H	121	46.8	5.2
5	11490.00	56.6 PK	74.0	-17.4	1.50 H	202	42.0	14.6
6	11490.00	46.2 AV	54.0	-7.8	1.50 H	202	31.6	14.6
7	#17235.00	51.2 PK	68.2	-17.0	1.57 H	222	33.2	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5605.12	52.3 PK	68.2	-15.9	3.15 V	184	47.8	4.5
2	*5745.00	120.9 PK			3.15 V	184	115.9	5.0
3	*5745.00	110.8 AV			3.15 V	184	105.8	5.0
4	#5971.22	51.4 PK	68.2	-16.8	3.15 V	184	46.2	5.2
5	11490.00	52.6 PK	74.0	-21.4	1.64 V	266	38.0	14.6
6	11490.00	41.2 AV	54.0	-12.8	1.64 V	266	26.6	14.6
7	#17235.00	50.7 PK	68.2	-17.5	1.40 V	216	32.7	18.0

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5622.54	54.3 PK	68.2	-13.9	1.81 H	124	49.8	4.5
2	*5785.00	119.0 PK			1.81 H	124	113.9	5.1
3	*5785.00	109.4 AV			1.81 H	124	104.3	5.1
4	#5927.34	53.6 PK	68.2	-14.6	1.81 H	124	48.5	5.1
5	11570.00	56.6 PK	74.0	-17.4	1.50 H	191	42.0	14.6
6	11570.00	46.4 AV	54.0	-7.6	1.50 H	191	31.8	14.6
7	#17355.00	51.3 PK	68.2	-16.9	1.51 H	207	33.1	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	#5609.79	51.4 PK	68.2	-16.8	3.06 V	185	46.9	4.5
2	*5785.00	121.0 PK			3.06 V	185	115.9	5.1
3	*5785.00	111.0 AV			3.06 V	185	105.9	5.1
4	#5943.74	51.6 PK	68.2	-16.6	3.06 V	185	46.5	5.1
5	11570.00	52.4 PK	74.0	-21.6	1.63 V	263	37.8	14.6
6	11570.00	41.0 AV	54.0	-13.0	1.63 V	263	26.4	14.6
7	#17355.00	50.6 PK	68.2	-17.6	1.36 V	207	32.4	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11a	Channel	CH 165：5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5645.44	52.7 PK	68.2	-15.5	1.80 H	124	48.2	4.5
2	*5825.00	118.2 PK			1.80 H	124	113.2	5.0
3	*5825.00	108.1 AV			1.80 H	124	103.1	5.0
4	#6018.39	52.3 PK	68.2	-15.9	1.80 H	124	47.1	5.2
5	11650.00	56.0 PK	74.0	-18.0	1.49 H	196	41.6	14.4
6	11650.00	45.9 AV	54.0	-8.1	1.49 H	196	31.5	14.4
7	#17475.00	51.5 PK	68.2	-16.7	1.52 H	223	32.7	18.8
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	#5593.31	52.0 PK	68.2	-16.2	2.92 V	187	47.5	4.5
2	*5825.00	119.7 PK			2.92 V	187	114.7	5.0
3	*5825.00	110.3 AV			2.92 V	187	105.3	5.0
4	#5993.61	52.1 PK	68.2	-16.1	2.92 V	187	46.9	5.2
5	11650.00	52.8 PK	74.0	-21.2	1.62 V	254	38.4	14.4
6	11650.00	41.4 AV	54.0	-12.6	1.62 V	254	27.0	14.4
7	#17475.00	50.4 PK	68.2	-17.8	1.45 V	230	31.6	18.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 36：5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	59.8 PK	74.0	-14.2	1.95 H	116	55.1	4.7
2	5150.00	46.7 AV	54.0	-7.3	1.95 H	116	42.0	4.7
3	*5180.00	117.4 PK			1.95 H	116	112.8	4.6
4	*5180.00	105.3 AV			1.95 H	116	100.7	4.6
5	#10360.00	49.1 PK	68.2	-19.1	2.08 H	217	35.7	13.4
6	15540.00	46.8 PK	74.0	-27.2	1.67 H	257	32.3	14.5
7	15540.00	35.6 AV	54.0	-18.4	1.67 H	257	21.1	14.5
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	5150.00	57.9 PK	74.0	-16.1	2.66 V	16	53.2	4.7
2	5150.00	48.3 AV	54.0	-5.7	2.66 V	16	43.6	4.7
3	*5180.00	114.2 PK			2.66 V	16	109.6	4.6
4	*5180.00	103.9 AV			2.66 V	16	99.3	4.6
5	#10360.00	47.5 PK	68.2	-20.7	2.09 V	198	34.1	13.4
6	15540.00	46.7 PK	74.0	-27.3	1.35 V	168	32.2	14.5
7	15540.00	35.8 AV	54.0	-18.2	1.35 V	168	21.3	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 40：5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	118.0 PK			1.87 H	110	113.6	4.4
2	*5200.00	107.7 AV			1.87 H	110	103.3	4.4
3	#10400.00	53.1 PK	68.2	-15.1	2.13 H	206	39.5	13.6
4	15600.00	46.4 PK	74.0	-27.6	1.64 H	252	31.9	14.5
5	15600.00	35.4 AV	54.0	-18.6	1.64 H	252	20.9	14.5
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	*5200.00	117.8 PK			3.79 V	293	113.4	4.4
2	*5200.00	107.4 AV			3.79 V	293	103.0	4.4
3	#10400.00	50.2 PK	68.2	-18.0	2.07 V	199	36.6	13.6
4	15600.00	46.8 PK	74.0	-27.2	1.42 V	179	32.3	14.5
5	15600.00	35.7 AV	54.0	-18.3	1.42 V	179	21.2	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 48：5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	117.9 PK			1.88 H	120	113.5	4.4
2	*5240.00	107.4 AV			1.88 H	120	103.0	4.4
3	5376.00	53.0 PK	74.0	-21.0	1.88 H	120	48.6	4.4
4	5376.00	43.7 AV	54.0	-10.3	1.88 H	120	39.3	4.4
5	#10480.00	53.0 PK	68.2	-15.2	2.15 H	216	39.3	13.7
6	15720.00	45.8 PK	74.0	-28.2	1.59 H	252	31.4	14.4
7	15720.00	35.1 AV	54.0	-18.9	1.59 H	252	20.7	14.4
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	*5240.00	117.9 PK			3.80 V	4	113.5	4.4
2	*5240.00	107.6 AV			3.80 V	4	103.2	4.4
3	5376.00	51.3 PK	74.0	-22.7	3.80 V	4	46.9	4.4
4	5376.00	40.5 AV	54.0	-13.5	3.80 V	4	36.1	4.4
5	5431.10	52.5 PK	74.0	-21.5	3.80 V	4	48.1	4.4
6	5431.10	39.4 AV	54.0	-14.6	3.80 V	4	35.0	4.4
7	#10480.00	50.0 PK	68.2	-18.2	2.09 V	214	36.3	13.7
8	15720.00	46.2 PK	74.0	-27.8	1.47 V	176	31.8	14.4
9	15720.00	35.3 AV	54.0	-18.7	1.47 V	176	20.9	14.4

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 52：5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5058.40	53.5 PK	74.0	-20.5	1.87 H	125	49.0	4.5
2	5058.40	40.7 AV	54.0	-13.3	1.87 H	125	36.2	4.5
3	5150.00	50.8 PK	74.0	-23.2	1.87 H	125	46.1	4.7
4	5150.00	41.7 AV	54.0	-12.3	1.87 H	125	37.0	4.7
5	*5260.00	112.4 PK			1.87 H	125	108.1	4.3
6	*5260.00	102.0 AV			1.87 H	125	97.7	4.3
7	#10520.00	49.2 PK	68.2	-19.0	2.04 H	231	35.4	13.8
8	15780.00	47.0 PK	74.0	-27.0	1.62 H	260	32.7	14.3
9	15780.00	35.8 AV	54.0	-18.2	1.62 H	260	21.5	14.3
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	5115.30	52.2 PK	74.0	-21.8	3.14 V	295	47.4	4.8
2	5115.30	40.8 AV	54.0	-13.2	3.14 V	295	36.0	4.8
3	5119.90	50.8 PK	74.0	-23.2	3.14 V	295	46.0	4.8
4	5119.90	42.8 AV	54.0	-11.2	3.14 V	295	38.0	4.8
5	*5260.00	113.1 PK			3.14 V	295	108.8	4.3
6	*5260.00	102.4 AV			3.14 V	295	98.1	4.3
7	#10520.00	47.6 PK	68.2	-20.6	2.04 V	212	33.8	13.8
8	15780.00	46.6 PK	74.0	-27.4	1.39 V	183	32.3	14.3
9	15780.00	35.5 AV	54.0	-18.5	1.39 V	183	21.2	14.3

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 60：5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	112.0 PK			1.79 H	107	107.7	4.3
2	*5300.00	101.9 AV			1.79 H	107	97.6	4.3
3	10600.00	48.7 PK	74.0	-25.3	2.23 H	215	35.1	13.6
4	10600.00	36.4 AV	54.0	-17.6	2.23 H	215	22.8	13.6
5	15900.00	46.8 PK	74.0	-27.2	1.62 H	263	32.7	14.1
6	15900.00	35.6 AV	54.0	-18.4	1.62 H	263	21.5	14.1
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	*5300.00	112.4 PK			2.84 V	292	108.1	4.3
2	*5300.00	102.1 AV			2.84 V	292	97.8	4.3
3	10600.00	47.2 PK	74.0	-26.8	2.05 V	195	33.6	13.6
4	10600.00	35.5 AV	54.0	-18.5	2.05 V	195	21.9	13.6
5	15900.00	46.4 PK	74.0	-27.6	1.35 V	175	32.3	14.1
6	15900.00	35.7 AV	54.0	-18.3	1.35 V	175	21.6	14.1

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 64：5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	111.9 PK			1.82 H	118	107.6	4.3
2	*5320.00	101.8 AV			1.82 H	118	97.5	4.3
3	5357.00	55.0 PK	74.0	-19.0	1.82 H	118	50.7	4.3
4	5357.00	42.7 AV	54.0	-11.3	1.82 H	118	38.4	4.3
5	5376.00	52.8 PK	74.0	-21.2	1.82 H	118	48.4	4.4
6	5376.00	45.1 AV	54.0	-8.9	1.82 H	118	40.7	4.4
7	10640.00	48.6 PK	74.0	-25.4	2.29 H	225	34.9	13.7
8	10640.00	36.0 AV	54.0	-18.0	2.29 H	225	22.3	13.7
9	15960.00	46.2 PK	74.0	-27.8	1.57 H	276	32.1	14.1
10	15960.00	35.1 AV	54.0	-18.9	1.57 H	276	21.0	14.1
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	*5320.00	112.3 PK			2.79 V	302	108.0	4.3
2	*5320.00	101.7 AV			2.79 V	302	97.4	4.3
3	5350.00	54.8 PK	74.0	-19.2	2.79 V	302	50.5	4.3
4	5350.00	44.0 AV	54.0	-10.0	2.79 V	302	39.7	4.3
5	10640.00	47.5 PK	74.0	-26.5	2.08 V	199	33.8	13.7
6	10640.00	35.9 AV	54.0	-18.1	2.08 V	199	22.2	13.7
7	15960.00	46.3 PK	74.0	-27.7	1.31 V	184	32.2	14.1
8	15960.00	35.8 AV	54.0	-18.2	1.31 V	184	21.7	14.1

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 100：5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5459.75	53.8 PK	74.0	-20.2	2.09 H	106	49.4	4.4
2	5459.75	43.7 AV	54.0	-10.3	2.09 H	106	39.3	4.4
3	#5470.00	55.5 PK	68.2	-12.7	2.09 H	106	51.0	4.5
4	*5500.00	116.9 PK			2.09 H	106	112.2	4.7
5	*5500.00	104.5 AV			2.09 H	106	99.8	4.7
6	11000.00	49.4 PK	74.0	-24.6	2.28 H	218	35.1	14.3
7	11000.00	36.9 AV	54.0	-17.1	2.28 H	218	22.6	14.3
8	#16500.00	46.9 PK	68.2	-21.3	1.59 H	249	31.1	15.8
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	5459.75	51.8 PK	74.0	-22.2	2.63 V	182	47.4	4.4
2	5459.75	41.3 AV	54.0	-12.7	2.63 V	182	36.9	4.4
3	#5470.00	53.5 PK	68.2	-14.7	1.00 V	0	49.0	4.5
4	*5500.00	113.3 PK			2.63 V	182	108.6	4.7
5	*5500.00	102.7 AV			2.63 V	182	98.0	4.7
6	11000.00	47.1 PK	74.0	-26.9	2.07 V	210	32.8	14.3
7	11000.00	35.3 AV	54.0	-18.7	2.07 V	210	21.0	14.3
8	#16500.00	46.4 PK	68.2	-21.8	1.33 V	176	30.6	15.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 116：5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	114.9 PK			1.77 H	108	110.4	4.5
2	*5580.00	104.4 AV			1.77 H	108	99.9	4.5
3	11160.00	48.7 PK	74.0	-25.3	2.23 H	200	34.6	14.1
4	11160.00	36.1 AV	54.0	-17.9	2.23 H	200	22.0	14.1
5	#16740.00	46.8 PK	68.2	-21.4	1.61 H	252	30.0	16.8
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	*5580.00	115.1 PK			3.00 V	162	110.6	4.5
2	*5580.00	104.1 AV			3.00 V	162	99.6	4.5
3	11160.00	47.5 PK	74.0	-26.5	2.05 V	206	33.4	14.1
4	11160.00	35.6 AV	54.0	-18.4	2.05 V	206	21.5	14.1
5	#16740.00	46.5 PK	68.2	-21.7	1.34 V	182	29.7	16.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 140：5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	115.1 PK			1.79 H	119	110.5	4.6
2	*5700.00	104.4 AV			1.79 H	119	99.8	4.6
3	#5725.00	60.0 PK	68.2	-8.2	1.79 H	119	55.3	4.7
4	11400.00	48.5 PK	74.0	-25.5	2.23 H	230	34.0	14.5
5	11400.00	36.4 AV	54.0	-17.6	2.23 H	230	21.9	14.5
6	#17100.00	46.8 PK	68.2	-21.4	1.65 H	258	29.0	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	*5700.00	114.6 PK			3.06 V	173	110.0	4.6
2	*5700.00	103.7 AV			3.06 V	173	99.1	4.6
3	#5725.00	58.0 PK	68.2	-10.2	3.06 V	173	53.3	4.7
4	11400.00	47.3 PK	74.0	-26.7	2.08 V	192	32.8	14.5
5	11400.00	35.4 AV	54.0	-18.6	2.08 V	192	20.9	14.5
6	#17100.00	46.5 PK	68.2	-21.7	1.38 V	160	28.7	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT20)	Channel	CH 144：5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	50.2 PK	74.0	-23.8	1.82 H	118	45.8	4.4
2	5460.00	38.4 AV	54.0	-15.6	1.82 H	118	34.0	4.4
3	#5470.00	51.6 PK	68.2	-16.6	1.82 H	118	47.1	4.5
4	*5720.00	115.0 PK			1.82 H	118	110.3	4.7
5	*5720.00	104.3 AV			1.82 H	118	99.6	4.7
6	#5850.00	50.9 PK	68.2	-17.3	1.82 H	118	45.9	5.0
7	11440.00	48.7 PK	74.0	-25.3	2.18 H	229	34.1	14.6
8	11440.00	36.7 AV	54.0	-17.3	2.18 H	229	22.1	14.6
9	#17160.00	46.7 PK	68.2	-21.5	1.64 H	251	28.9	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	5460.00	50.7 PK	74.0	-23.3	3.05 V	180	46.3	4.4
2	5460.00	38.3 AV	54.0	-15.7	3.05 V	180	33.9	4.4
3	#5470.00	51.5 PK	68.2	-16.7	3.05 V	180	47.0	4.5
4	*5720.00	113.4 PK			3.05 V	180	108.7	4.7
5	*5720.00	104.0 AV			3.05 V	180	99.3	4.7
6	#5850.00	50.8 PK	68.2	-17.4	3.05 V	180	45.8	5.0
7	11440.00	47.2 PK	74.0	-26.8	2.07 V	207	32.6	14.6
8	11440.00	35.5 AV	54.0	-18.5	2.07 V	207	20.9	14.6
9	#17160.00	46.4 PK	68.2	-21.8	1.39 V	187	28.6	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT20)	Channel	CH 149：5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5593.39	54.0 PK	68.2	-14.2	1.82 H	120	49.5	4.5
2	*5745.00	119.7 PK			1.82 H	120	114.7	5.0
3	*5745.00	109.0 AV			1.82 H	120	104.0	5.0
4	#5946.26	51.1 PK	68.2	-17.1	1.82 H	120	46.0	5.1
5	11490.00	54.0 PK	74.0	-20.0	1.53 H	216	39.4	14.6
6	11490.00	43.1 AV	54.0	-10.9	1.53 H	216	28.5	14.6
7	#17235.00	48.7 PK	68.2	-19.5	1.58 H	233	30.7	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.30	53.1 PK	68.2	-15.1	3.17 V	193	48.6	4.5
2	*5745.00	120.2 PK			3.17 V	193	115.2	5.0
3	*5745.00	109.2 AV			3.17 V	193	104.2	5.0
4	#5986.85	52.1 PK	68.2	-16.1	3.17 V	193	46.9	5.2
5	11490.00	50.3 PK	74.0	-23.7	1.69 V	243	35.7	14.6
6	11490.00	36.9 AV	54.0	-17.1	1.69 V	243	22.3	14.6
7	#17235.00	48.6 PK	68.2	-19.6	1.44 V	222	30.6	18.0

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 157：5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5624.67	52.6 PK	68.2	-15.6	1.81 H	121	48.1	4.5
2	*5785.00	118.7 PK			1.81 H	121	113.6	5.1
3	*5785.00	108.7 AV			1.81 H	121	103.6	5.1
4	#5988.86	52.8 PK	68.2	-15.4	1.81 H	121	47.6	5.2
5	11570.00	53.6 PK	74.0	-20.4	1.54 H	200	39.0	14.6
6	11570.00	42.7 AV	54.0	-11.3	1.54 H	200	28.1	14.6
7	#17355.00	48.9 PK	68.2	-19.3	1.56 H	218	30.7	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	#5642.41	52.2 PK	68.2	-16.0	3.10 V	187	47.7	4.5
2	*5785.00	119.4 PK			3.10 V	187	114.3	5.1
3	*5785.00	110.1 AV			3.10 V	187	105.0	5.1
4	#5958.65	51.4 PK	68.2	-16.8	3.10 V	187	46.2	5.2
5	11570.00	50.6 PK	74.0	-23.4	1.64 V	251	36.0	14.6
6	11570.00	37.2 AV	54.0	-16.8	1.64 V	251	22.6	14.6
7	#17355.00	49.2 PK	68.2	-19.0	1.39 V	221	31.0	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165：5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.79	52.5 PK	68.2	-15.7	1.84 H	126	48.0	4.5
2	*5825.00	117.8 PK			1.84 H	126	112.8	5.0
3	*5825.00	107.1 AV			1.84 H	126	102.1	5.0
4	#5927.49	52.9 PK	68.2	-15.3	1.84 H	126	47.8	5.1
5	11650.00	53.2 PK	74.0	-20.8	1.48 H	209	38.8	14.4
6	11650.00	42.4 AV	54.0	-11.6	1.48 H	209	28.0	14.4
7	#17475.00	49.4 PK	68.2	-18.8	1.59 H	205	30.6	18.8
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	#5632.96	51.4 PK	68.2	-16.8	3.06 V	184	46.9	4.5
2	*5825.00	119.5 PK			3.06 V	184	114.5	5.0
3	*5825.00	109.6 AV			3.06 V	184	104.6	5.0
4	#5956.68	52.4 PK	68.2	-15.8	3.06 V	184	47.2	5.2
5	11650.00	51.0 PK	74.0	-23.0	1.66 V	255	36.6	14.4
6	11650.00	37.4 AV	54.0	-16.6	1.66 V	255	23.0	14.4
7	#17475.00	49.5 PK	68.2	-18.7	1.38 V	221	30.7	18.8

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 38：5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5144.00	65.1 PK	74.0	-8.9	1.87 H	113	60.3	4.8
2	**5144.00**	**51.0 AV**	**54.0**	**-3.0**	**1.87 H**	**113**	**46.2**	**4.8**
3	*5190.00	110.5 PK			1.87 H	113	106.0	4.5
4	*5190.00	101.5 AV			1.87 H	113	97.0	4.5
5	#10380.00	48.2 PK	68.2	-20.0	2.26 H	211	34.8	13.4
6	15570.00	46.9 PK	74.0	-27.1	1.59 H	255	32.3	14.6
7	15570.00	35.6 AV	54.0	-18.4	1.59 H	255	21.0	14.6
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	5144.00	62.3 PK	74.0	-11.7	3.24 V	358	57.5	4.8
2	5144.00	48.1 AV	54.0	-5.9	3.24 V	358	43.3	4.8
3	*5190.00	110.1 PK			3.24 V	358	105.6	4.5
4	*5190.00	101.3 AV			3.24 V	358	96.8	4.5
5	#10380.00	47.2 PK	68.2	-21.0	2.04 V	183	33.8	13.4
6	15570.00	46.6 PK	74.0	-27.4	1.33 V	184	32.0	14.6
7	15570.00	36.1 AV	54.0	-17.9	1.33 V	184	21.5	14.6

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 46：5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	113.6 PK			1.79 H	129	109.2	4.4
2	*5230.00	104.6 AV			1.79 H	129	100.2	4.4
3	5352.50	54.8 PK	74.0	-19.2	1.79 H	129	50.5	4.3
4	5352.50	42.3 AV	54.0	-11.7	1.79 H	129	38.0	4.3
5	#10460.00	49.1 PK	68.2	-19.1	2.10 H	232	35.5	13.6
6	15690.00	46.3 PK	74.0	-27.7	1.65 H	269	31.8	14.5
7	15690.00	35.3 AV	54.0	-18.7	1.65 H	269	20.8	14.5
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	*5230.00	115.4 PK			3.75 V	7	111.0	4.4
2	*5230.00	105.7 AV			3.75 V	7	101.3	4.4
3	5352.50	53.4 PK	74.0	-20.6	3.75 V	7	49.1	4.3
4	5352.50	41.5 AV	54.0	-12.5	3.75 V	7	37.2	4.3
5	#10460.00	48.1 PK	68.2	-20.1	2.06 V	193	34.5	13.6
6	15690.00	46.4 PK	74.0	-27.6	1.32 V	176	31.9	14.5
7	15690.00	35.3 AV	54.0	-18.7	1.32 V	176	20.8	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 54：5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5112.10	52.9 PK	74.0	-21.1	1.61 H	138	48.0	4.9
2	5112.10	41.4 AV	54.0	-12.6	1.61 H	138	36.5	4.9
3	*5270.00	108.3 PK			1.61 H	138	104.0	4.3
4	*5270.00	98.9 AV			1.61 H	138	94.6	4.3
5	#10540.00	48.0 PK	68.2	-20.2	2.26 H	206	34.3	13.7
6	15810.00	47.3 PK	74.0	-26.7	1.57 H	241	33.1	14.2
7	15810.00	36.0 AV	54.0	-18.0	1.57 H	241	21.8	14.2
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	5067.30	53.0 PK	74.0	-21.0	3.14 V	294	48.4	4.6
2	5067.30	41.0 AV	54.0	-13.0	3.14 V	294	36.4	4.6
3	5120.20	49.9 PK	74.0	-24.1	3.14 V	294	45.1	4.8
4	5120.20	42.1 AV	54.0	-11.9	3.14 V	294	37.3	4.8
5	*5270.00	109.2 PK			3.14 V	294	104.9	4.3
6	*5270.00	100.6 AV			3.14 V	294	96.3	4.3
7	#10540.00	47.7 PK	68.2	-20.5	2.02 V	198	34.0	13.7
8	15810.00	46.2 PK	74.0	-27.8	1.29 V	189	32.0	14.2
9	15810.00	35.7 AV	54.0	-18.3	1.29 V	189	21.5	14.2

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 62：5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	108.1 PK			1.78 H	101	103.8	4.3
2	*5310.00	99.2 AV			1.78 H	101	94.9	4.3
3	5351.00	55.5 PK	74.0	-18.5	1.78 H	101	51.2	4.3
4	5351.00	45.7 AV	54.0	-8.3	1.78 H	101	41.4	4.3
5	5355.00	57.4 PK	74.0	-16.6	1.78 H	101	53.1	4.3
6	5355.00	45.2 AV	54.0	-8.8	1.78 H	101	40.9	4.3
7	10620.00	46.3 PK	74.0	-27.7	2.05 H	241	32.6	13.7
8	10620.00	35.1 AV	54.0	-18.9	2.05 H	241	21.4	13.7
9	15930.00	46.2 PK	74.0	-27.8	1.70 H	255	32.1	14.1
10	15930.00	35.9 AV	54.0	-18.1	1.70 H	255	21.8	14.1
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	*5310.00	110.1 PK			3.38 V	296	105.8	4.3
2	*5310.00	101.0 AV			3.38 V	296	96.7	4.3
3	5361.10	57.7 PK	74.0	-16.3	3.38 V	296	53.3	4.4
4	5361.10	43.9 AV	54.0	-10.1	3.38 V	296	39.5	4.4
5	10620.00	46.7 PK	74.0	-27.3	2.04 V	198	33.0	13.7
6	10620.00	35.4 AV	54.0	-18.6	2.04 V	198	21.7	13.7
7	15930.00	46.3 PK	74.0	-27.7	1.29 V	175	32.2	14.1
8	15930.00	35.8 AV	54.0	-18.2	1.29 V	175	21.7	14.1

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 102：5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5459.60	59.5 PK	74.0	-14.5	1.81 H	105	55.1	4.4
2	5459.60	43.9 AV	54.0	-10.1	1.81 H	105	39.5	4.4
3	#5465.15	63.0 PK	68.2	-5.2	1.81 H	105	58.5	4.5
4	*5510.00	111.6 PK			1.81 H	105	106.9	4.7
5	*5510.00	102.1 AV			1.81 H	105	97.4	4.7
6	11020.00	46.1 PK	74.0	-27.9	2.00 H	243	31.9	14.2
7	11020.00	34.6 AV	54.0	-19.4	2.00 H	243	20.4	14.2
8	#16530.00	46.1 PK	68.2	-22.1	1.68 H	239	30.2	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	2.26 V	188	50.2	4.4
2	5460.00	43.1 AV	54.0	-10.9	2.26 V	188	38.7	4.4
3	#5467.80	58.4 PK	68.2	-9.8	2.26 V	188	53.9	4.5
4	*5510.00	110.3 PK			2.26 V	188	105.6	4.7
5	*5510.00	100.5 AV			2.26 V	188	95.8	4.7
6	11020.00	46.6 PK	74.0	-27.4	2.08 V	188	32.4	14.2
7	11020.00	35.3 AV	54.0	-18.7	2.08 V	188	21.1	14.2
8	#16530.00	46.4 PK	68.2	-21.8	1.26 V	163	30.5	15.9

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 110：5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	111.6 PK			1.88 H	102	107.1	4.5
2	*5550.00	101.8 AV			1.88 H	102	97.3	4.5
3	11100.00	46.4 PK	74.0	-27.6	1.99 H	249	32.5	13.9
4	11100.00	35.3 AV	54.0	-18.7	1.99 H	249	21.4	13.9
5	#16650.00	45.8 PK	68.2	-22.4	1.68 H	271	29.4	16.4
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	*5550.00	112.5 PK			2.98 V	176	108.0	4.5
2	*5550.00	101.8 AV			2.98 V	176	97.3	4.5
3	11100.00	47.0 PK	74.0	-27.0	2.08 V	188	33.1	13.9
4	11100.00	35.6 AV	54.0	-18.4	2.08 V	188	21.7	13.9
5	#16650.00	46.8 PK	68.2	-21.4	1.31 V	161	30.4	16.4

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 134：5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	111.9 PK			1.83 H	116	107.4	4.5
2	*5670.00	101.9 AV			1.83 H	116	97.4	4.5
3	#5725.00	62.8 PK	68.2	-5.4	1.83 H	116	58.1	4.7
4	11340.00	46.2 PK	74.0	-27.8	2.10 H	253	31.8	14.4
5	11340.00	35.0 AV	54.0	-19.0	2.10 H	253	20.6	14.4
6	#17010.00	45.7 PK	68.2	-22.5	1.64 H	248	27.9	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	*5670.00	112.0 PK			3.06 V	189	107.5	4.5
2	*5670.00	102.4 AV			3.06 V	189	97.9	4.5
3	#5725.00	62.7 PK	68.2	-5.5	3.06 V	189	58.0	4.7
4	11340.00	46.9 PK	74.0	-27.1	2.00 V	193	32.5	14.4
5	11340.00	35.6 AV	54.0	-18.4	2.00 V	193	21.2	14.4
6	#17010.00	46.9 PK	68.2	-21.3	1.31 V	173	29.1	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT40)	Channel	CH 142：5710 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	50.7 PK	74.0	-23.3	1.85 H	121	46.3	4.4
2	5460.00	38.7 AV	54.0	-15.3	1.85 H	121	34.3	4.4
3	#5470.00	51.1 PK	68.2	-17.1	1.85 H	121	46.6	4.5
4	*5710.00	112.3 PK			1.85 H	121	107.6	4.7
5	*5710.00	101.7 AV			1.85 H	121	97.0	4.7
6	#5850.00	50.6 PK	68.2	-17.6	1.85 H	121	45.6	5.0
7	11420.00	46.6 PK	74.0	-27.4	2.10 H	255	32.1	14.5
8	11420.00	35.2 AV	54.0	-18.8	2.10 H	255	20.7	14.5
9	#17130.00	46.0 PK	68.2	-22.2	1.73 H	240	28.3	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	5460.00	50.4 PK	74.0	-23.6	3.02 V	182	46.0	4.4
2	5460.00	38.3 AV	54.0	-15.7	3.02 V	182	33.9	4.4
3	#5470.00	50.9 PK	68.2	-17.3	3.02 V	182	46.4	4.5
4	*5710.00	112.0 PK			3.02 V	182	107.3	4.7
5	*5710.00	102.5 AV			3.02 V	182	97.8	4.7
6	#5850.00	50.5 PK	68.2	-17.7	3.02 V	182	45.5	5.0
7	11420.00	46.3 PK	74.0	-27.7	2.06 V	201	31.8	14.5
8	11420.00	34.9 AV	54.0	-19.1	2.06 V	201	20.4	14.5
9	#17130.00	45.8 PK	68.2	-22.4	1.24 V	187	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT40)	Channel	CH 151：5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5645.04	60.6 PK	68.2	-7.6	1.76 H	120	56.1	4.5
2	*5755.00	116.2 PK			1.76 H	120	111.2	5.0
3	*5755.00	106.8 AV			1.76 H	120	101.8	5.0
4	#5948.58	51.9 PK	68.2	-16.3	1.76 H	120	46.8	5.1
5	11510.00	50.7 PK	74.0	-23.3	1.41 H	201	36.1	14.6
6	11510.00	38.6 AV	54.0	-15.4	1.41 H	201	24.0	14.6
7	#17265.00	49.9 PK	68.2	-18.3	1.65 H	167	32.0	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	#5649.64	58.8 PK	68.2	-9.4	3.00 V	186	54.3	4.5
2	*5755.00	116.5 PK			3.00 V	186	111.5	5.0
3	*5755.00	107.7 AV			3.00 V	186	102.7	5.0
4	#5926.91	52.2 PK	68.2	-16.0	3.00 V	186	47.1	5.1
5	11510.00	49.3 PK	74.0	-24.7	1.66 V	235	34.7	14.6
6	11510.00	37.1 AV	54.0	-16.9	1.66 V	235	22.5	14.6
7	#17265.00	49.1 PK	68.2	-19.1	1.41 V	222	31.2	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT40)	Channel	CH 159：5795 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.70	54.8 PK	68.2	-13.4	1.74 H	126	50.3	4.5
2	*5795.00	115.7 PK			1.74 H	126	110.6	5.1
3	*5795.00	106.3 AV			1.74 H	126	101.2	5.1
4	#5928.74	54.0 PK	68.2	-14.2	1.74 H	126	48.9	5.1
5	11590.00	49.5 PK	74.0	-24.5	1.48 H	203	34.9	14.6
6	11590.00	38.1 AV	54.0	-15.9	1.48 H	203	23.5	14.6
7	#17385.00	50.2 PK	68.2	-18.0	1.66 H	181	31.9	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	#5648.73	54.3 PK	68.2	-13.9	3.02 V	178	49.8	4.5
2	*5795.00	116.7 PK			3.02 V	178	111.6	5.1
3	*5795.00	107.5 AV			3.02 V	178	102.4	5.1
4	#5933.91	57.6 PK	68.2	-10.6	3.02 V	178	52.5	5.1
5	11590.00	48.8 PK	74.0	-25.2	1.68 V	227	34.2	14.6
6	11590.00	36.8 AV	54.0	-17.2	1.68 V	227	22.2	14.6
7	#17385.00	49.3 PK	68.2	-18.9	1.46 V	216	31.0	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT80)	Channel	CH 42：5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5140.50	64.9 PK	74.0	-9.1	1.80 H	132	60.1	4.8
2	5140.50	49.2 AV	54.0	-4.8	1.80 H	132	44.4	4.8
3	5143.80	61.8 PK	74.0	-12.2	1.80 H	132	57.0	4.8
4	5143.80	50.1 AV	54.0	-3.9	1.80 H	132	45.3	4.8
5	*5210.00	106.8 PK			1.80 H	132	102.4	4.4
6	*5210.00	97.8 AV			1.80 H	132	93.4	4.4
7	5350.00	56.5 PK	74.0	-17.5	1.80 H	132	52.2	4.3
8	5350.00	45.8 AV	54.0	-8.2	1.80 H	132	41.5	4.3
9	#10420.00	47.0 PK	68.2	-21.2	2.11 H	240	33.5	13.5
10	15630.00	46.6 PK	74.0	-27.4	1.70 H	247	32.0	14.6
11	15630.00	36.0 AV	54.0	-18.0	1.70 H	247	21.4	14.6
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	5140.40	62.0 PK	74.0	-12.0	3.84 V	360	57.2	4.8
2	5140.40	48.5 AV	54.0	-5.5	3.84 V	360	43.7	4.8
3	*5210.00	106.7 PK			3.84 V	360	102.3	4.4
4	*5210.00	98.4 AV			3.84 V	360	94.0	4.4
5	5350.00	55.6 PK	74.0	-18.4	3.84 V	360	51.3	4.3
6	5350.00	44.6 AV	54.0	-9.4	3.84 V	360	40.3	4.3
7	#10420.00	46.7 PK	68.2	-21.5	1.99 V	209	33.2	13.5
8	15630.00	45.9 PK	74.0	-28.1	1.28 V	173	31.3	14.6
9	15630.00	35.4 AV	54.0	-18.6	1.28 V	173	20.8	14.6

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 58：5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5138.10	54.0 PK	74.0	-20.0	1.73 H	131	49.2	4.8
2	5138.10	43.0 AV	54.0	-11.0	1.73 H	131	38.2	4.8
3	*5290.00	105.7 PK			1.73 H	131	101.4	4.3
4	*5290.00	96.6 AV			1.73 H	131	92.3	4.3
5	5369.20	59.7 PK	74.0	-14.3	1.73 H	131	55.3	4.4
6	5369.20	49.4 AV	54.0	-4.6	1.73 H	131	45.0	4.4
7	5370.60	60.3 PK	74.0	-13.7	1.73 H	131	55.9	4.4
8	5370.60	48.6 AV	54.0	-5.4	1.73 H	131	44.2	4.4
9	#10580.00	46.2 PK	68.2	-22.0	2.10 H	246	32.5	13.7
10	15870.00	45.7 PK	74.0	-28.3	1.65 H	248	31.5	14.2
11	15870.00	35.4 AV	54.0	-18.6	1.65 H	248	21.2	14.2
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	53.0 PK	74.0	-21.0	3.27 V	297	48.3	4.7
2	5150.00	42.6 AV	54.0	-11.4	3.27 V	297	37.9	4.7
3	*5290.00	106.1 PK			3.27 V	297	101.8	4.3
4	*5290.00	97.6 AV			3.27 V	297	93.3	4.3
5	5358.30	59.2 PK	74.0	-14.8	3.27 V	297	54.8	4.4
6	5358.30	46.9 AV	54.0	-7.1	3.27 V	297	42.5	4.4
7	#10580.00	47.4 PK	68.2	-20.8	1.99 V	205	33.7	13.7
8	15870.00	45.8 PK	74.0	-28.2	1.26 V	166	31.6	14.2
9	15870.00	35.4 AV	54.0	-18.6	1.26 V	166	21.2	14.2

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 106：5530 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	1.83 H	107	55.7	4.4
2	5460.00	47.7 AV	54.0	-6.3	1.83 H	107	43.3	4.4
3	#5466.30	61.3 PK	68.2	-6.9	1.83 H	107	56.8	4.5
4	*5530.00	106.9 PK			1.83 H	107	102.3	4.6
5	*5530.00	98.2 AV			1.83 H	107	93.6	4.6
6	#5748.30	52.9 PK	68.2	-15.3	1.83 H	107	47.9	5.0
7	11060.00	46.2 PK	74.0	-27.8	2.01 H	233	32.1	14.1
8	11060.00	34.8 AV	54.0	-19.2	2.01 H	233	20.7	14.1
9	#16590.00	45.8 PK	68.2	-22.4	1.76 H	261	29.7	16.1
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	57.3 PK	74.0	-16.7	2.37 V	184	52.9	4.4
2	5460.00	47.0 AV	54.0	-7.0	2.37 V	184	42.6	4.4
3	#5464.05	58.5 PK	68.2	-9.7	2.37 V	184	54.0	4.5
4	*5530.00	105.5 PK			2.37 V	184	100.9	4.6
5	*5530.00	96.7 AV			2.37 V	184	92.1	4.6
6	#5731.60	52.6 PK	68.2	-15.6	2.37 V	184	47.8	4.8
7	11060.00	46.1 PK	74.0	-27.9	2.05 V	196	32.0	14.1
8	11060.00	34.9 AV	54.0	-19.1	2.05 V	196	20.8	14.1
9	#16590.00	47.0 PK	68.2	-21.2	1.23 V	180	30.9	16.1

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 122：5610 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*5610.00	107.3 PK			1.80 H	111	102.8	4.5
2	*5610.00	98.5 AV			1.80 H	111	94.0	4.5
3	#5725.00	59.4 PK	68.2	-8.8	1.80 H	111	54.7	4.7
4	11220.00	46.0 PK	74.0	-28.0	2.03 H	227	31.6	14.4
5	11220.00	34.8 AV	54.0	-19.2	2.03 H	227	20.4	14.4
6	#16830.00	46.7 PK	68.2	-21.5	1.71 H	265	29.4	17.3
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	*5610.00	108.9 PK			3.12 V	179	104.4	4.5
2	*5610.00	99.9 AV			3.12 V	179	95.4	4.5
3	#5725.00	61.4 PK	68.2	-6.8	3.12 V	179	56.7	4.7
4	11220.00	47.2 PK	74.0	-26.8	1.99 V	190	32.8	14.4
5	11220.00	35.6 AV	54.0	-18.4	1.99 V	190	21.2	14.4
6	#16830.00	46.3 PK	68.2	-21.9	1.30 V	175	29.0	17.3

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 138：5690 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	50.8 PK	74.0	-23.2	1.85 H	117	46.4	4.4
2	5460.00	39.5 AV	54.0	-14.5	1.85 H	117	35.1	4.4
3	#5470.00	50.7 PK	68.2	-17.5	1.85 H	117	46.2	4.5
4	*5690.00	108.0 PK			1.85 H	117	103.5	4.5
5	*5690.00	98.9 AV			1.85 H	117	94.4	4.5
6	#5850.00	50.9 PK	68.2	-17.3	1.85 H	117	45.9	5.0
7	11380.00	46.4 PK	74.0	-27.6	2.02 H	234	31.9	14.5
8	11380.00	35.1 AV	54.0	-18.9	2.02 H	234	20.6	14.5
9	#17070.00	46.1 PK	68.2	-22.1	1.64 H	253	28.2	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	5460.00	51.0 PK	74.0	-23.0	3.07 V	173	46.6	4.4
2	5460.00	39.8 AV	54.0	-14.2	3.07 V	173	35.4	4.4
3	#5470.00	51.1 PK	68.2	-17.1	3.07 V	173	46.6	4.5
4	*5690.00	108.6 PK			3.07 V	173	104.1	4.5
5	*5690.00	99.6 AV			3.07 V	173	95.1	4.5
6	#5850.00	50.4 PK	68.2	-17.8	3.07 V	173	45.4	5.0
7	11380.00	46.6 PK	74.0	-27.4	1.99 V	213	32.1	14.5
8	11380.00	35.1 AV	54.0	-18.9	1.99 V	213	20.6	14.5
9	#17070.00	45.8 PK	68.2	-22.4	1.28 V	177	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT80)	Channel	CH 155：5775 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5645.48	62.4 PK	68.2	-5.8	1.82 H	128	57.9	4.5
2	*5775.00	108.7 PK			1.82 H	128	103.6	5.1
3	*5775.00	99.3 AV			1.82 H	128	94.2	5.1
4	#5928.73	55.3 PK	68.2	-12.9	1.82 H	128	50.2	5.1
5	11550.00	48.6 PK	74.0	-25.4	1.43 H	215	34.0	14.6
6	11550.00	36.6 AV	54.0	-17.4	1.43 H	215	22.0	14.6
7	#17325.00	50.0 PK	68.2	-18.2	1.68 H	177	31.9	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	#5646.71	61.9 PK	68.2	-6.3	3.10 V	180	57.4	4.5
2	*5775.00	109.6 PK			3.10 V	180	104.5	5.1
3	*5775.00	101.1 AV			3.10 V	180	96.0	5.1
4	#5927.85	58.2 PK	68.2	-10.0	3.10 V	180	53.1	5.1
5	11550.00	48.9 PK	74.0	-25.1	1.71 V	242	34.3	14.6
6	11550.00	36.7 AV	54.0	-17.3	1.71 V	242	22.1	14.6
7	#17325.00	49.3 PK	68.2	-18.9	1.47 V	214	31.2	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

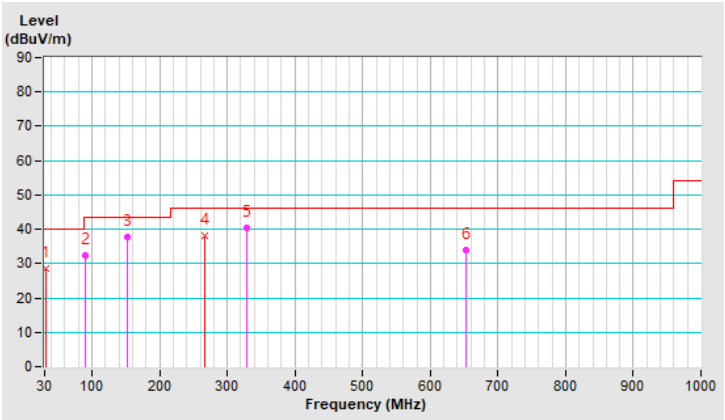
Below 1GHz Data:

RF Mode	TX 802.11ac (VHT40)	Channel	CH 46：5230 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	32.07	28.5 QP	40.0	-11.5	1.00 H	162	37.8	-9.3
2	90.14	32.4 QP	43.5	-11.1	2.00 H	267	46.2	-13.8
3	153.02	37.9 QP	43.5	-5.6	2.00 H	76	45.6	-7.7
4	266.71	38.0 QP	46.0	-8.0	1.00 H	323	45.9	-7.9
5	329.44	40.5 QP	46.0	-5.5	1.00 H	48	46.0	-5.5
6	652.06	33.8 QP	46.0	-12.2	2.00 H	241	31.5	2.3

Remarks:

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

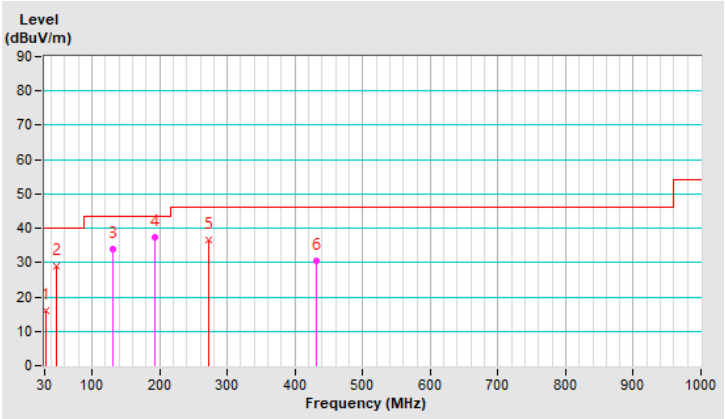


RF Mode	TX 802.11ac (VHT40)	Channel	CH 46：5230 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	32.06	16.1 QP	40.0	-23.9	3.00 V	0	25.4	-9.3
2	47.48	29.0 QP	40.0	-11.0	3.00 V	0	37.2	-8.2
3	131.75	34.0 QP	43.5	-9.5	3.00 V	0	42.7	-8.7
4	192.55	37.2 QP	43.5	-6.3	1.00 V	291	47.6	-10.4
5	272.73	36.5 QP	46.0	-9.5	1.50 V	174	44.1	-7.6
6	431.22	30.5 QP	46.0	-15.5	1.00 V	196	33.1	-2.6

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 26, 2021	Mar. 25, 2022
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: July 30, 2021

4.2.3 Test Procedure

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.

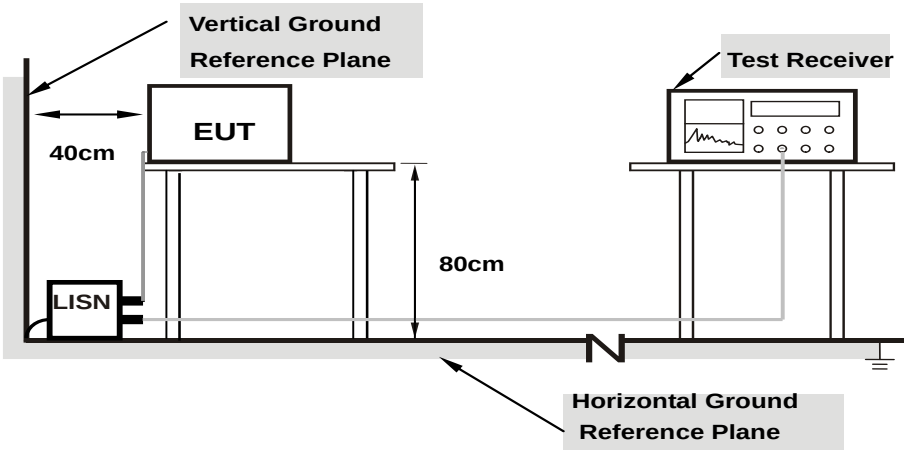
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

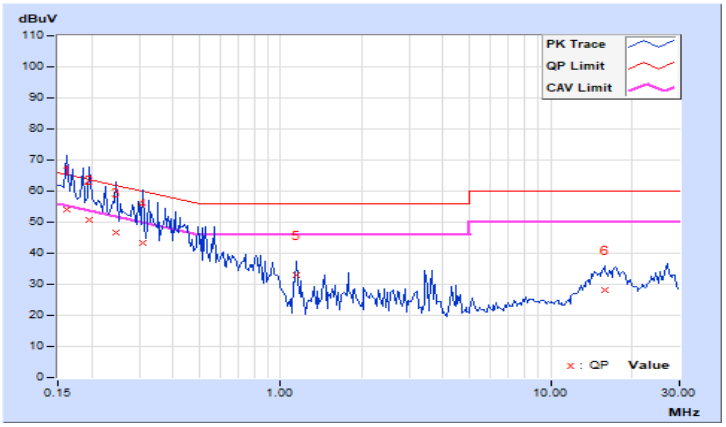
4.2.7 Test Results

RF Mode	TX 802.11ac (VHT40)	Channel	CH 46：5230 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	9.95	44.30	29.59	54.25	39.54	65.38	55.38	-11.13	-15.84
2	0.19687	9.97	40.72	15.11	50.69	25.08	63.74	53.74	-13.05	-28.66
3	0.24766	9.97	36.76	12.74	46.73	22.71	61.84	51.84	-15.11	-29.13
4	0.31016	9.98	33.40	12.25	43.38	22.23	59.97	49.97	-16.59	-27.74
5	1.14063	10.04	23.08	7.69	33.12	17.73	56.00	46.00	-22.88	-28.27
6	15.79688	10.88	17.10	3.50	27.98	14.38	60.00	50.00	-32.02	-35.62

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

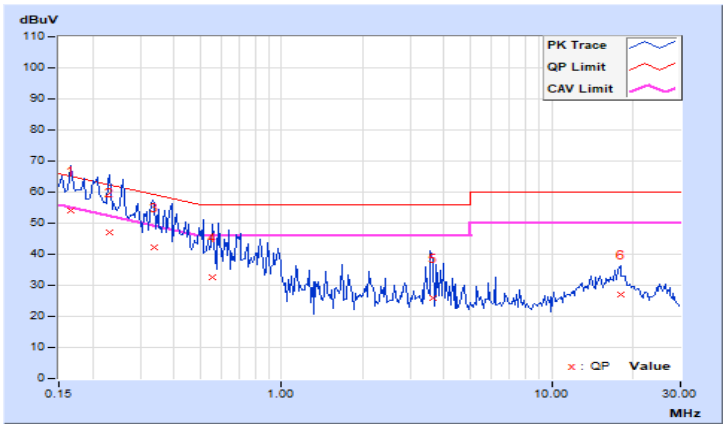


RF Mode	TX 802.11ac (VHT40)	Channel	CH 46：5230 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16562**	**9.93**	**44.26**	**27.89**	**54.19**	**37.82**	**65.18**	**55.18**	**-10.99**	**-17.36**
2	0.23203	9.95	37.17	12.85	47.12	22.80	62.38	52.38	-15.26	-29.58
3	0.33750	9.96	32.12	11.84	42.08	21.80	59.26	49.26	-17.18	-27.46
4	0.55234	9.97	22.48	4.12	32.45	14.09	56.00	46.00	-23.55	-31.91
5	3.63281	10.11	15.91	-3.33	26.02	6.78	56.00	46.00	-29.98	-39.22
6	18.12109	10.77	16.26	6.02	27.03	16.79	60.00	50.00	-32.97	-33.21

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)
		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,

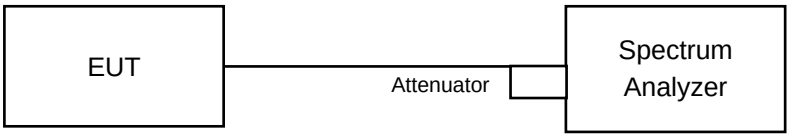
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:



For other channels:

4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For channel straddling 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

For 802.11ac (VHT20)

Method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Set trigger to free run (duty cycle ≥ 98 percent)
7. Detector = RMS.
8. Trace average at least 100 traces in power averaging mode
9. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

For 802.11a, 802.11ac (VHT40), 802.11ac (VHT80)

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

For other channels:

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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	23.06	23.91	448.339	26.52	30	Pass
40	5200	25.34	25.31	681.605	28.34	30	Pass
48	5240	25.22	25.11	656.999	28.18	30	Pass
52	5260	20.33	20.95	232.346	23.66	23.96	Pass
60	5300	20.24	21.06	233.326	23.68	23.96	Pass
64	5320	20.25	21.00	231.818	23.65	23.96	Pass
100	5500	20.02	20.94	224.627	23.51	23.98	Pass
116	5580	20.15	20.87	225.694	23.54	23.98	Pass
140	5700	20.17	20.90	227.019	23.56	23.98	Pass
*144 (U-NII-2C Band)	5720	18.87	18.98	163.874	22.15	22.67	Pass
*144 (U-NII-3 Band)	5720	12.86	12.99	41.164	16.15	30	Pass
149	5745	25.19	25.55	689.291	28.38	30	Pass
157	5785	25.10	25.53	680.866	28.33	30	Pass
165	5825	25.03	25.64	684.857	28.36	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.78	23.96 < 24
60	5300	19.78	23.96 < 24
64	5320	19.78	23.96 < 24
100	5500	19.88	23.98 < 24
116	5580	19.88	23.98 < 24
140	5700	19.88	23.98 < 24
144 (U-NII-2C Band)	5720	14.72	22.67 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	23.06	23.64	433.508	26.37	30	Pass
40	5200	25.31	25.71	712.017	28.52	30	Pass
48	5240	25.29	25.69	708.746	28.50	30	Pass
52	5260	20.24	20.86	227.581	23.57	24	Pass
60	5300	20.21	20.82	225.736	23.54	24	Pass
64	5320	20.15	20.99	229.117	23.60	24	Pass
100	5500	20.16	20.96	228.491	23.59	24	Pass
116	5580	20.25	21.10	234.75	23.71	23.93	Pass
140	5700	20.10	20.79	222.279	23.47	24	Pass
*144 (U-NII-2C Band)	5720	18.50	19.03	150.778	21.78	22.82	Pass
*144 (U-NII-3 Band)	5720	13.11	13.71	43.961	16.43	30	Pass
149	5745	25.30	25.88	726.102	28.61	30	Pass
157	5785	25.05	25.79	699.204	28.45	30	Pass
165	5825	25.08	25.53	679.38	28.32	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.52	24.12 > 24
60	5300	20.64	24.14 > 24
64	5320	20.72	24.16 > 24
100	5500	20.35	24.08 > 24
116	5580	19.66	23.93 < 24
140	5700	20.35	24.08 > 24
144 (U-NII-2C Band)	5720	15.22	22.82 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	21.38	22.20	303.363	24.82	30	Pass
46	5230	24.99	26.32	744.049	28.72	30	Pass
54	5270	20.01	20.82	221.012	23.44	24	Pass
62	5310	20.06	20.86	223.29	23.49	24	Pass
102	5510	20.07	21.09	230.154	23.62	24	Pass
110	5550	20.20	21.25	238.065	23.77	24	Pass
134	5670	20.23	21.09	233.967	23.69	24	Pass
*142 (U-NII-2C Band)	5710	18.85	19.38	169.666	22.30	24	Pass
*142 (U-NII-3 Band)	5710	7.08	7.65	11.343	10.55	30	Pass
151	5755	25.63	25.49	719.592	28.57	30	Pass
159	5795	24.99	25.66	683.629	28.35	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.23	27.04 > 24
62	5310	40.19	27.04 > 24
102	5510	40.55	27.07 > 24
110	5550	40.69	27.09 > 24
134	5670	39.99	27.01 > 24
142 (U-NII-2C Band)	5710	34.68	26.4 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	20.85	21.47	261.9	24.18	30	Pass
58	5290	20.26	21.00	232.062	23.66	24	Pass
106	5530	18.91	20.05	178.962	22.53	24	Pass
122	5610	19.81	20.63	211.331	23.25	24	Pass
*138 (U-NII-2C Band)	5690	18.05	19.11	155.684	21.92	24	Pass
*138 (U-NII-3 Band)	5690	3.34	4.54	5.36	7.29	30	Pass
155	5775	21.50	21.70	289.165	24.61	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.26	30.2 > 24
106	5530	83.58	30.22 > 24
122	5610	83.65	30.22 > 24
138 (U-NII-2C Band)	5690	75.77	29.79 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	23.06	23.64	433.508	26.37	30	Pass
40	5200	25.31	25.71	712.017	28.52	30	Pass
48	5240	25.29	25.69	708.746	28.50	30	Pass
52	5260	20.24	20.86	227.581	23.57	24	Pass
60	5300	20.21	20.82	225.736	23.54	24	Pass
64	5320	20.15	20.99	229.117	23.60	24	Pass
100	5500	20.16	20.96	228.491	23.59	24	Pass
116	5580	20.25	21.10	234.75	23.71	23.93	Pass
140	5700	20.10	20.79	222.279	23.47	24	Pass
*144 (U-NII-2C Band)	5720	18.50	19.03	150.778	21.78	22.82	Pass
*144 (U-NII-3 Band)	5720	13.11	13.71	43.961	16.43	30	Pass
149	5745	25.30	25.88	726.102	28.61	30	Pass
157	5785	25.05	25.79	699.204	28.45	30	Pass
165	5825	25.08	25.53	679.38	28.32	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.98 dBi < 6 dBi, so the power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	21.38	22.20	303.363	24.82	30	Pass
46	5230	24.99	26.32	744.049	28.72	30	Pass
54	5270	20.01	20.82	221.012	23.44	24	Pass
62	5310	20.06	20.86	223.29	23.49	24	Pass
102	5510	20.07	21.09	230.154	23.62	24	Pass
110	5550	20.20	21.25	238.065	23.77	24	Pass
134	5670	20.23	21.09	233.967	23.69	24	Pass
*142 (U-NII-2C Band)	5710	18.85	19.38	169.666	22.30	24	Pass
*142 (U-NII-3 Band)	5710	7.08	7.65	11.343	10.55	30	Pass
151	5755	25.63	25.49	719.592	28.57	30	Pass
159	5795	24.99	25.66	683.629	28.35	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.98 dBi < 6 dBi, so the power limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	20.85	21.47	261.9	24.18	30	Pass
58	5290	20.26	21.00	232.062	23.66	24	Pass
106	5530	18.91	20.05	178.962	22.53	24	Pass
122	5610	19.81	20.63	211.331	23.25	24	Pass
*138 (U-NII-2C Band)	5690	18.05	19.11	155.684	21.92	24	Pass
*138 (U-NII-3 Band)	5690	3.34	4.54	5.36	7.29	30	Pass
155	5775	21.50	21.70	289.165	24.61	30	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

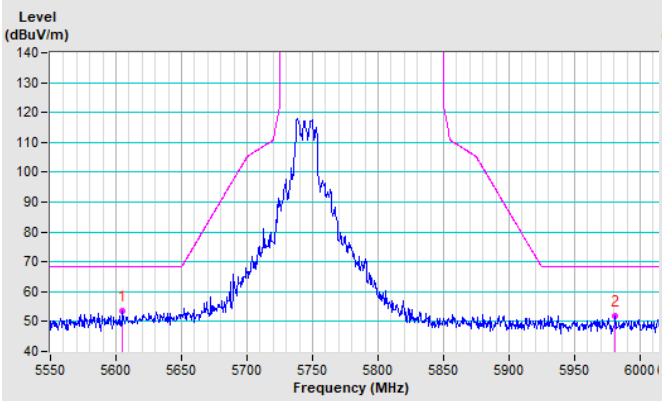
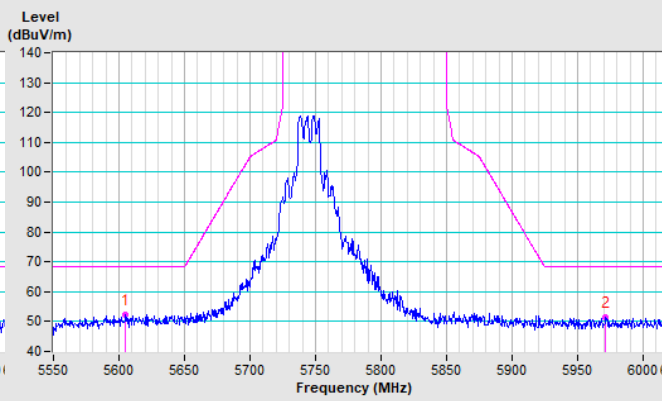
1. The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.98 dBi < 6 dBi, so the power limit shall not be reduced.

5 Pictures of Test Arrangements

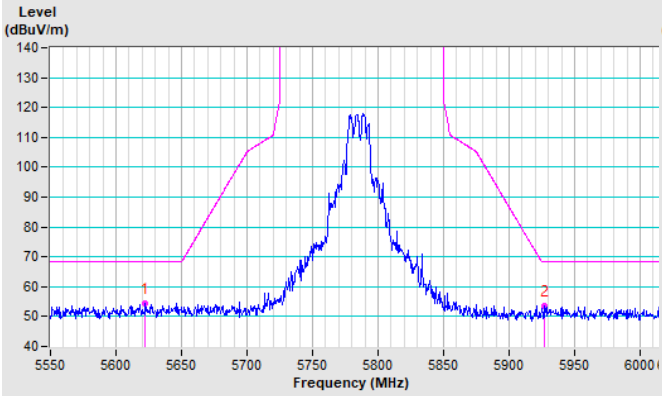
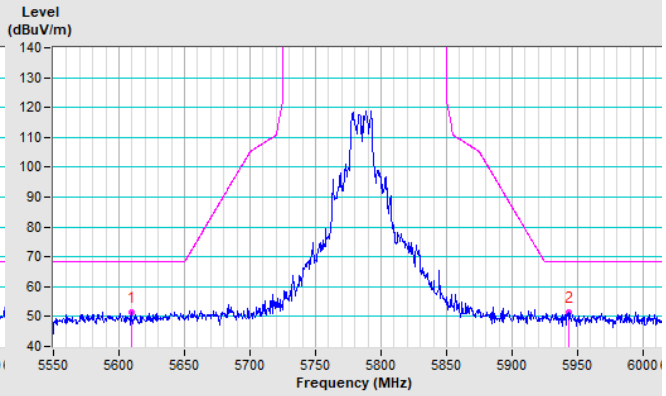
Please refer to the attached file (Test Setup Photo).

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

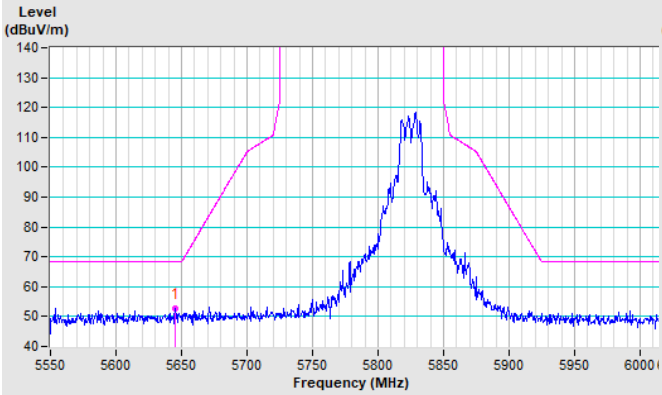
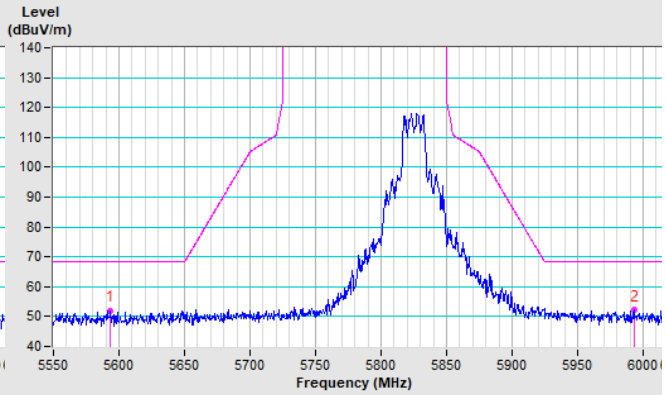
802.11a CH 149：5745 MHz

Horizontal	Vertical
	

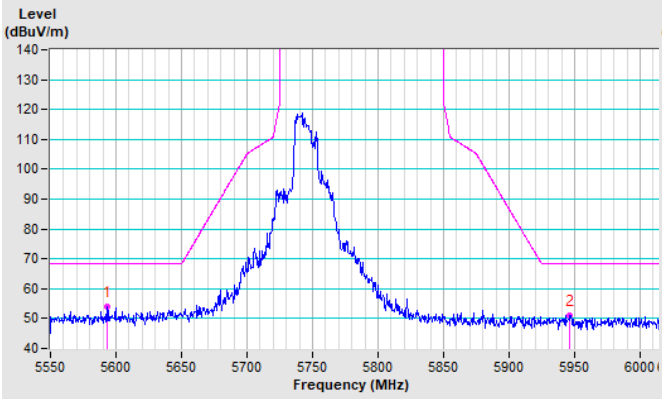
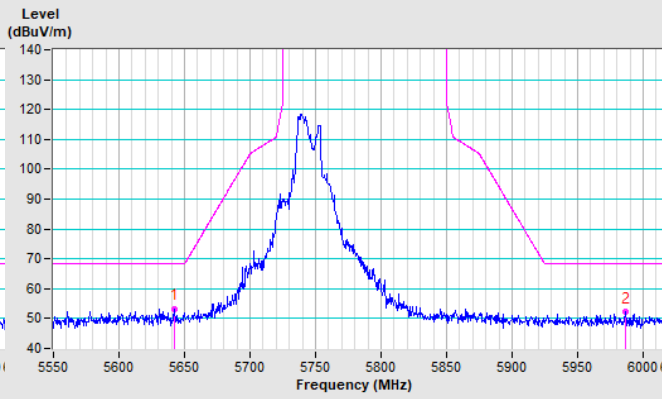
802.11a CH 157：5785 MHz

Horizontal	Vertical
	

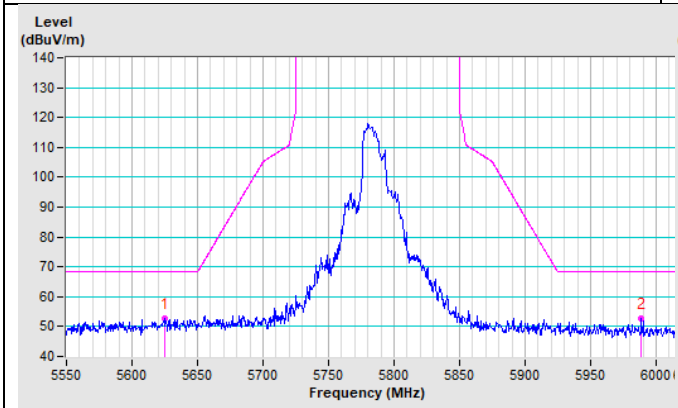
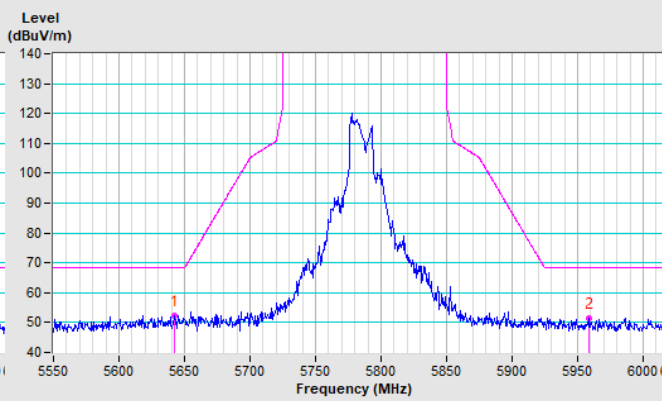
802.11a CH 165：5825 MHz

Horizontal	Vertical
	

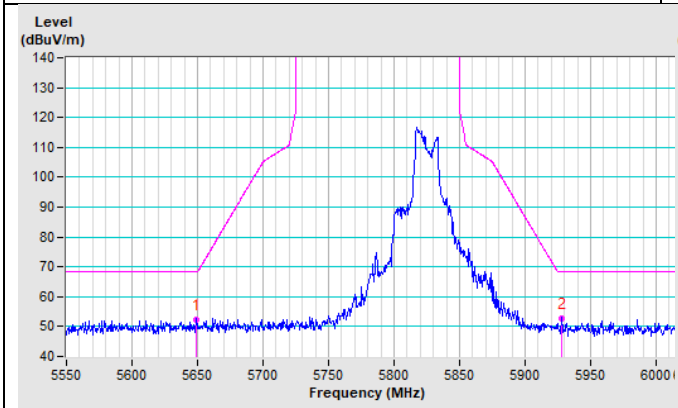
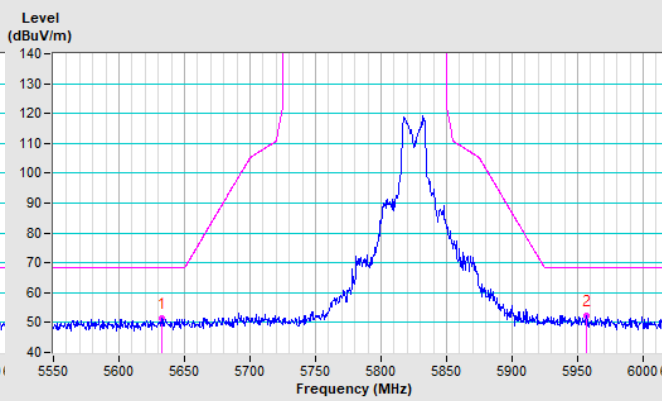
802.11ac (VHT20) CH 149：5745 MHz

Horizontal	Vertical
	

802.11ac (VHT20) CH 157：5785 MHz

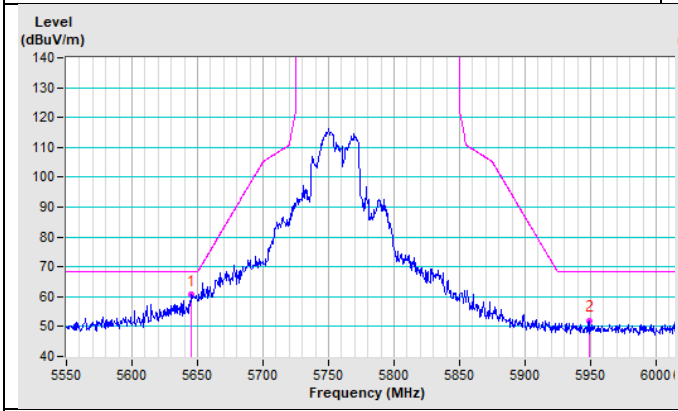
Horizontal	Vertical
	

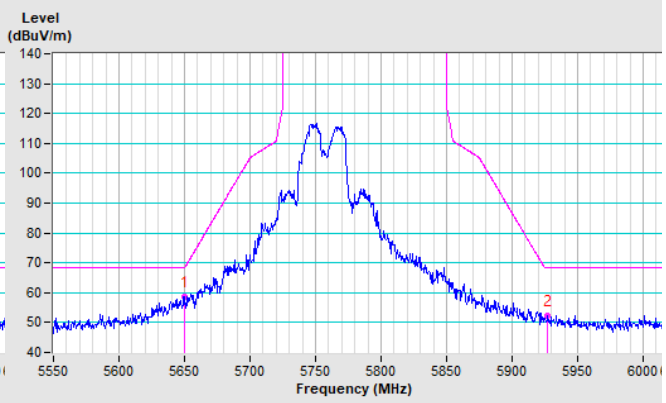
802.11ac (VHT20) CH 165：5825 MHz

Horizontal	Vertical
	

802.11ac (VHT40) CH 151：5755 MHz

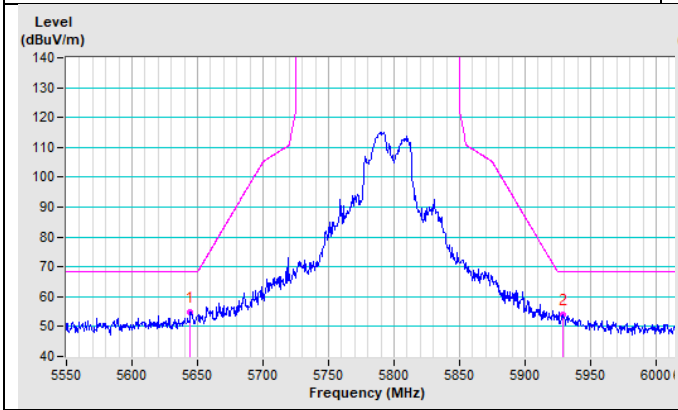
Horizontal	Vertical

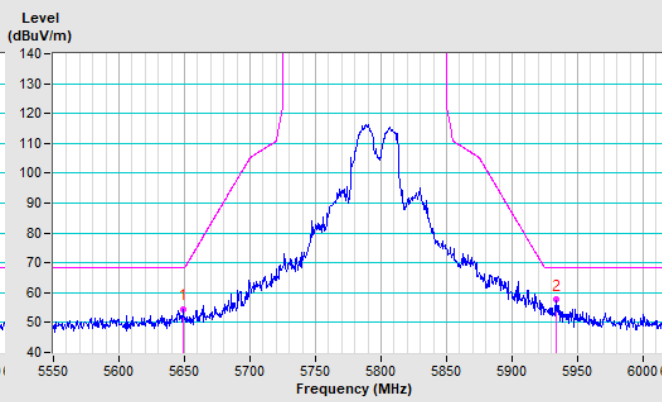




802.11ac (VHT40) CH 159：5795 MHz

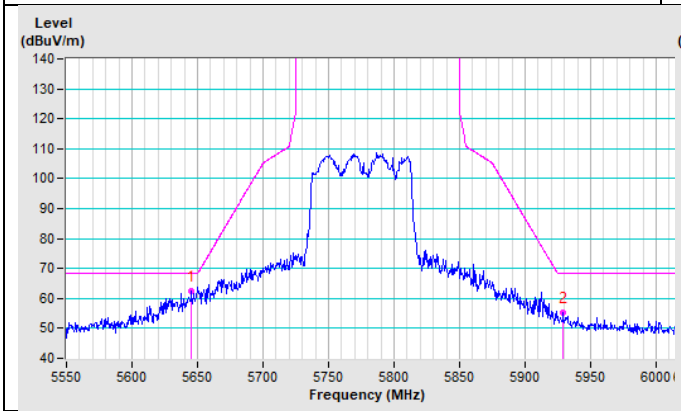
Horizontal	Vertical

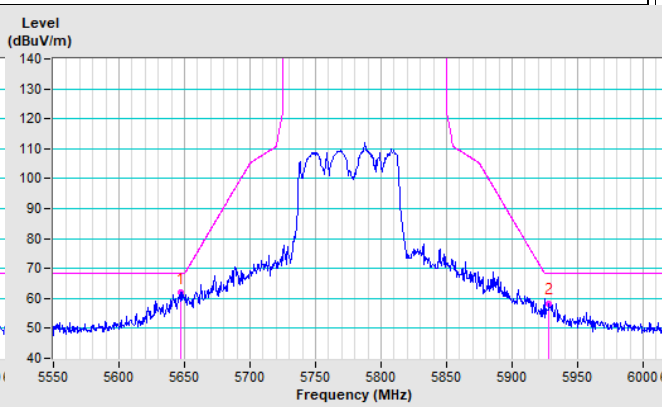




802.11ac (VHT80) CH 155：5775 MHz

Horizontal	Vertical

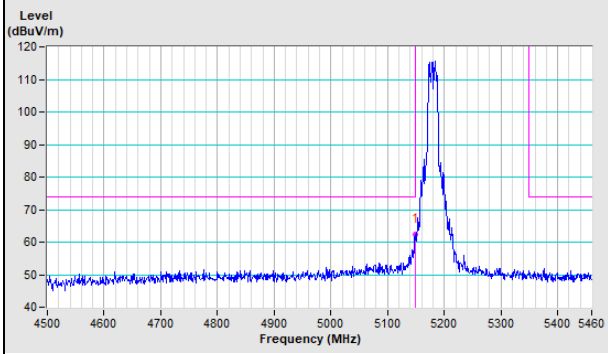




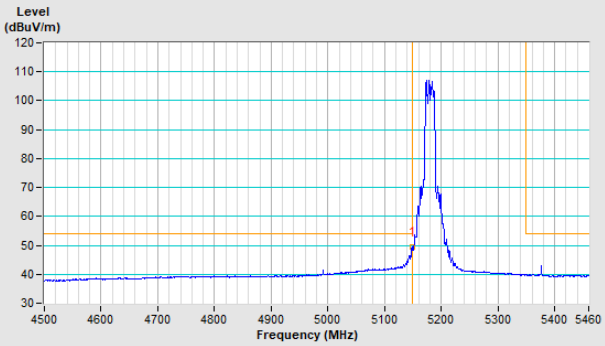
Annex B- Band-edge measurement (For U-NII-1, U-NII-2A, U-NII-2C band)

802.11a Channel 36

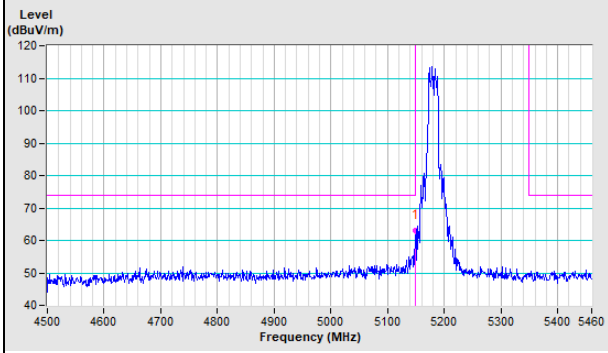
Horizontal (Peak)



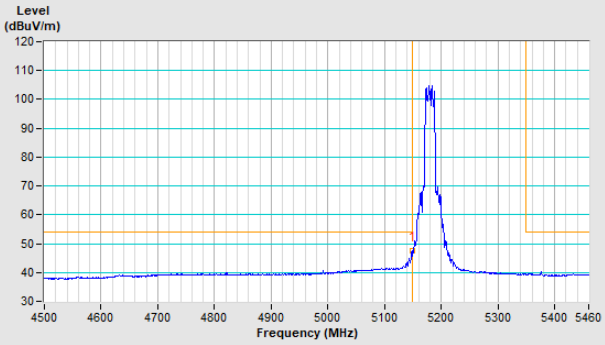
Horizontal (Average)



Vertical (Peak)

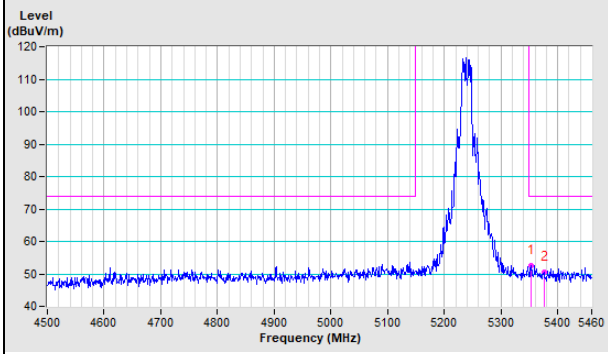


Vertical (Average)

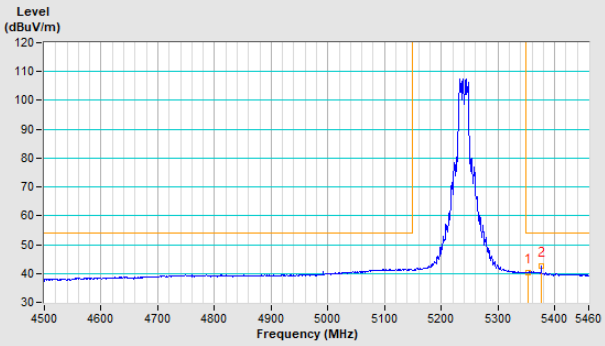


802.11a Channel 48

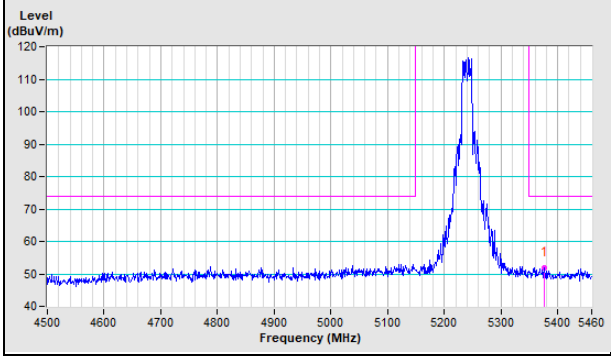
Horizontal (Peak)



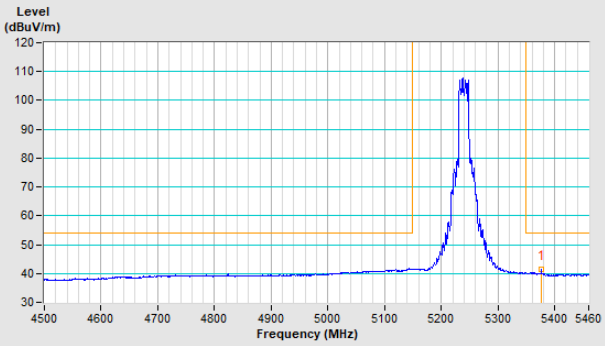
Horizontal (Average)



Vertical (Peak)

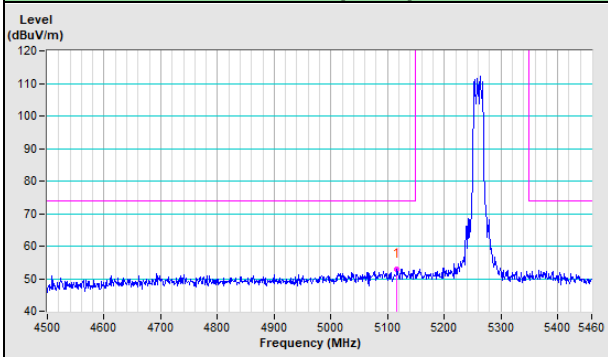


Vertical (Average)

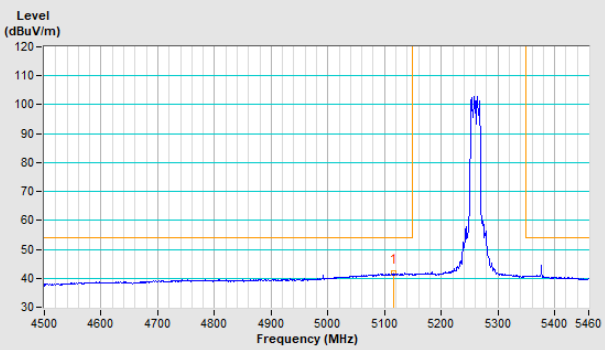


802.11a Channel 52

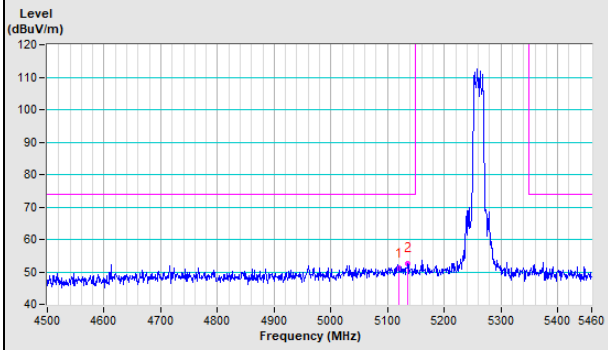
Horizontal (Peak)



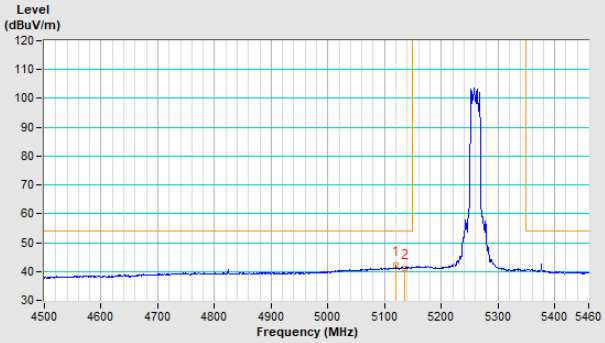
Horizontal (Average)



Vertical (Peak)

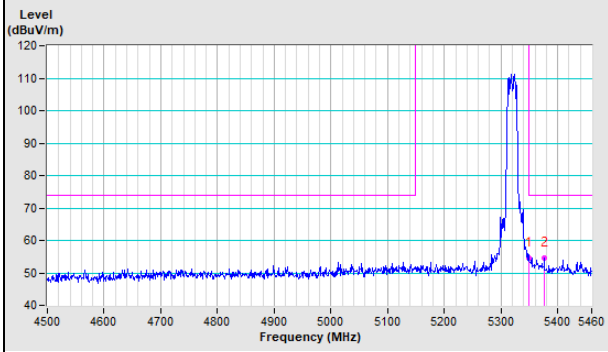


Vertical (Average)

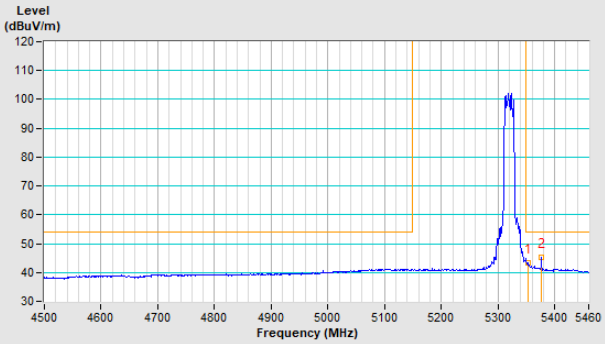


802.11a Channel 64

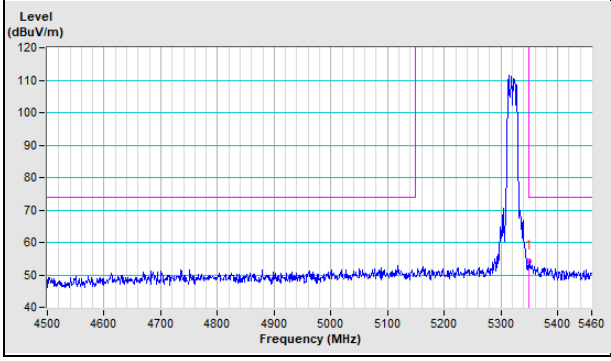
Horizontal (Peak)



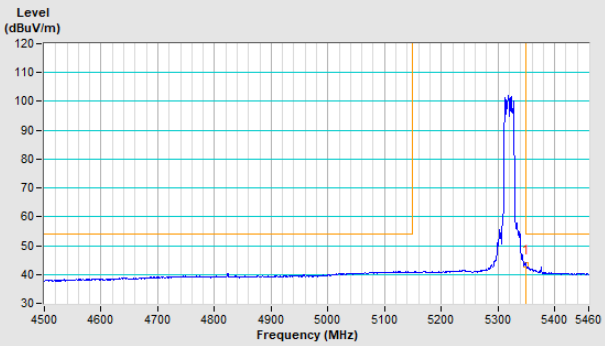
Horizontal (Average)



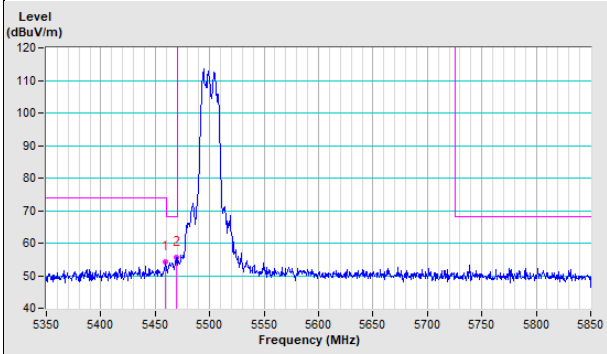
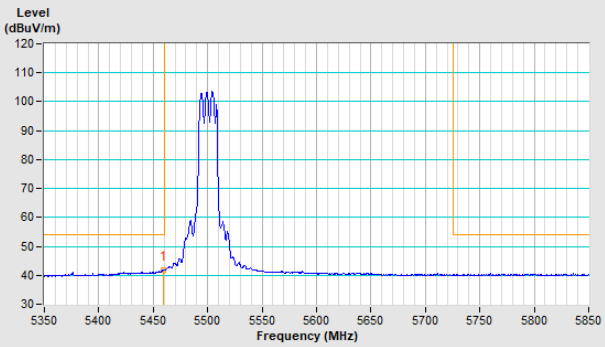
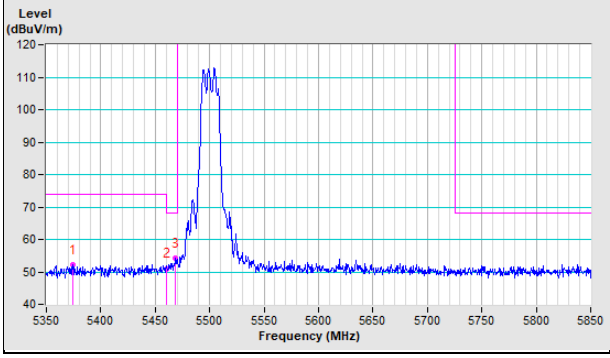
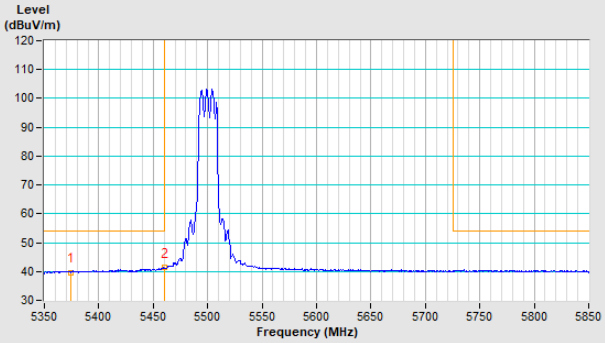
Vertical (Peak)



Vertical (Average)

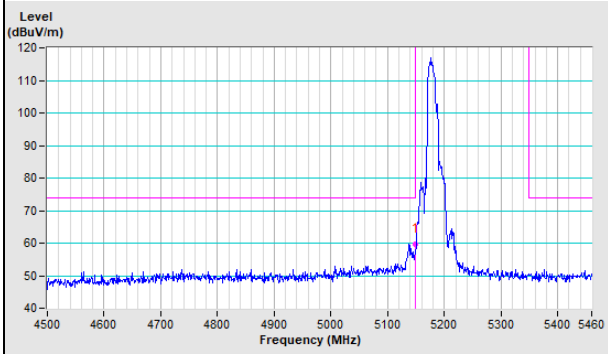


802.11a Channel 100

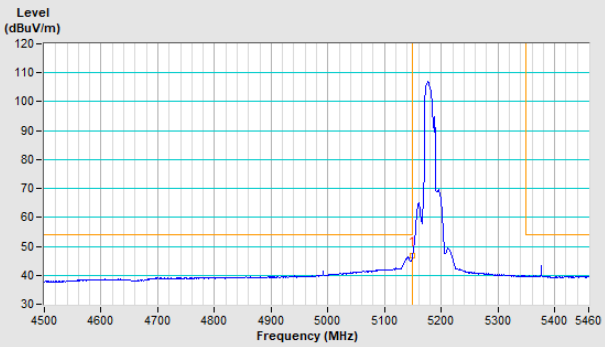
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	**Vertical (Average)**
	

802.11ac (VHT20) Channel 36

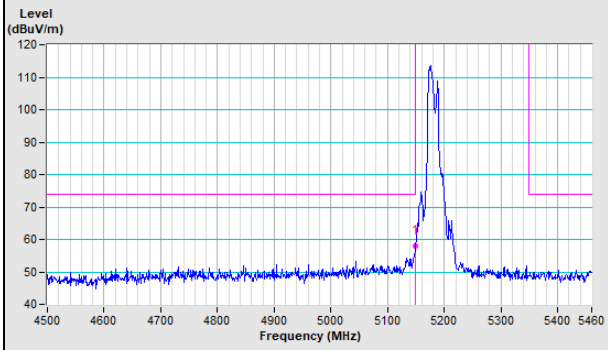
Horizontal (Peak)



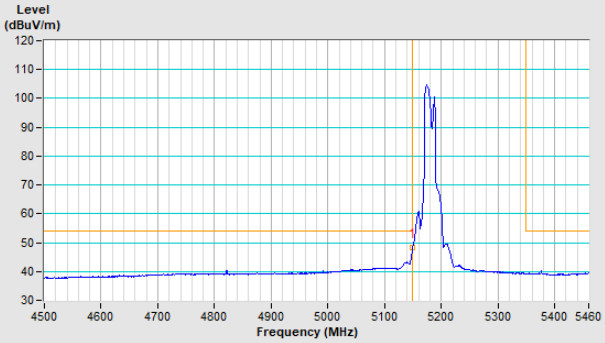
Horizontal (Average)



Vertical (Peak)

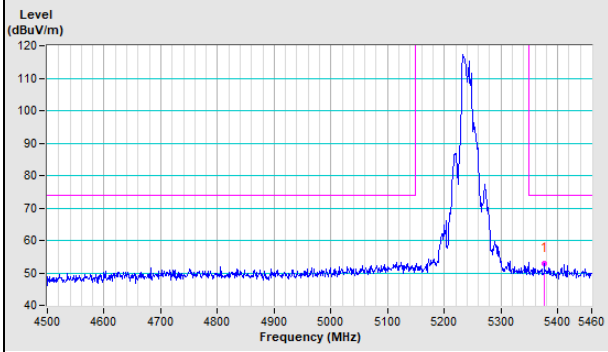


Vertical (Average)

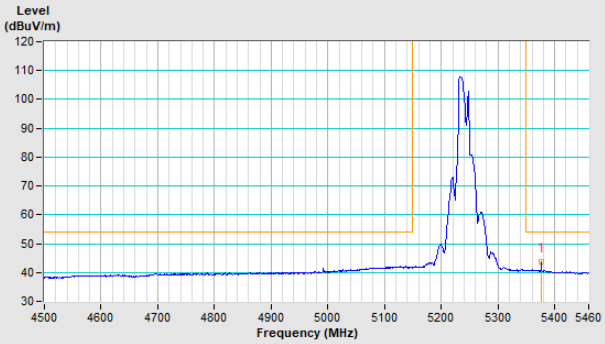


802.11ac (VHT20) Channel 48

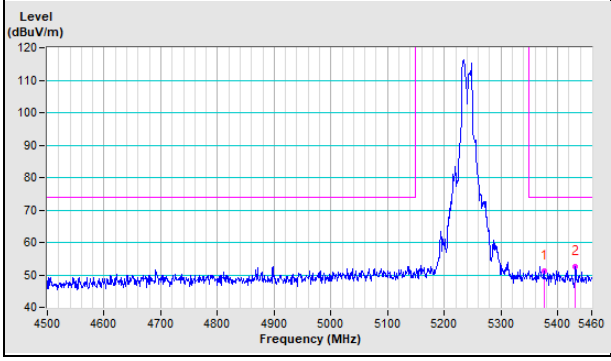
Horizontal (Peak)



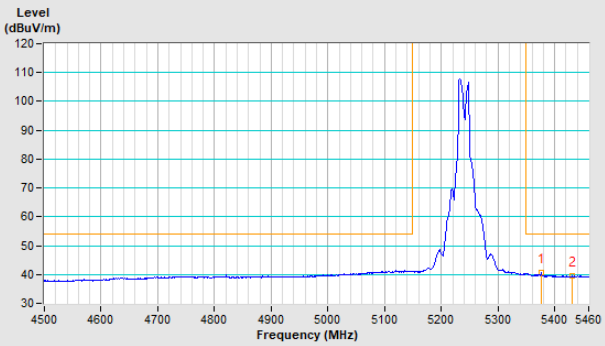
Horizontal (Average)



Vertical (Peak)

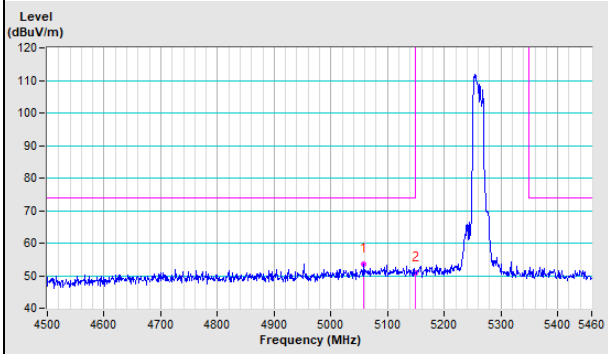


Vertical (Average)

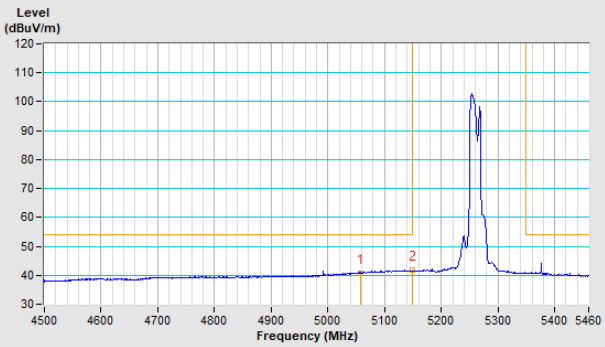


802.11ac (VHT20) Channel 52

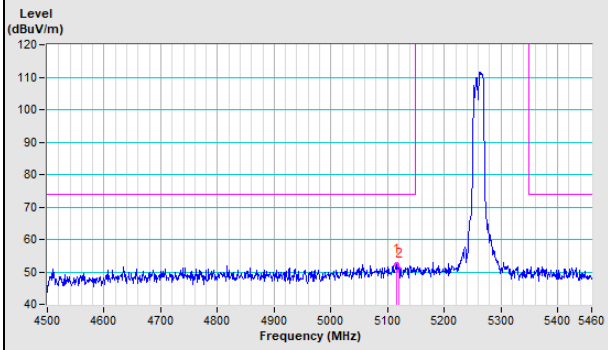
Horizontal (Peak)



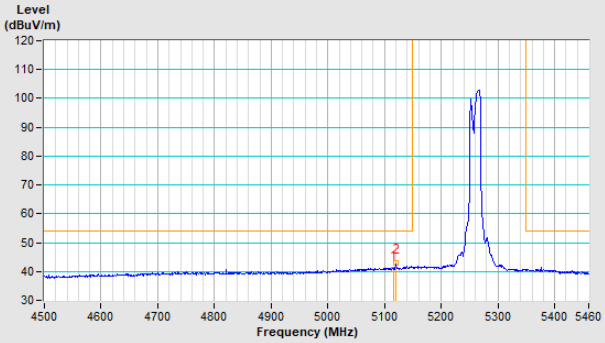
Horizontal (Average)



Vertical (Peak)

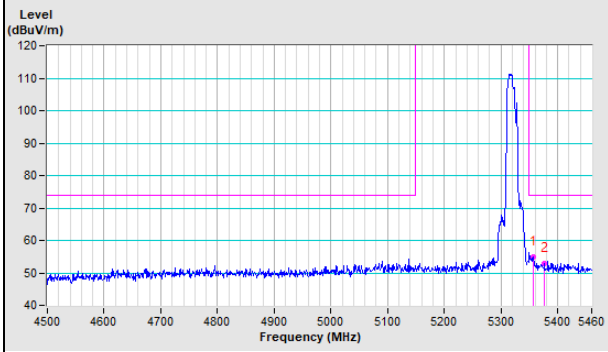


Vertical (Average)

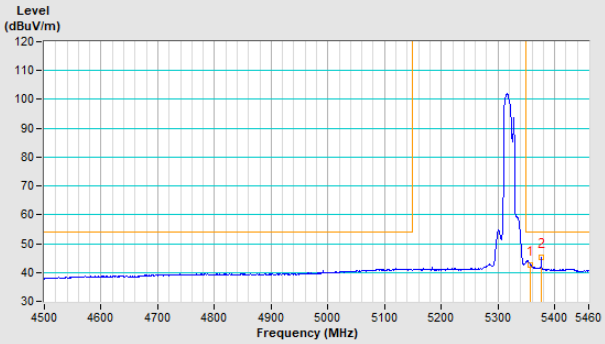


802.11ac (VHT20) Channel 64

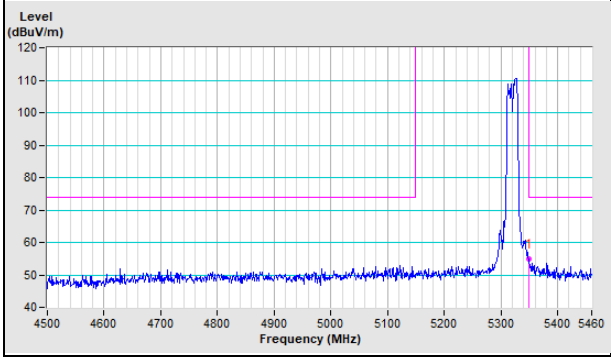
Horizontal (Peak)



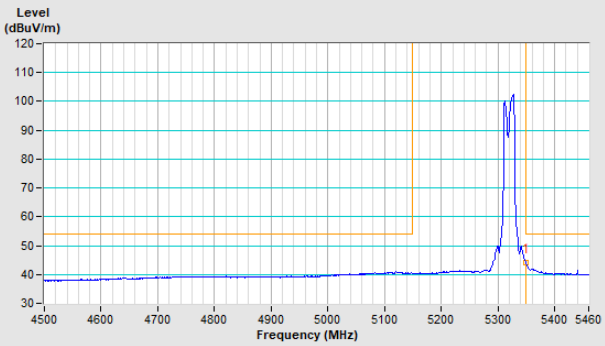
Horizontal (Average)



Vertical (Peak)

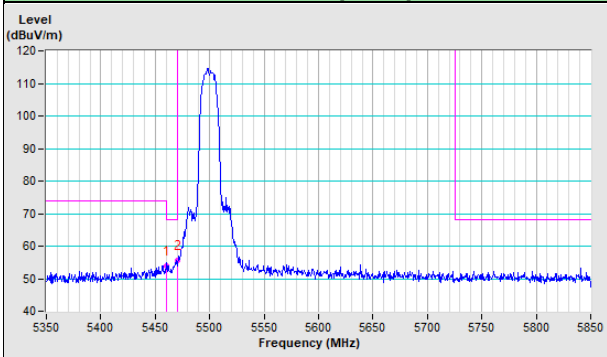


Vertical (Average)

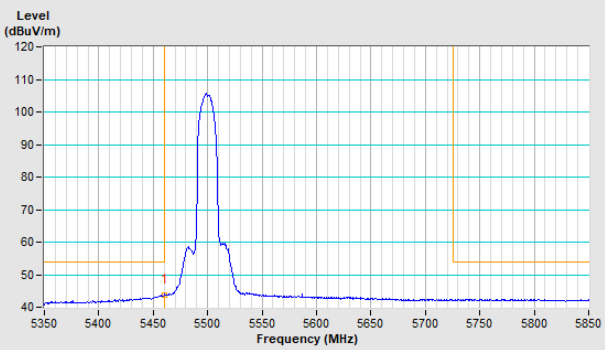


802.11ac (VHT20) Channel 100

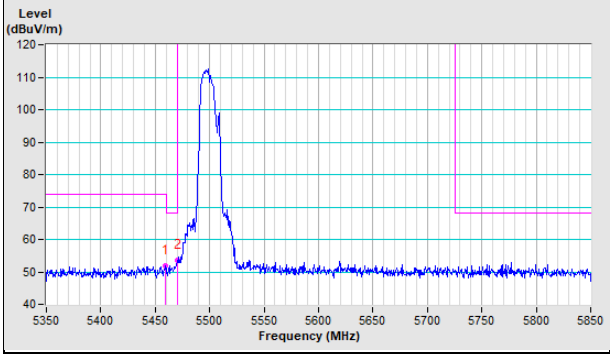
Horizontal (Peak)



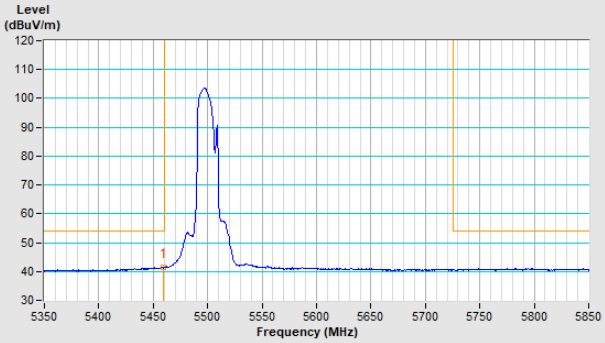
Horizontal (Average)



Vertical (Peak)

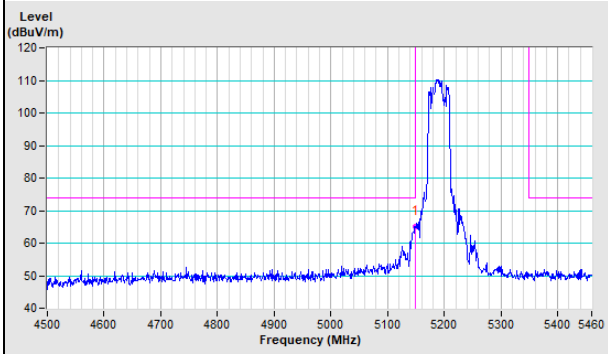


Vertical (Average)

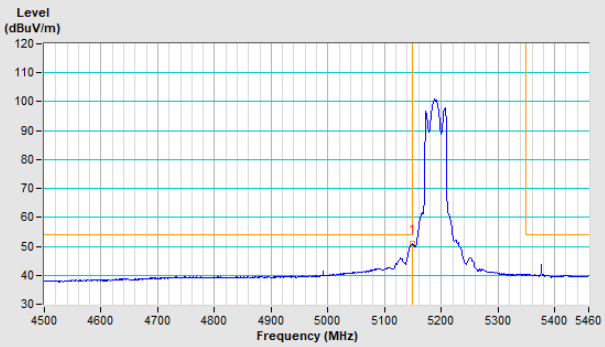


802.11ac (VHT40) Channel 38

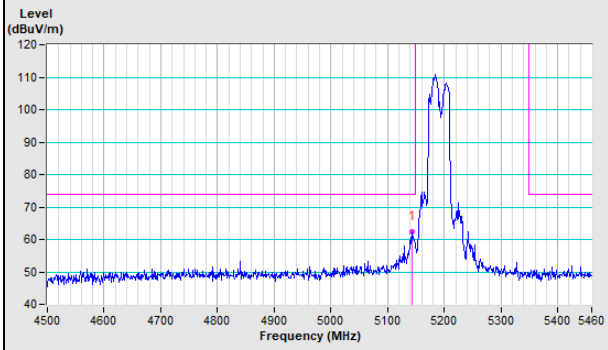
Horizontal (Peak)



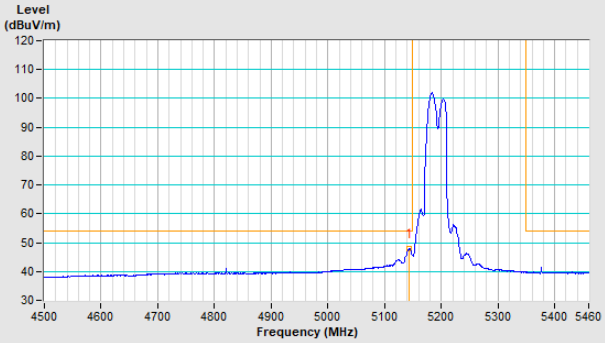
Horizontal (Average)



Vertical (Peak)

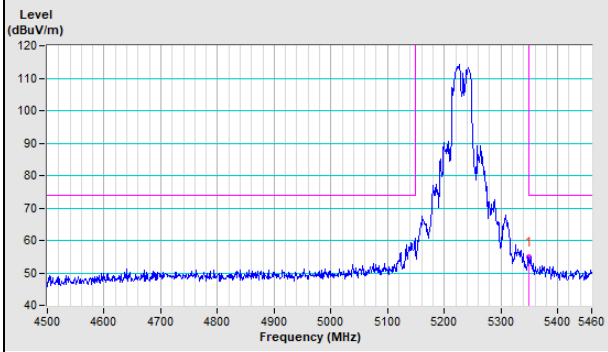


Vertical (Average)

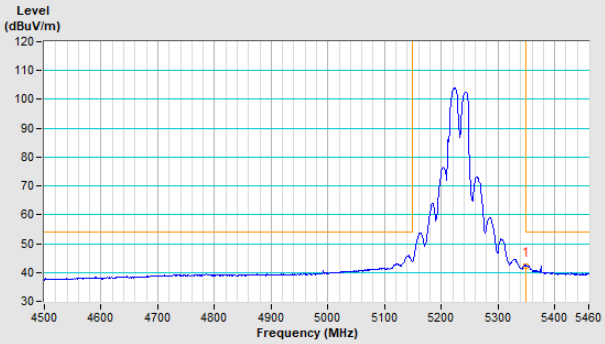


802.11ac (VHT40) Channel 46

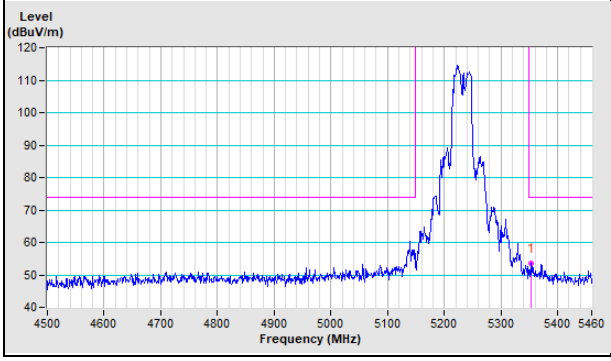
Horizontal (Peak)



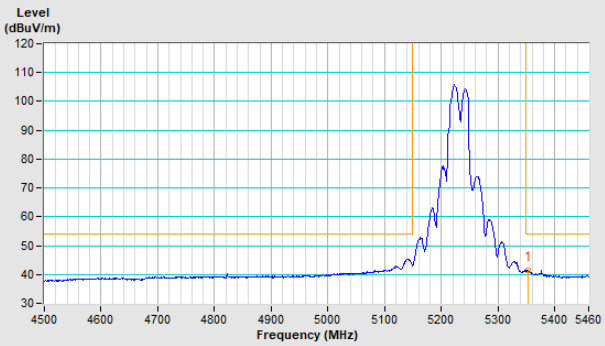
Horizontal (Average)



Vertical (Peak)

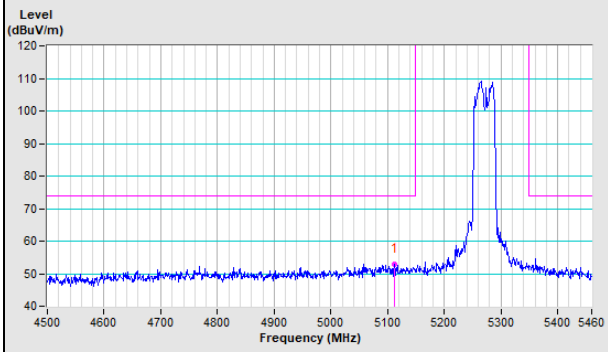


Vertical (Average)

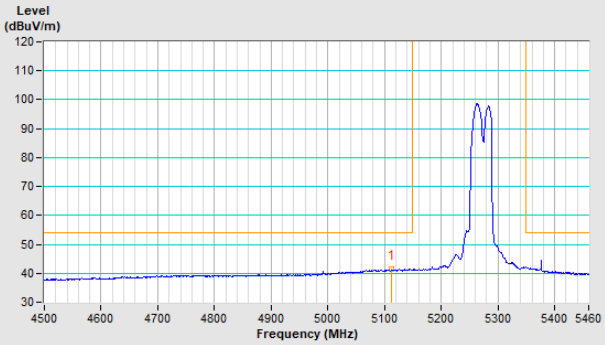


802.11ac (VHT40) Channel 54

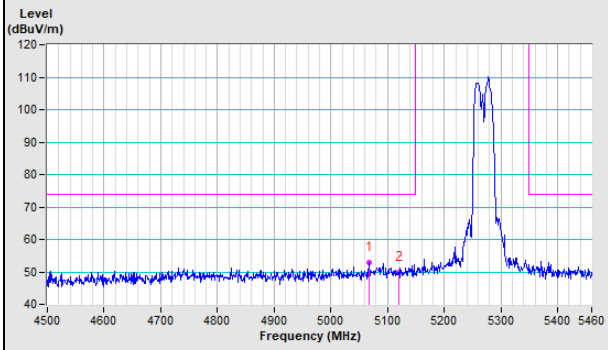
Horizontal (Peak)



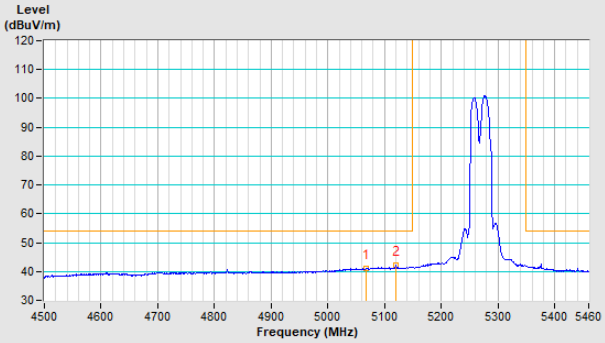
Horizontal (Average)



Vertical (Peak)

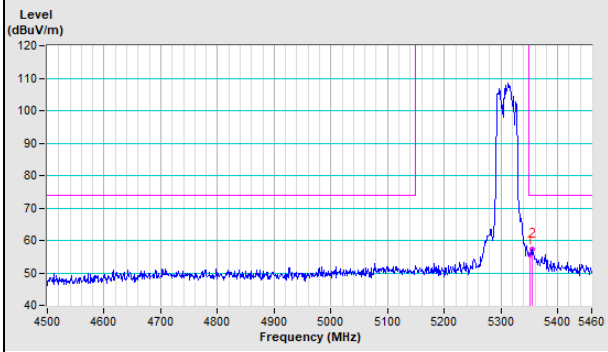


Vertical (Average)



802.11ac (VHT40) Channel 62

Horizontal (Peak)



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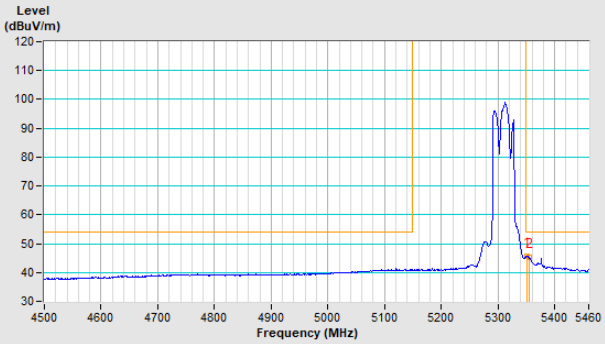
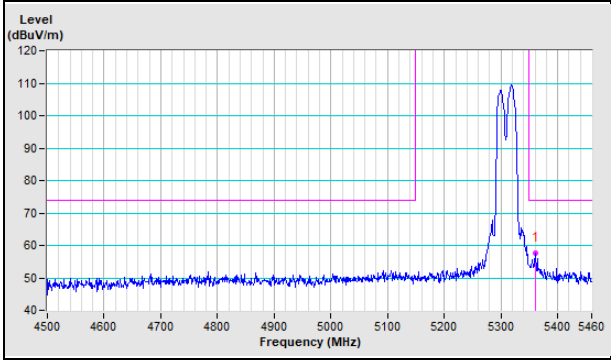
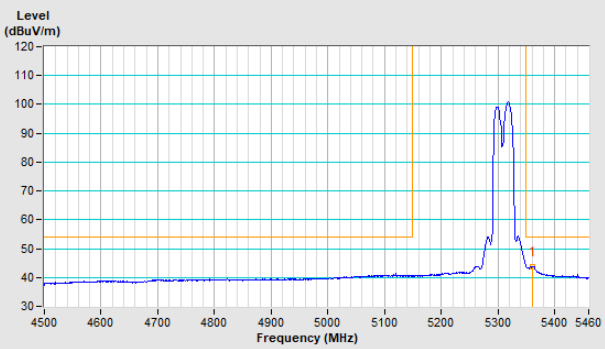


Vertical (Peak)

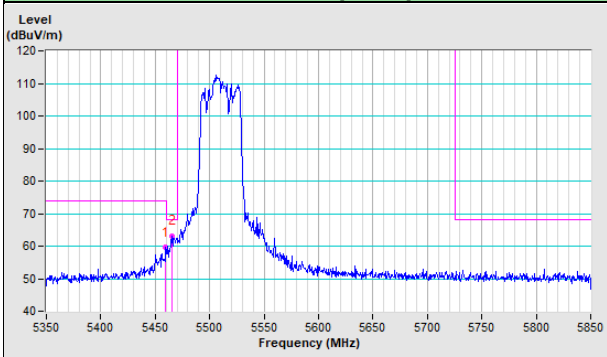


Vertical (Average)

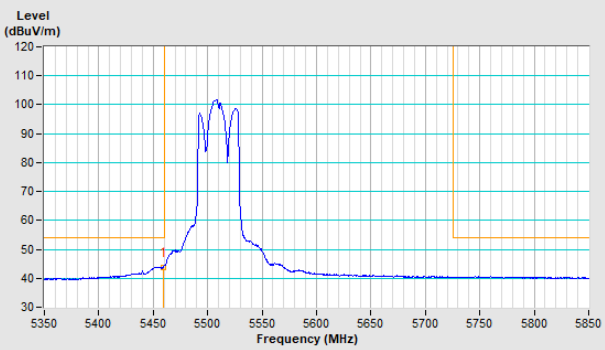


802.11ac (VHT40) Channel 102

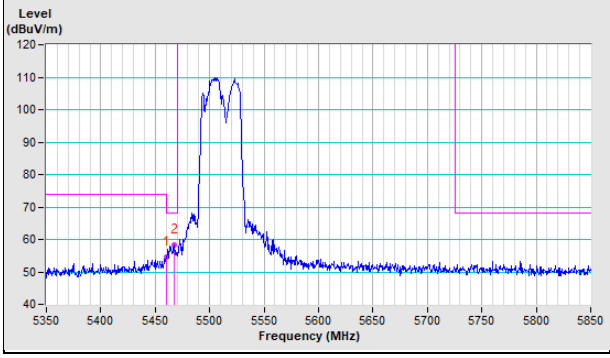
Horizontal (Peak)



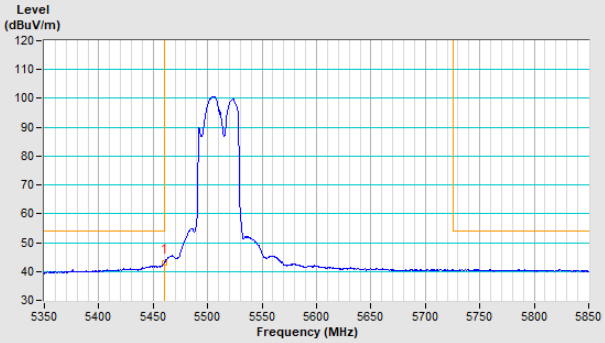
Horizontal (Average)



Vertical (Peak)

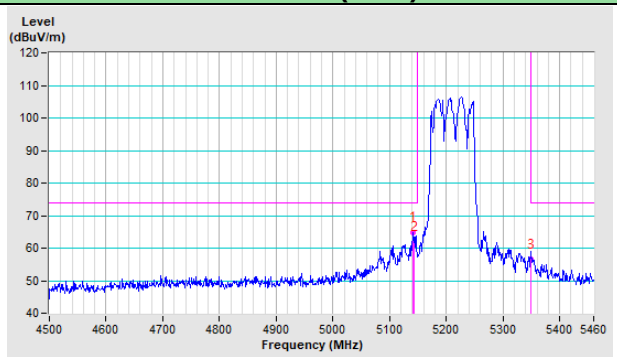


Vertical (Average)

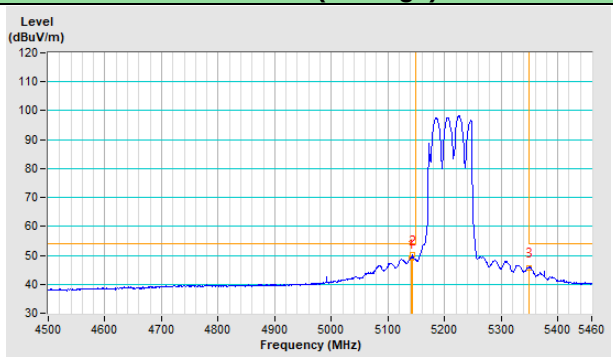


802.11ac (VHT80) Channel 42

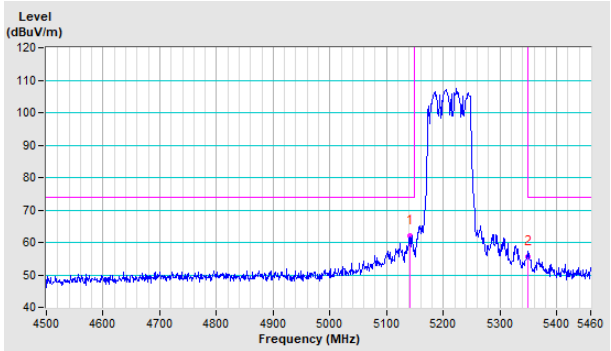
Horizontal (Peak)



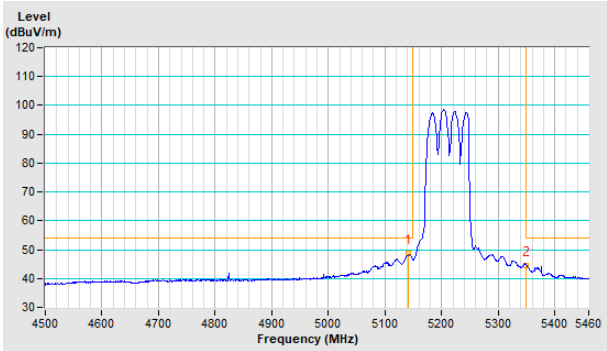
Horizontal (Average)



Vertical (Peak)

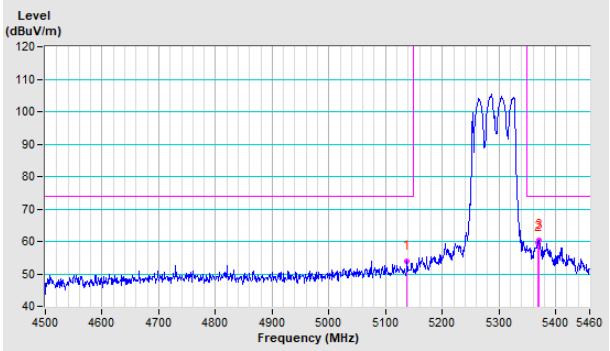


Vertical (Average)

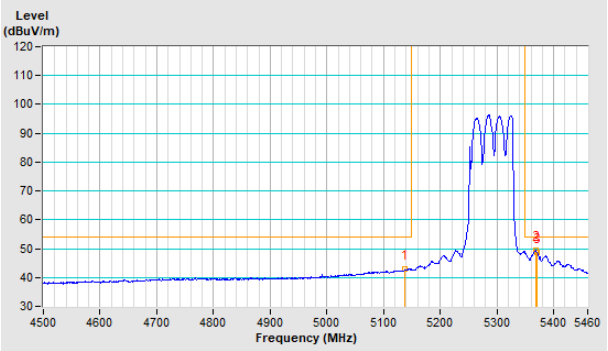


802.11ac (VHT80) Channel 58

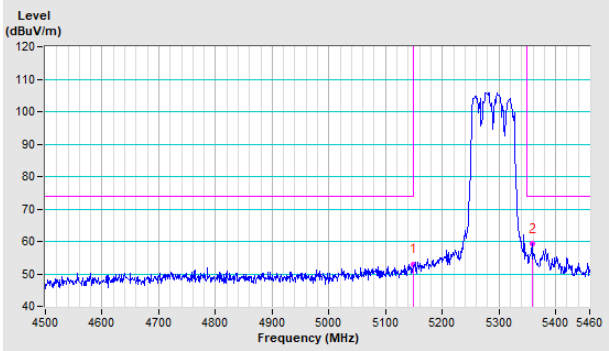
Horizontal (Peak)



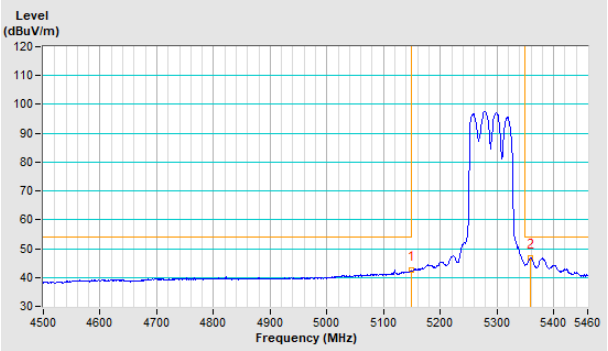
Horizontal (Average)



Vertical (Peak)

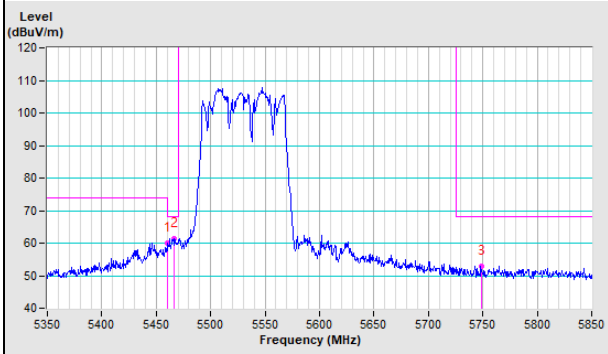


Vertical (Average)



802.11ac (VHT80) Channel 106

Horizontal (Peak)



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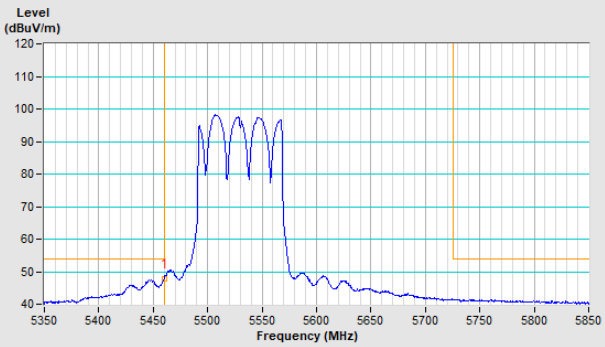
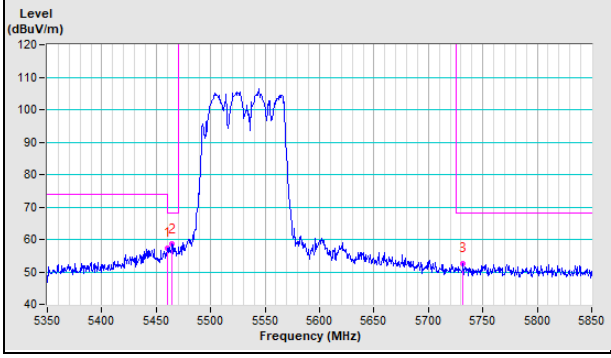
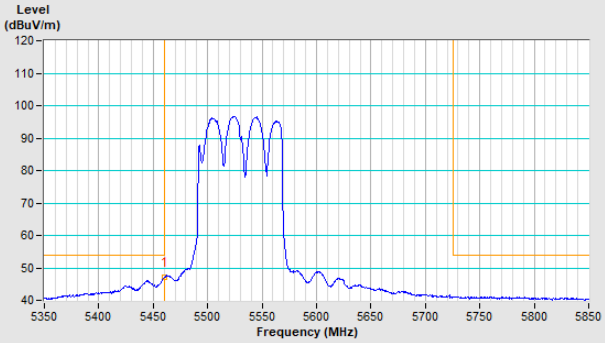


Vertical (Peak)



Vertical (Average)



Appendix – Information of the Testing Laboratories

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

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

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

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

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