FCC PART 15.249

TEST REPORT

For

Shenzhen VanTop Technology & Innovation Co., Ltd.

502, 5th Flr. BLDG 4, MinQi Technology Park No. 65 Lishan Road, Taoyuan Street,
Nanshan District, Shenzhen, China

FCC ID: 2AQ3A-CT100

Report Type:	**Product Type:**
Original Report	Wireless Gaming Headset

Report Number: RSZ201126006-00

Report Date: 2021-04-02

Reviewed By: Jacob Kong, RF Engineer

Prepared By: Bay Area Compliance Laboratories Corp. (Shenzhen)
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Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Wireless Gaming Headset
Tested Model	Captain 100
Multiple Model	Captain 200, Captain 300, Captain 400, Captain 500, A41251, A41252, A41253, A41254, A41255
Model Differences	Refer to the DOS letter
Frequency	2403.35-2477.35MHz
Maximum Field Strength	92.51dBuV/m @3m
Antenna Specification*	0dBi(It is provided by the applicant)
Voltage Range	DC3.7V from battery or DC5V from USB Port
Date of Test	2020-12-28 to 2021-03-30
Sample serial number	RSZ201126006-RF-S1 (Assigned by BACL, Shenzhen)
Received date	2020-11-26
Sample/EUT Status	Good condition

Objective

This report is in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.249 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF Output Power with Power meter		±0.73dB
RF conducted test with spectrum		±1.6dB
AC Power Lines Conducted Emissions		±1.95dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±1℃
Humidity		±6%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing by manufacturer.

Channel List

Channel	Frequency (GHz)	Channel	Frequency (GHz)
1	2.40335	2	2.40535
3	2.40735	4	2.40935
5	2.41135	6	2.41335
7	2.41535	8	2.41735
9	2.41935	10	2.42135
11	2.42335	12	2.42535
13	2.42735	14	2.42935
15	2.43135	16	2.43335
17	2.43535	18	2.43735
19	2.43935	20	2.44135
21	2.44335	22	2.44535
23	2.44735	24	2.44935
25	2.45135	26	2.45335
27	2.45535	28	2.45735
29	2.45935	30	2.46135
31	2.46335	32	2.46535
33	2.46735	34	2.46935
35	2.47135	36	2.47335
37	2.47535	38	2.47735

EUT was tested with Channel 1, 19 and 38.

EUT Exercise Software

“VMIdev-1.1.6.53.exe*” was use to the EUT tested and the power level is default *. The software and power level was provided by the applicant.

Equipment Modifications

No modifications were made to the unit tested.

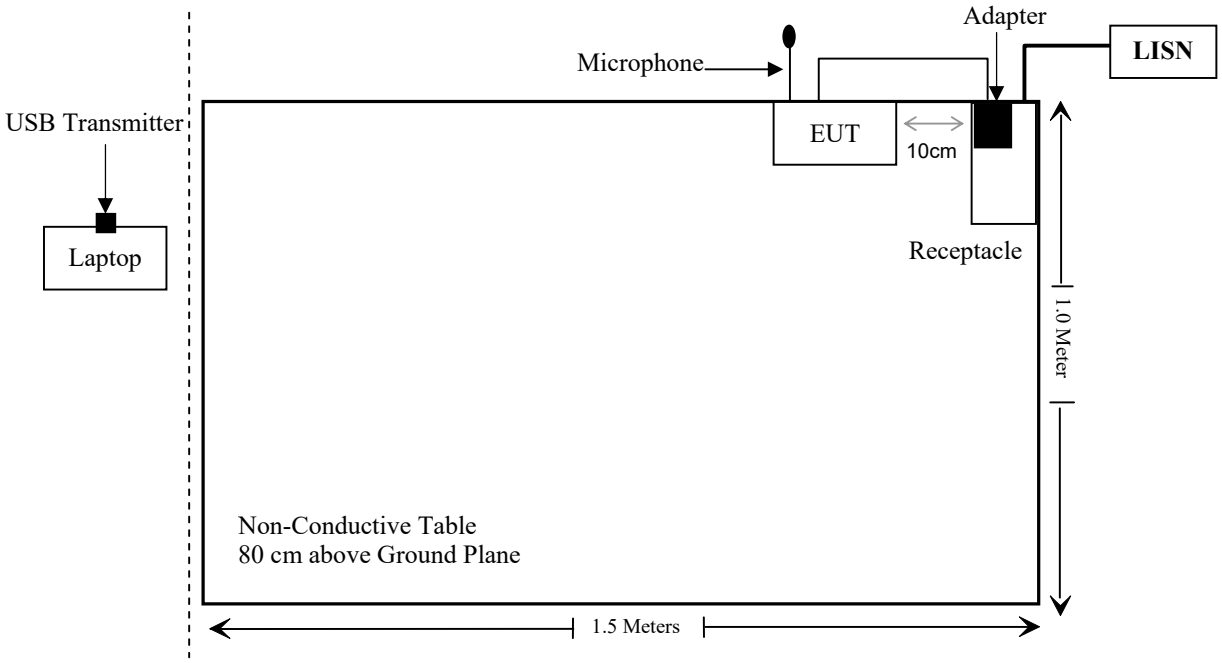
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
BLU	Adapter	UD-BB-1000	21020327
SHENZHEN TIANYIN	Adapter	TPA-46050200UU	03301759
VanTop	USB Transmitter	Captain 100	21031559
DELL	Laptop	Inspiron 15-3543	DT7MH52

Support Cable Descriptions

Cable Description	Length (m)	From/Port	To
Un-shielding Detachable USB Cable	0.6	EUT	Adapter

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207(a)	Conduction Emissions	Compliance
15.205, §15.209, §15.249(d)	Radiated Emissions& Outside of Band Emission	Compliance
§15.215 (c)	20 dB Bandwidth	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2020/08/04	2021/08/03
Rohde & Schwarz	LISN	ENV216	101613	2020/08/04	2021/08/03
Rohde & Schwarz	Transient Limitor	ESH3Z2	DE25985	2020/11/29	2021/11/28
Unknown	Triple-loop Antenna Cable	Unknown	Unknown	2020/11/29	2021/11/28
Unknown	Cable	Chamber Cable 1	F-03-EM236	2020/11/29	2021/11/28
Rohde & Schwarz	Auto test software	EMC 32	V9.10	NCR	NCR
R&S	EMI Test Receiver	ESR3	102455	2020/08/04	2021/08/03
Sonoma instrument	Pre-amplifier	310 N	186238	2020/08/04	2021/08/03
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2020/12/22	2023/12/21
Unknown	Cable	Chamber Cable 4	EC-007	2020/11/29	2021/11/28
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2020/08/04	2021/08/03
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2020/11/29	2021/11/28
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2020/11/29	2021/11/28
Unknown	RF Cable	W1101-EQ1 OUT	F-19-EM005	2020/11/29	2021/11/28
Sunol Sciences	Horn Antenna	3115	9107-3694	2018/01/15	2021/01/14
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05
WEINSCHEL	10dB Attenuator	5324	AU3842	2020/11/29	2021/11/28
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200982	2020/08/04	2021/08/03

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has two internal antennas which was permanently attached and the antenna gain is 0dBi, fulfill the requirement of this section. Please refer to the EUT photos.

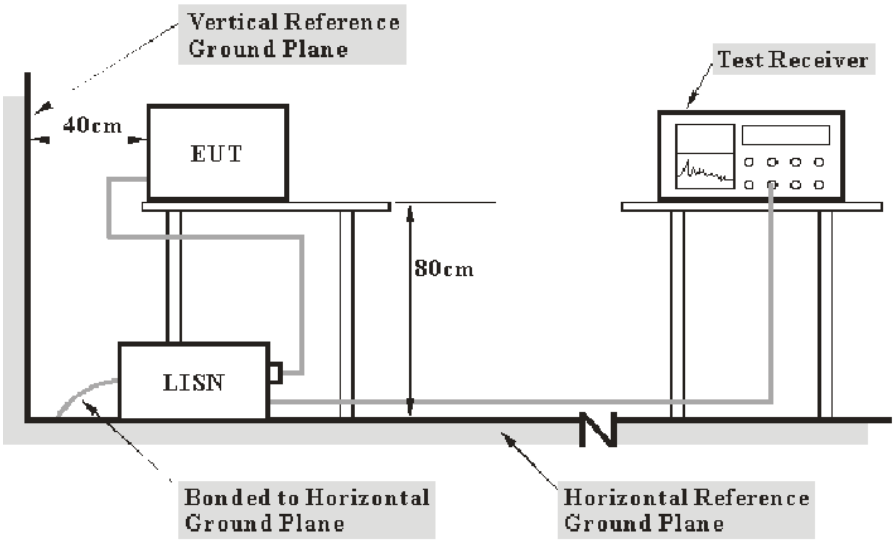
Result: Compliance.

FCC §15.207 – AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC §15.207

EUT Setup



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

The measurement procedure of EUT setup is according with per ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the EUT complied with the FCC Part 15.207,

Test Data

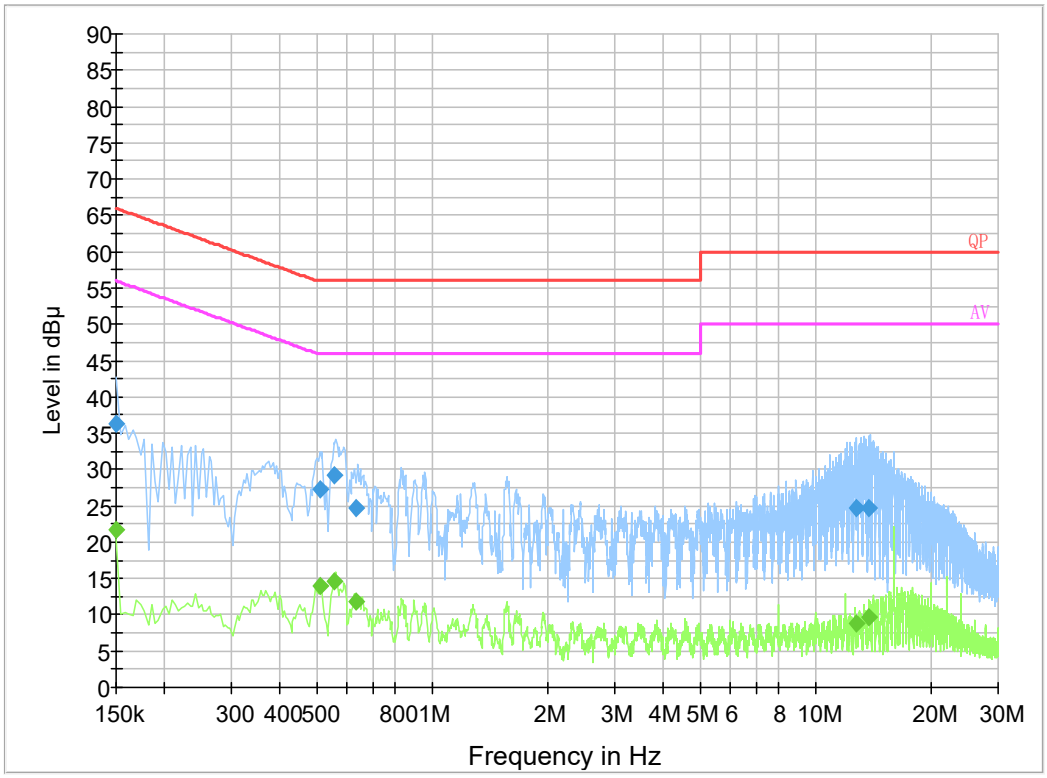
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	65 %
ATM Pressure:	101.0 kPa

The testing was performed by Haiguo Li on 2020-12-29.

EUT Operation Mode: Transmitting(worst case is antenna 1)

AC 120V/60 Hz, Line



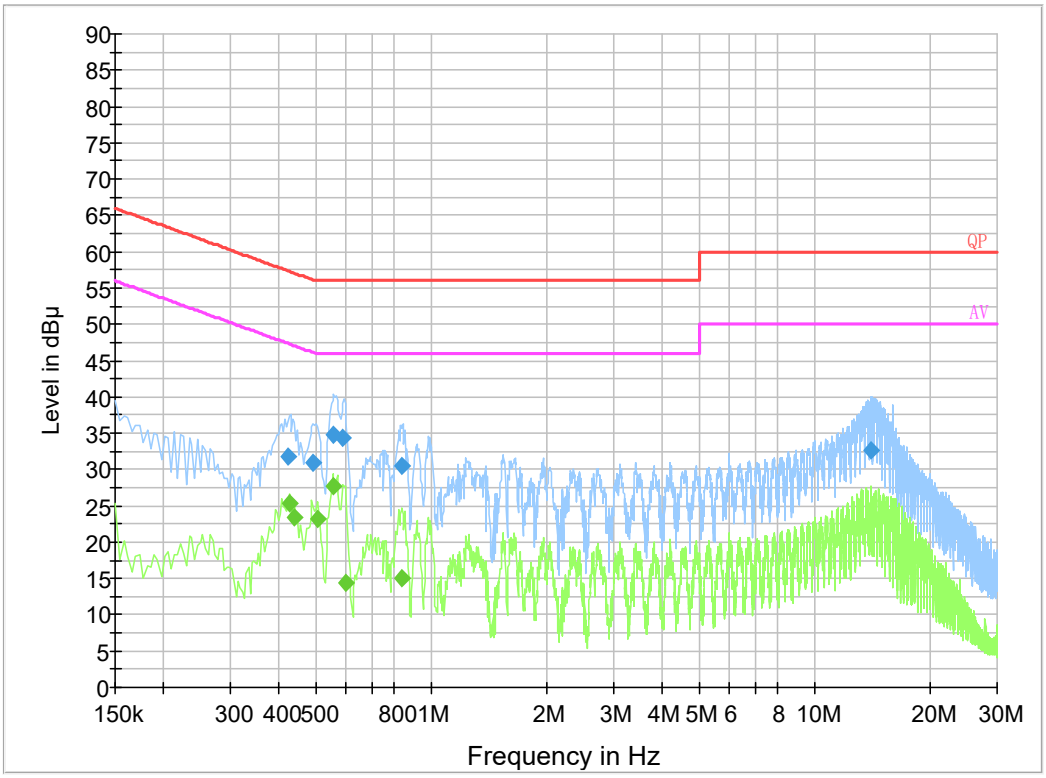
Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150000	36.2	0.200	L1	19.8	29.8	66.0
0.510230	27.3	9.000	L1	19.8	28.7	56.0
0.557570	29.1	9.000	L1	19.8	26.9	56.0
0.636370	24.6	9.000	L1	19.8	31.4	56.0
12.797790	24.7	9.000	L1	20.0	35.3	60.0
13.729650	24.7	9.000	L1	20.0	35.3	60.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.150000	21.7	9.000	L1	19.8	34.3	56.0
0.510230	14.0	9.000	L1	19.8	32.0	46.0
0.557570	14.7	9.000	L1	19.8	31.3	46.0
0.636370	11.8	9.000	L1	19.8	34.2	46.0
12.797790	8.8	9.000	L1	20.0	41.2	50.0
13.729650	9.6	9.000	L1	20.0	40.4	50.0

AC 120V/60 Hz, Neutral



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.423550	31.9	9.000	N	19.8	25.5	57.4
0.494470	30.9	9.000	N	19.8	25.2	56.1
0.553630	34.9	9.000	N	19.8	21.1	56.0
0.589030	34.5	9.000	N	19.8	21.5	56.0
0.837310	30.5	9.000	N	19.8	25.5	56.0
14.098890	32.7	9.000	N	19.9	27.3	60.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.426000	25.3	9.000	N	19.8	22.0	47.3
0.442000	23.5	9.000	N	19.8	23.5	47.0
0.506000	23.3	9.000	N	19.8	22.7	46.0
0.554000	27.7	9.000	N	19.8	18.3	46.0
0.598000	14.3	9.000	N	19.8	31.7	46.0
0.842000	15.0	9.000	N	19.8	31.0	46.0

FCC§15.205, §15.209 & §15.249(d) - RADIATED EMISSIONS

Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

As per FCC§15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test Equipment Setup

The spectrum analyzer or receiver is set as:

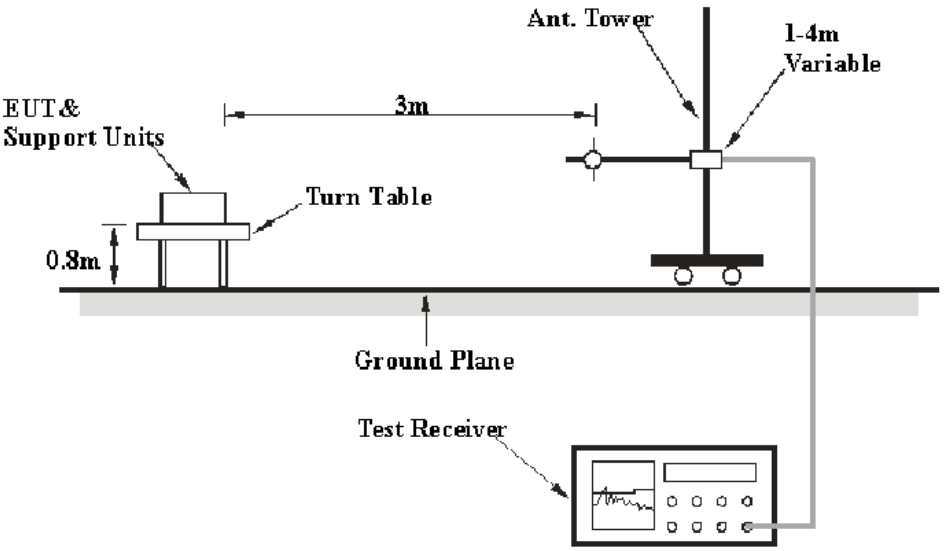
Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP/PK
Above 1 GHz	1 MHz	3 MHz	/	PK

Test Procedure

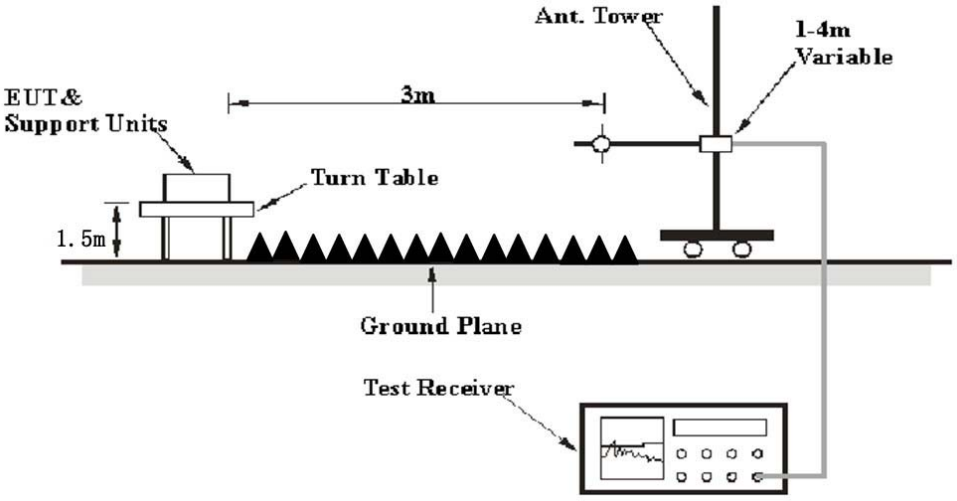
Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission and out of band emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209/15.205 and FCC 15.249 limits.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 mete, and the EUT is placed on a turntable, which is 0.8 meter above ground plane for below 1GHz or 1.5 meter for above 1GHz, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Data

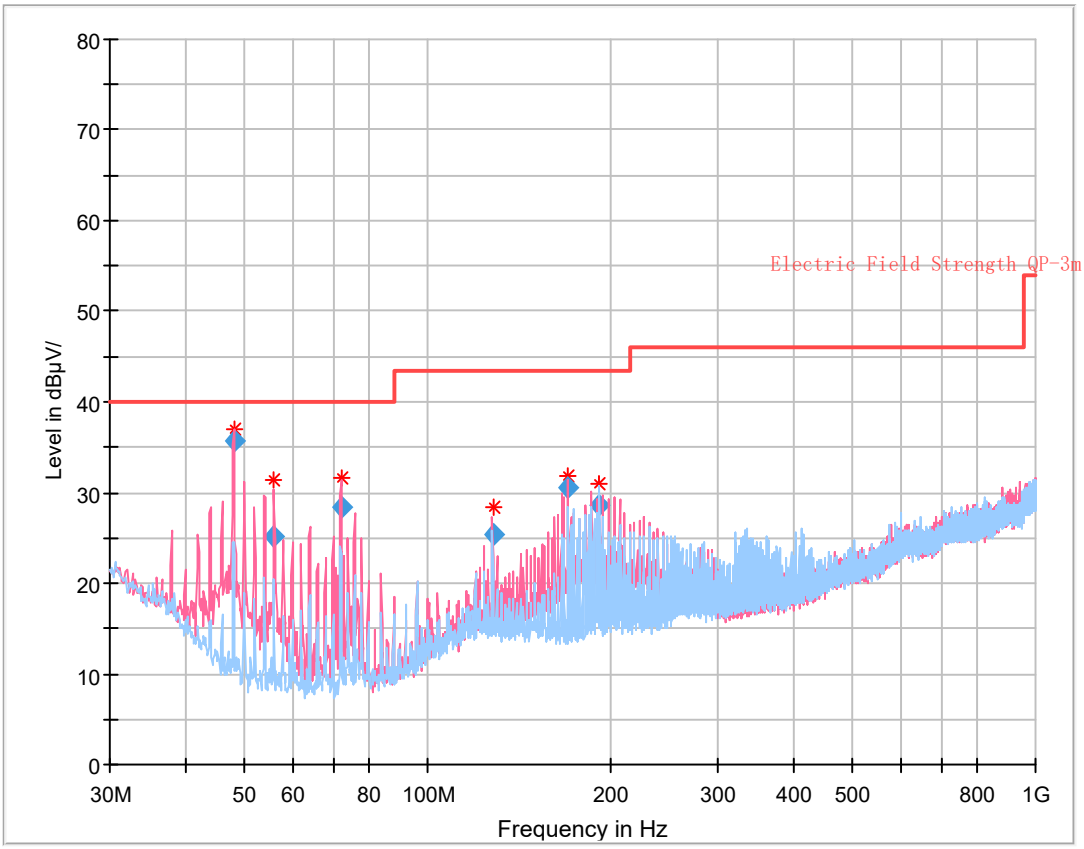
Environmental Conditions

Temperature:	24~29.8 ℃
Relative Humidity:	51~56 %
ATM Pressure:	101.0~ 101.2kPa

The testing was performed by Holland Yang on 2020-12-29 for below 1GHz and Alan He on 2020-12-28 for above 1GHz .

Test Mode: Transmitting (Pre-scan in the X, Y and Z axes of orientation, the worst case X-axis of orientation was record)

30MHz – 1 GHz: *(worst case is antenna 1)*



Final_Result

Frequency (MHz)	QuasiPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.978625	35.72	40.00	4.28	102.0	V	166.0	-15.6
55.949875	25.26	40.00	14.74	291.0	V	77.0	-16.9
71.971375	28.43	40.00	11.57	111.0	V	177.0	-17.4
127.996500	25.48	43.50	18.02	103.0	V	322.0	-10.8
170.004000	30.44	43.50	13.06	103.0	V	108.0	-11.7
192.016000	28.62	43.50	14.88	129.0	H	233.0	-11.7

Above 1 GHz:

For Antenna 1:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.249&15.209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Low Channel(2403.35MHz)									
2403.35	56.66	PK	250	1.8	H	31.87	88.53	114	25.47
2403.35	52.58	Ave.	250	1.8	H	31.87	84.45	94	9.55
2403.35	60.19	PK	212	1.5	V	31.87	92.06	114	21.94
2403.35	56.69	Ave.	212	1.5	V	31.87	88.56	94	5.44
2400.00	31.26	PK	135	2.1	V	31.87	63.13	74	10.87
2400.00	16.33	Ave.	135	2.1	V	31.87	48.20	54	5.80
2483.94	29.12	PK	157	1.2	V	32.13	61.25	74	12.75
2483.94	14.71	Ave.	157	1.2	V	32.13	46.84	54	7.16
4806.70	48.54	PK	331	2.0	V	6.28	54.82	74	19.18
4806.70	31.26	Ave.	331	2.0	V	6.28	37.54	54	16.46
7210.05	43.04	PK	360	1.6	V	11.93	54.97	74	19.03
7210.05	30.55	Ave.	360	1.6	V	11.93	42.48	54	11.52
Middle Channel(2439.35MHz)									
2439.35	55.34	PK	283	1.6	H	31.97	87.31	114	26.69
2439.35	52.03	Ave.	283	1.6	H	31.97	84.00	94	10.00
2439.35	59.84	PK	265	1.3	V	31.97	91.81	114	22.19
2439.35	56.41	Ave.	265	1.3	V	31.97	88.38	94	5.62
4878.70	46.98	PK	176	1.2	V	6.76	53.74	74	20.26
4878.70	31.07	Ave.	176	1.2	V	6.76	37.83	54	16.17
7318.05	45.23	PK	93	1.6	V	11.56	56.79	74	17.21
7318.05	31.58	Ave.	93	1.6	V	11.56	43.14	54	10.86

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.249&15.209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
High Channel(2477.35 MHz)									
2477.35	56.03	PK	293	1.5	H	32.13	88.16	114	25.84
2477.35	52.43	Ave.	293	1.5	H	32.13	84.56	94	9.44
2477.35	60.38	PK	353	1.7	V	32.13	92.51	114	21.49
2477.35	56.82	Ave.	353	1.7	V	32.13	88.95	94	5.05
2388.71	28.83	PK	71	1.4	V	31.87	60.70	74	13.30
2388.71	14.65	Ave.	71	1.4	V	31.87	46.52	54	7.48
2483.74	31.05	PK	57	2.2	V	32.13	63.18	74	10.82
2483.74	16.63	Ave.	57	2.2	V	32.13	48.76	54	5.24
4954.70	47.84	PK	186	1.6	V	6.80	54.64	74	19.36
4954.70	31.30	Ave.	186	1.6	V	6.80	38.10	54	15.90
7432.05	45.18	PK	282	1.7	V	12.39	57.57	74	16.43
7432.05	33.23	Ave.	282	1.7	V	12.39	45.62	54	8.38

For Antenna 2:

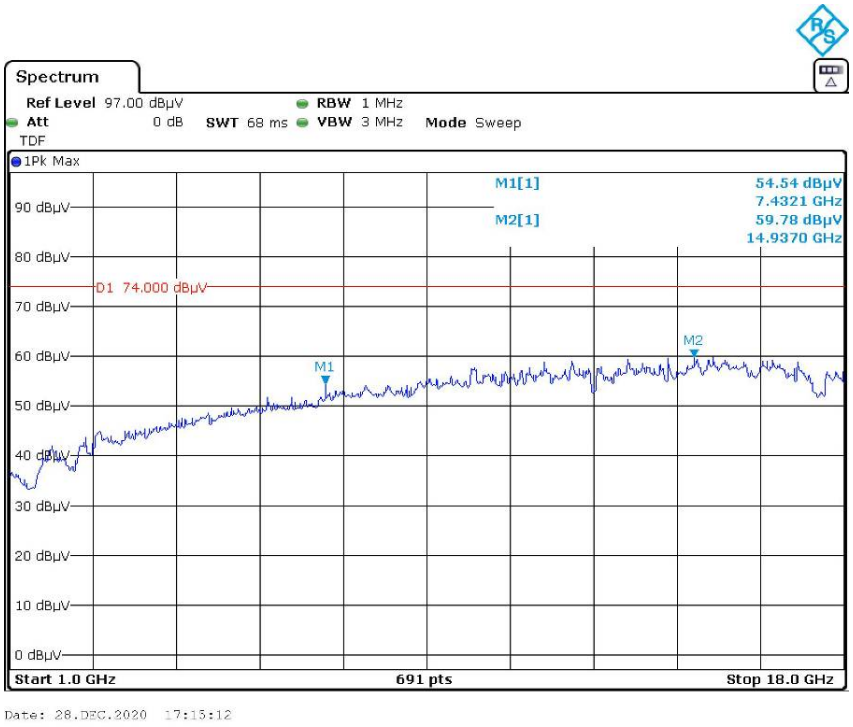
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.249&15.209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Low Channel(2403.35MHz)									
2403.35	52.83	PK	117	1.3	H	31.87	84.70	114	29.30
2403.35	48.67	Ave.	117	1.3	H	31.87	80.54	94	13.46
2403.35	56.03	PK	284	2.3	V	31.87	87.90	114	26.10
2403.35	52.51	Ave.	284	2.3	V	31.87	84.38	94	9.62
2400.00	29.38	PK	358	1.9	V	31.87	61.25	74	12.75
2400.00	14.96	Ave.	358	1.9	V	31.87	46.83	54	7.17
2483.52	28.71	PK	106	1.9	V	32.13	60.84	74	13.16
2483.52	14.65	Ave.	106	1.9	V	32.13	46.78	54	7.22
4806.70	44.22	PK	348	2.0	V	6.28	50.50	74	23.50
4806.70	29.86	Ave.	348	2.0	V	6.28	36.14	54	17.86
7210.05	41.03	PK	134	2.4	V	11.93	52.96	74	21.04
7210.05	28.24	Ave.	134	2.4	V	11.93	40.17	54	13.83

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.249&15.209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Middle Channel(2439.35MHz)									
2439.35	51.54	PK	86	1.7	H	31.97	83.51	114	30.49
2439.35	47.92	Ave.	86	1.7	H	31.97	79.89	94	14.11
2439.35	55.63	PK	214	1.5	V	31.97	87.60	114	26.40
2439.35	52.37	Ave.	214	1.5	V	31.97	84.34	94	9.66
4878.70	43.46	PK	11	2.5	V	6.76	50.22	74	23.78
4878.70	29.13	Ave.	11	2.5	V	6.76	35.89	54	18.11
7318.05	40.88	PK	286	1.1	V	11.56	52.44	74	21.56
7318.05	28.15	Ave.	286	1.1	V	11.56	39.71	54	14.29
High Channel(2477.35 MHz)									
2477.35	53.74	PK	245	1.8	H	32.13	85.87	114	28.13
2477.35	49.53	Ave.	245	1.8	H	32.13	81.66	94	12.34
2477.35	56.12	PK	116	1.8	V	32.13	88.25	114	25.75
2477.35	52.33	Ave.	116	1.8	V	32.13	84.46	94	9.54
2388.52	28.31	PK	72	2.4	V	31.87	60.18	74	13.82
2388.52	14.26	Ave.	72	2.4	V	31.87	46.13	54	7.87
2483.52	29.37	PK	67	1.9	V	32.13	61.50	74	12.50
2483.52	14.85	Ave.	67	1.9	V	32.13	46.98	54	7.02
4954.70	44.26	PK	255	1.1	V	6.80	51.06	74	22.94
4954.70	30.08	Ave.	255	1.1	V	6.80	36.88	54	17.12
7432.05	41.23	PK	30	2.1	V	12.39	53.62	74	20.38
7432.05	29.03	Ave.	30	2.1	V	12.39	41.42	54	12.58

Note:
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor=Antenna factor (RX) +cable loss – amplifier factor
Margin = Limit- Corr. Amplitude
The emission more than20dB below the limit was not required to be recorded.

Pre-scan with Peak, High Channel in Antenna 1

Horizontal



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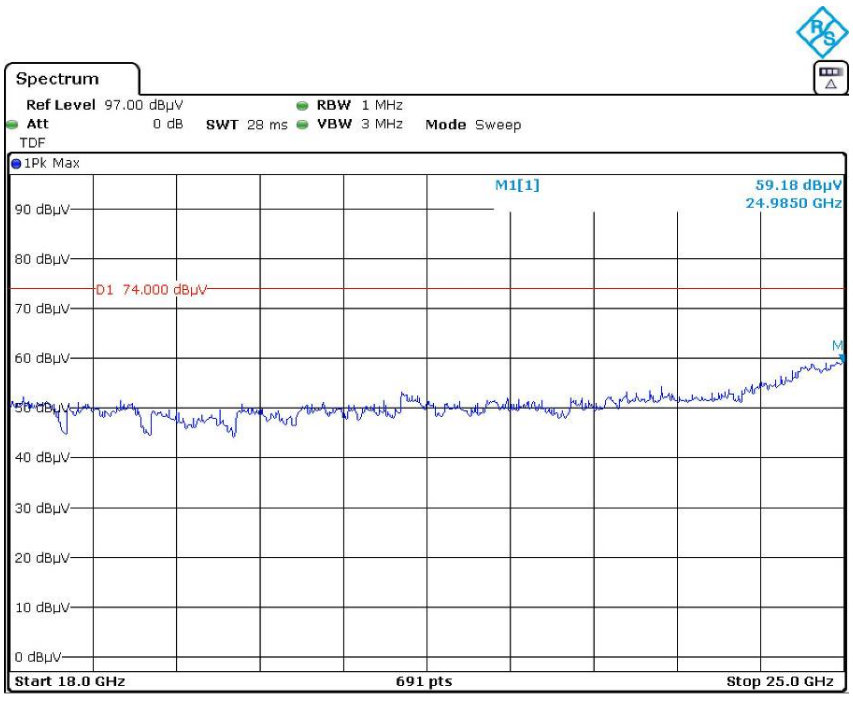

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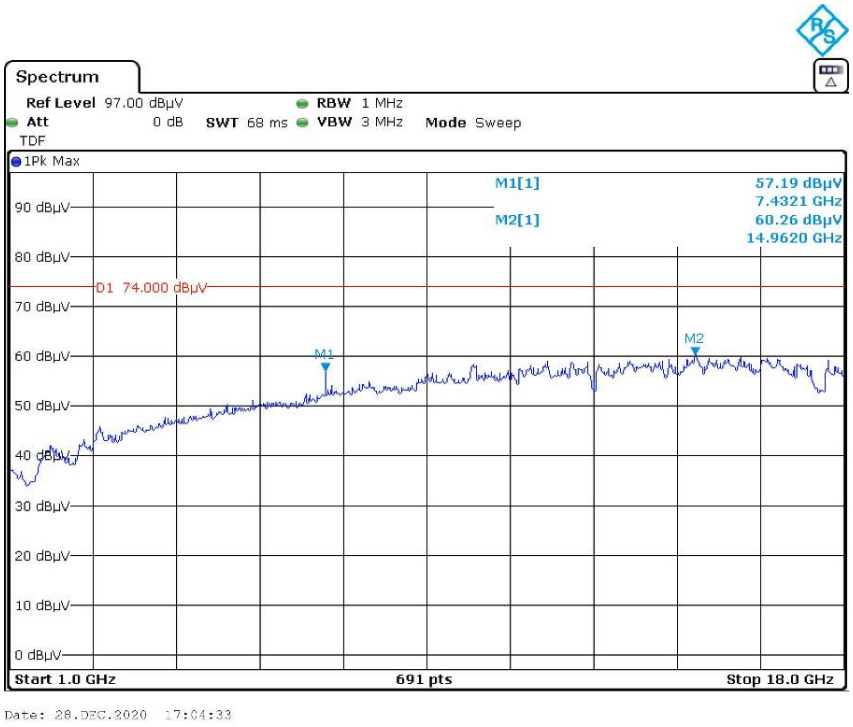
Vertical



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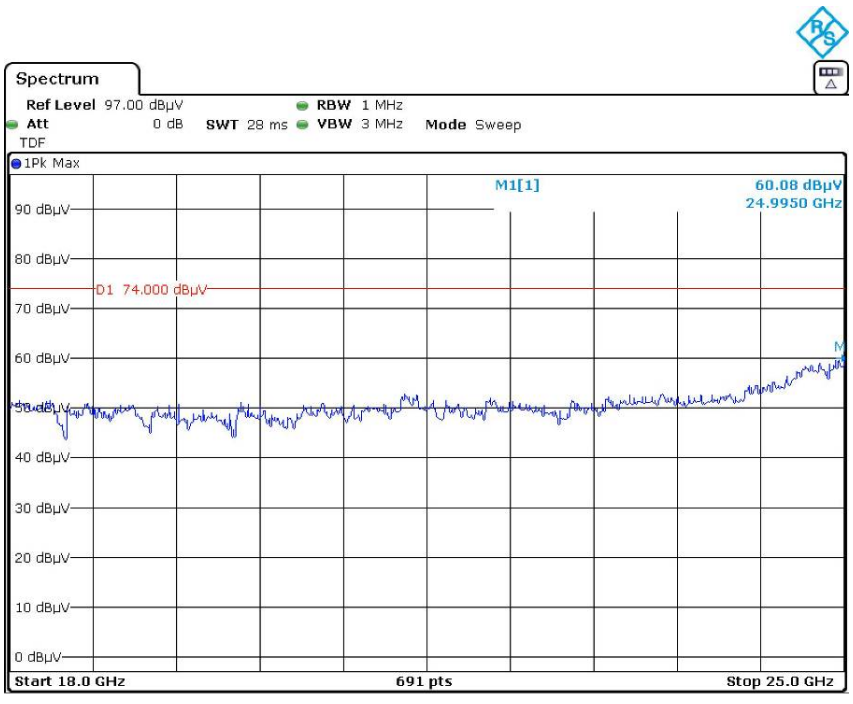

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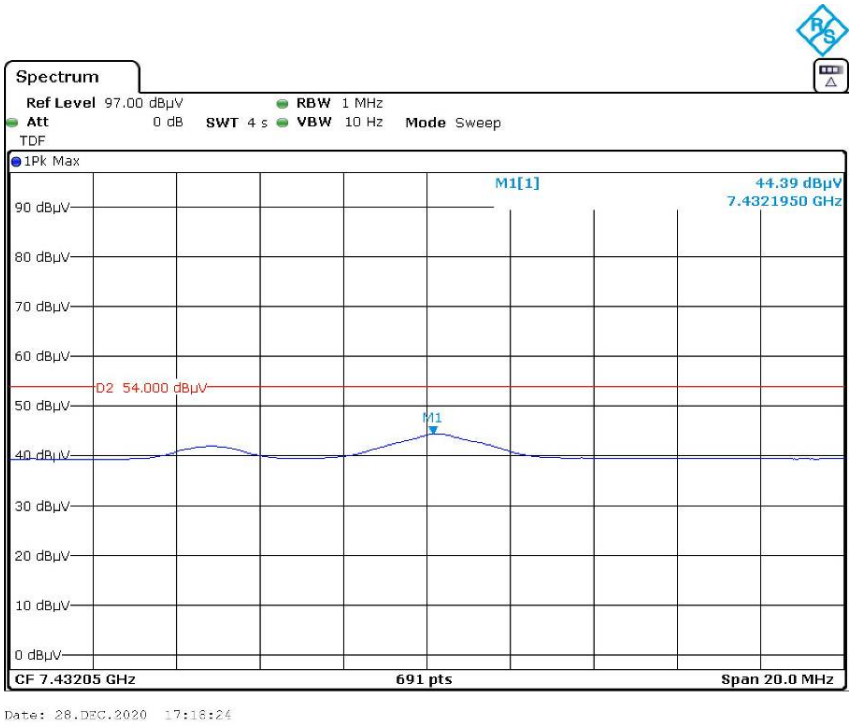
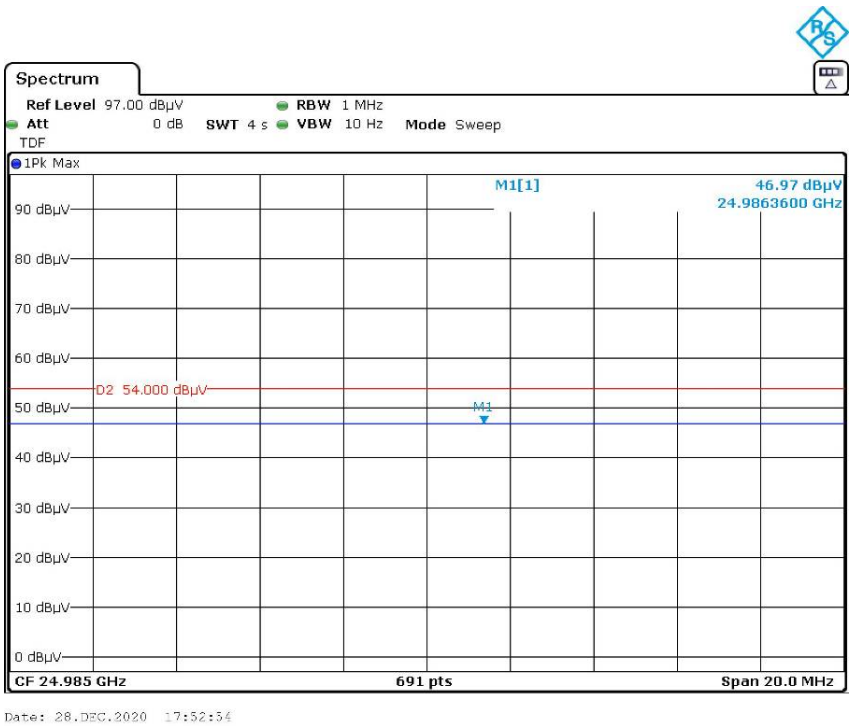
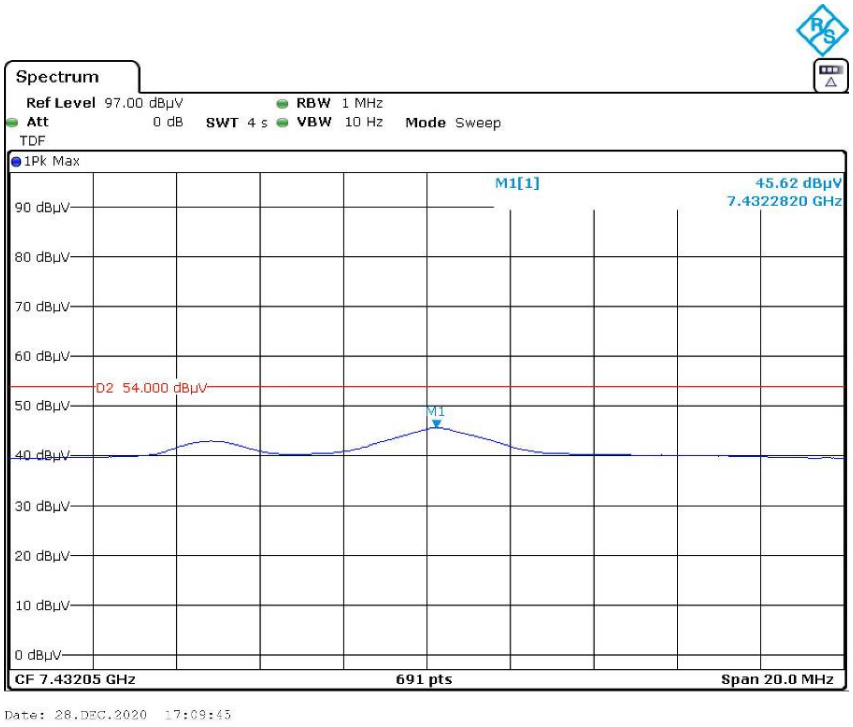
Average

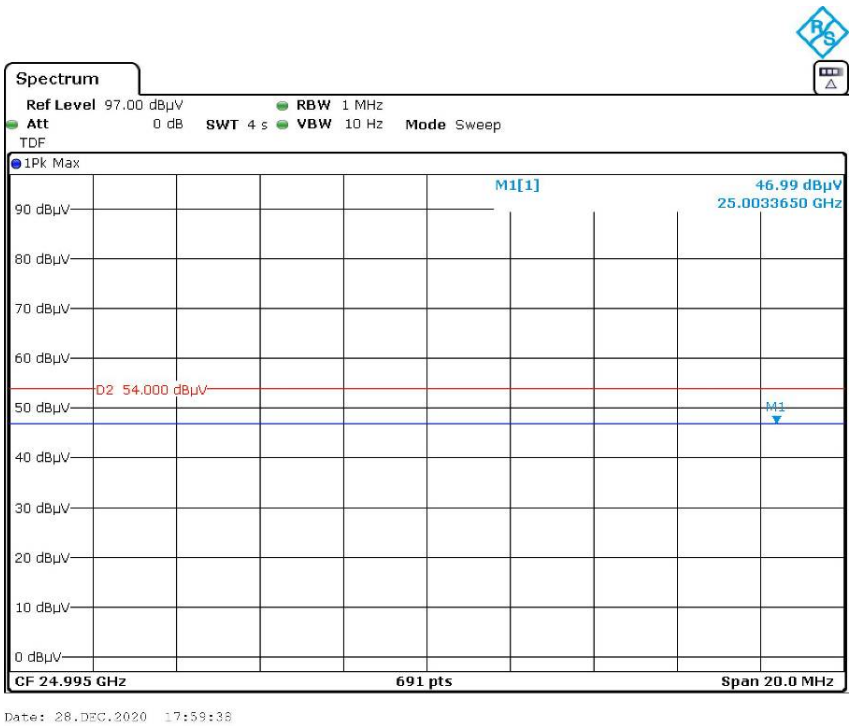
Horizontal





Vertical


Spectrum
Ref Level 97.00 dBµV
RBW 1 MHz
Att 0 dB SWT 4 s VBW 10 Hz Mode Sweep
TDF
1Pk Max
M1[1]
45.62 dBµV
7.4322820 GHz
90 dBµV
80 dBµV
70 dBµV
60 dBµV
D2 54.000 dBµV
50 dBµV
M1
40 dBµV
30 dBµV
20 dBµV
10 dBµV
0 dBµV
CF 7.43205 GHz
691 pts
Span 20.0 MHz
Date: 28.DEC.2020 17:09:45


Spectrum
Ref Level 97.00 dBµV
RBW 1 MHz
Att 0 dB SWT 4 s VBW 10 Hz Mode Sweep
TDF
1Pk Max
M1[1]
46.99 dBµV
25.0033650 GHz
90 dBµV
80 dBµV
70 dBµV
60 dBµV
D2 54.000 dBµV
50 dBµV
M1
40 dBµV
30 dBµV
20 dBµV
10 dBµV
0 dBµV
CF 24.995 GHz
691 pts
Span 20.0 MHz
Date: 28.DEC.2020 17:59:38

FCC§15.215(c) - 20dB EMISSION BANDWIDTH

Applicable Standard

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure

Per ANSI C63.10-2013 §6.9

Test Data

Environmental Conditions

Temperature:	21 ℃
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

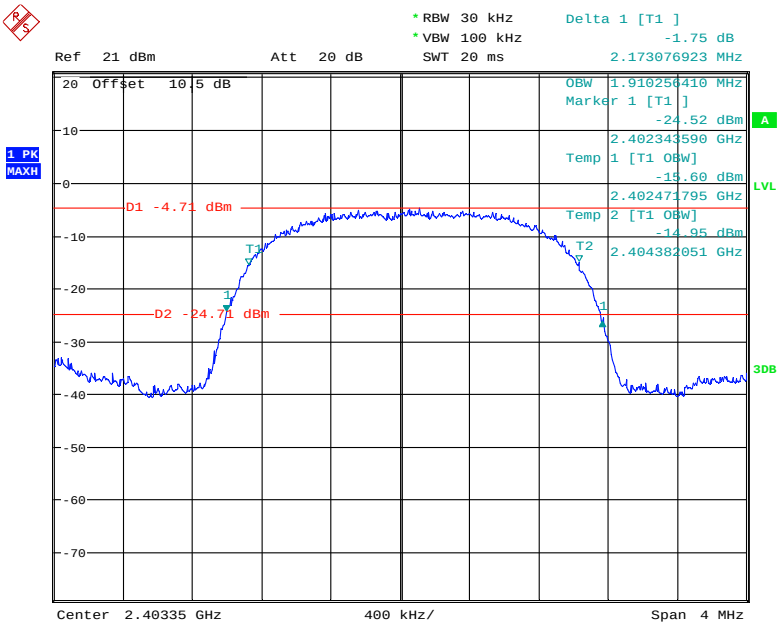
The testing was performed by Zero Yan on 2021-03-30.

Test Mode: Transmitting

Channel	Frequency(MHz)	Antenna	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
Low	2403.35	Ant1	2.17	1.91
		Ant2	2.15	1.91
Middle	2439.35	Ant1	2.16	1.91
		Ant2	2.15	1.91
High	2477.35	Ant1	2.15	1.90
		Ant2	2.15	1.92

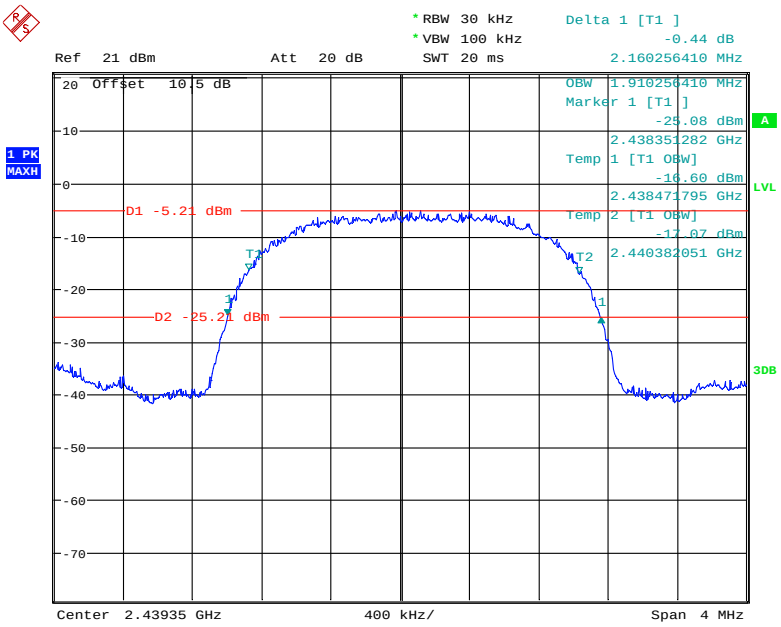
Antenna 1:

Low Channel



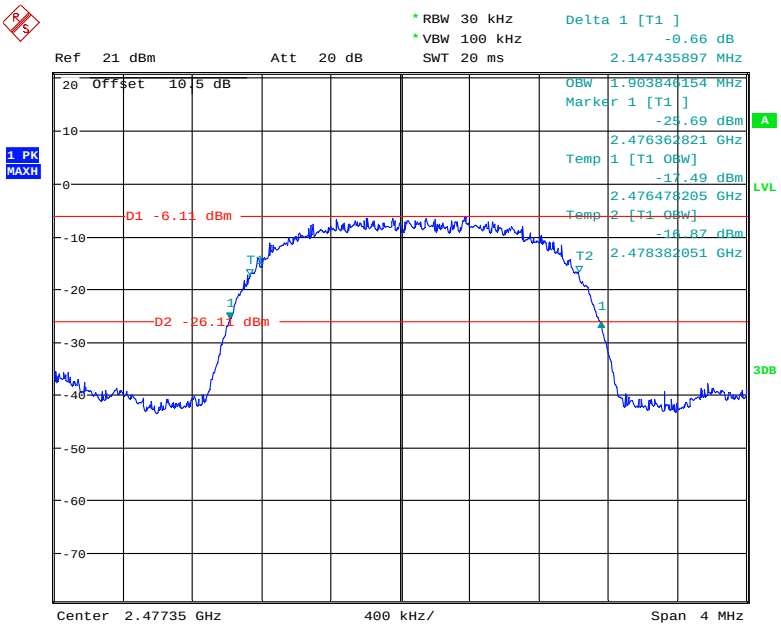
Date: 30.MAR.2021 12:00:37

Middle Channel



Date: 30.MAR.2021 11:58:04

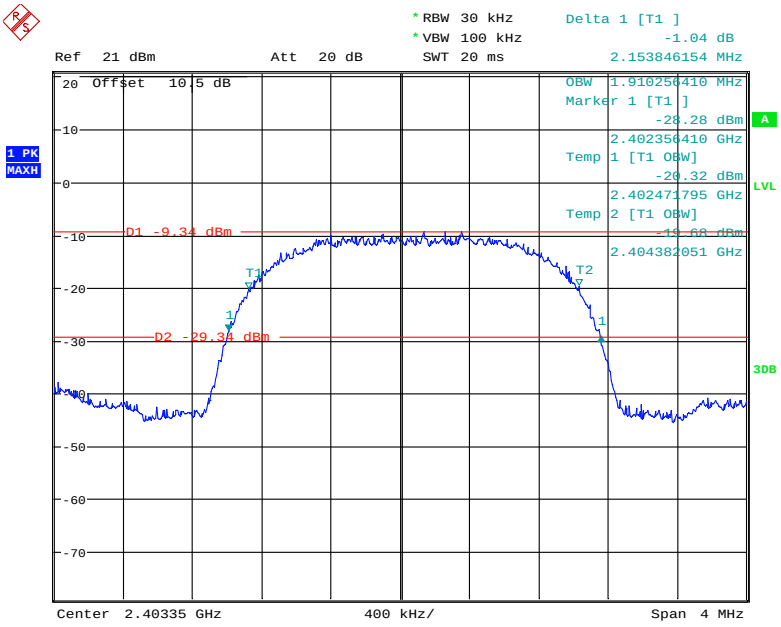
High Channel



Date: 30.MAR.2021 11:55:42

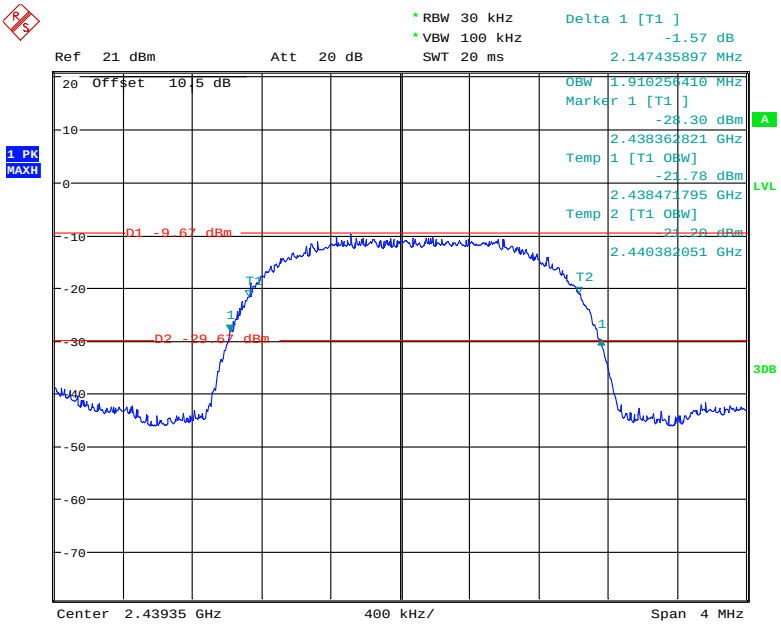
Antenna 2:

Low Channel



Date: 30.MAR.2021 11:47:32

Middle Channel



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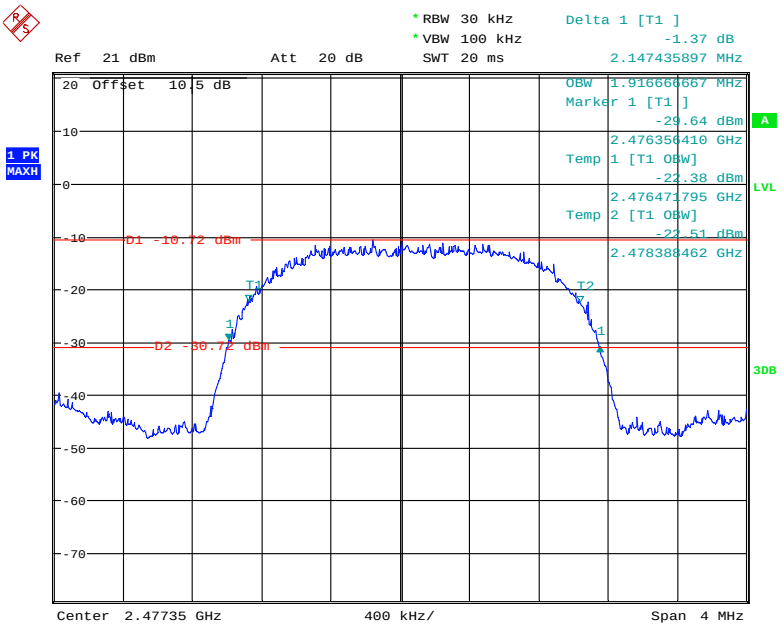
High Channel



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******* END OF REPORT *******