

# TEST REPORT

**Applicant:** Bang & Olufsen a/s  
**Address:** Bang og Olufsen Alle 1, 7600 Struer, Denmark  
**Equipment Type:** Wireless Speaker  
**Model Name:** Beosound A5  
**Brand Name:** N/A  
**FCC ID:** TTUBSA5  
**Test Standard:** 47 CFR Part 15, Subpart C  
(refer section 3.1)  
**Sample Arrival Date:** Dec. 02, 2022  
**Test Date:** Dec. 12, 2022 - Mar. 28, 2023  
**Date of Issue:** Mar. 29, 2023

**ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Yu Yingyuan

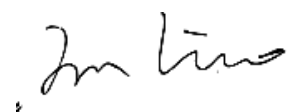


**Checked by:** Ye Hongji



**Approved by:** Liao Jianming

(Technical Director)



Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Mar. 29, 2023</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Mar. 29, 2023</u>	<u>1. Corrected the Operating Frequency in Section 2.5.</u> <u>2. Corrected the description in Section 5.6.1.</u> <u>3. Updated the Section A.5 Peak Emissions within a 50MHz Bandwidth.</u>

## TABLE OF CONTENTS

- 1 GENERAL INFORMATION..... 4
  - 1.1 Test Laboratory ..... 4
  - 1.2 Test Location ..... 4
- 2 PRODUCT INFORMATION ..... 5
  - 2.1 Applicant Information ..... 5
  - 2.2 Manufacturer Information..... 5
  - 2.3 Factory Information..... 5
  - 2.4 General Description for Equipment under Test (EUT)..... 5
  - 2.5 Technical Information ..... 6
- 3 SUMMARY OF TEST RESULTS ..... 7
  - 3.1 Test Standards ..... 7
  - 3.2 Test Verdict ..... 7
- 4 GENERAL TEST CONFIGURATIONS ..... 8
  - 4.1 Test Environments..... 8
  - 4.2 Test Equipment List..... 8
  - 4.3 Measurement Uncertainty ..... 9
  - 4.4 Description of Test Setup ..... 9
- 5 TEST ITEMS ..... 13
  - 5.1 Antenna Requirements ..... 13
  - 5.2 10 dB Bandwidth ..... 14
  - 5.3 Frequency Stability ..... 15

5.4	AC Conducted Emission.....	16
5.5	Radiated Emissions.....	17
5.6	Peak Emissions within a 50MHz Bandwidth .....	19
ANNEX A	TEST RESULT .....	20
A.1	10 dB Bandwidth .....	20
A.2	Frequency Stability .....	21
A.3	AC Conducted Emissions .....	25
A.4	Radiated Emissions.....	27
A.5	Peak Emissions within a 50MHz Bandwidth .....	33
ANNEX B	TEST SETUP PHOTOS .....	35

# 1 GENERAL INFORMATION

## 1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

## 1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	Bang & Olufsen a/s
Address	Bang og Olufsen Alle 1, 7600 Struer, Denmark

### 2.2 Manufacturer Information

Manufacturer	Bang & Olufsen a/s
Address	Bang og Olufsen Alle 1, 7600 Struer, Denmark

### 2.3 Factory Information

Factory 1	DONGGUAN TYMPHANY ACOUSTIC TECHNOLOGY CO. LTD
Address 1	Unit 9, No.135, Shijie Keji East Road, Shijie Town, Dongguan City, Guangdong Province, P.R. China
Factory 2	Tymphany Acoustic Technology (Thailand)Co., Ltd.(Head office)
Address 2	888/9 M.7 Klongkiew Sub-District Banbueng District Chonburi 202220, Thailand.

### 2.4 General Description for Equipment under Test (EUT)

EUT Name	Wireless Speaker
Model Name Under Test	Beosound A5
Series Model Name	N/A
Description of Model name differentiation	N/A
Serial Number	EST-E202212006-1
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

## 2.5 Technical Information

Network and Wireless connectivity	UWB
-----------------------------------	-----

The requirement for the following technical information of the EUT was tested in this report:

Modulation Type	BPM-BPSK
Product Type	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Operating Frequency	6489.6 MHz
Antenna Type	Integral Antenna
Antenna Gain	2.83 dBi

All channel was listed on the following table:

Channel number	Freq. (MHz)
5	6489.6

Note: The above EUT information in section 2.4 and 2.5 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

### 3 SUMMARY OF TEST RESULTS

#### 3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Miscellaneous Wireless Communications Services
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

#### 3.2 Test Verdict

No.	Description	FCC Part No.	Test Result	Verdict	Remark
1	Antenna Requirement	15.203	--	Pass	Note <sup>1</sup>
2	10 dB Bandwidth	15.250(a)&(b)	ANNEX A.1	Pass	--
3	Frequency Stability	15.250(a)	ANNEX A.2	Pass	--
4	AC Conducted Emission	15.207	ANNEX A.3	Pass	--
5	Radiated Emissions	15.250(d)&15.209	ANNEX A.4	Pass	--
6	Peak Emissions within a 50 MHz Bandwidth	15.250(d)(3)	ANNEX A.5	Pass	--

Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

## 4 GENERAL TEST CONFIGURATIONS

### 4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	42% to 60%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+20.1°C to +20.9°C
	LT (Low Temperature)	0°C
	HT (High Temperature)	+45°C
Working Voltage of the EUT	NV (Normal Voltage)	7.4 V
	LV (Low Voltage)	6.6 V
	HV (High Voltage)	8.1 V

### 4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2022.12.28	2023.12.27
Spectrum Analyzer	KEYSIGHT	N9020A	MY50330200	2022.05.19	2023.05.18
Spectrum Analyzer	KEYSIGHT	N9020A	MY52510065	2022.09.06	2023.09.05
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	2022.06.29	2023.06.28
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01631	2022.02.03	2025.02.02
Test Antenna-Horn	A-INFO	LB- 180400KF	J211060273	2021.07.02	2024.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2021.09.04	2024.09.03
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2022.09.09	2023.09.08
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2021.08.15	2024.08.14
Amplifier (30-1GHz)	COM-MV	ZT30- 1000M	B2017119081	2020.09.09	2023.09.08
Amplifier (1-12GHz)	COM-MV	LSCX_LNA 1-12G-01	180602	2020.09.08	2023.09.07
Amplifier (7-18GHz)	COM-MV	XKu_LNA7- 18G-01	180601	2020.09.08	2023.09.07
Amplifier (18-40GHz)	COM-MV	KA_LNA18- 40G-01	18050001	2020.09.08	2023.09.07
EMI Receiver	KEYSIGHT	N9038A	MY55330120	2022.09.09	2023.09.08
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2022.04.12	2025.04.11
Anechoic Chamber	YiHeng	9m*6m*6m	N/A	2021.08.19	2024.08.18
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2022.09.09	2023.09.08



Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
LISN	SCHWARZBECK	NSLK 8127	8127-687	2022.06.01	2023.05.31
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	N/A	2022.02.19	2025.02.18
multimeter	CEM	DT-9915	12104971	2022.12.28	2023.12.27
DC power supply	ITECH	IT6863A	80001402075 7810006	2022.09.25	2023.09.24
Temperature Chamber	AHK	NTH64-40A	1310	2022.12.28	2023.12.27

### 4.3 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.82°C
Humidity	4.1%

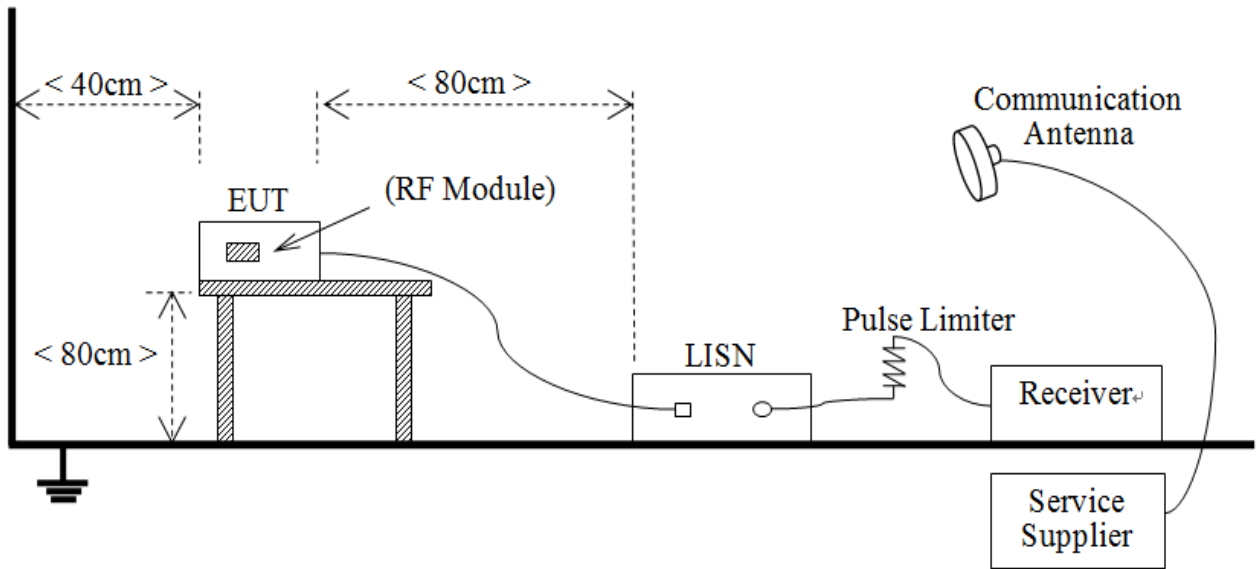
### 4.4 Description of Test Setup

#### 4.4.1 For Antenna Port Test



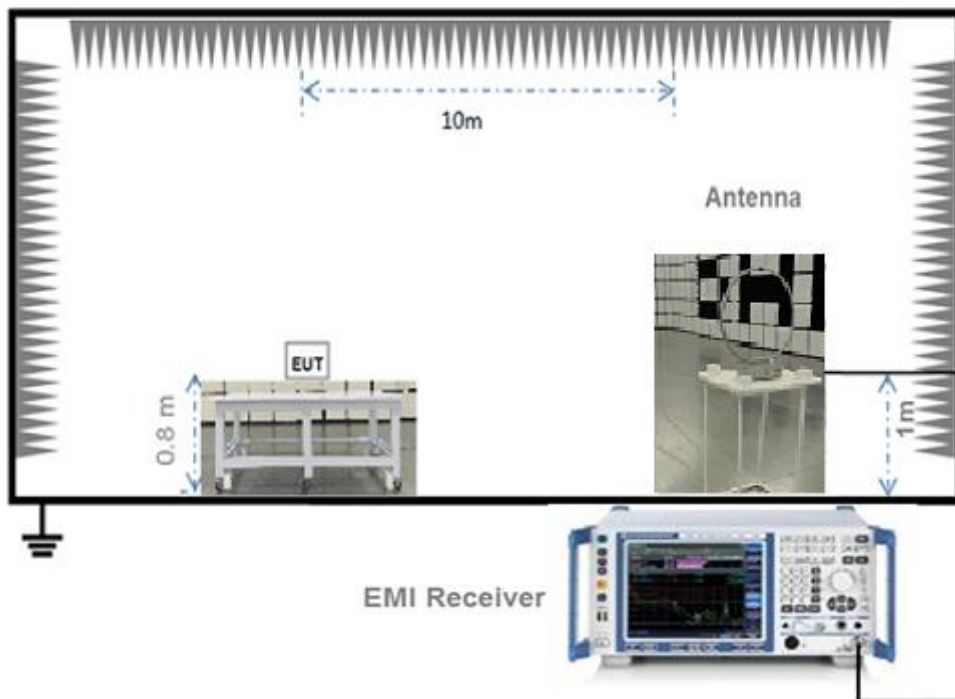
(Diagram 1)

4.4.2 For AC Power Supply Port Test



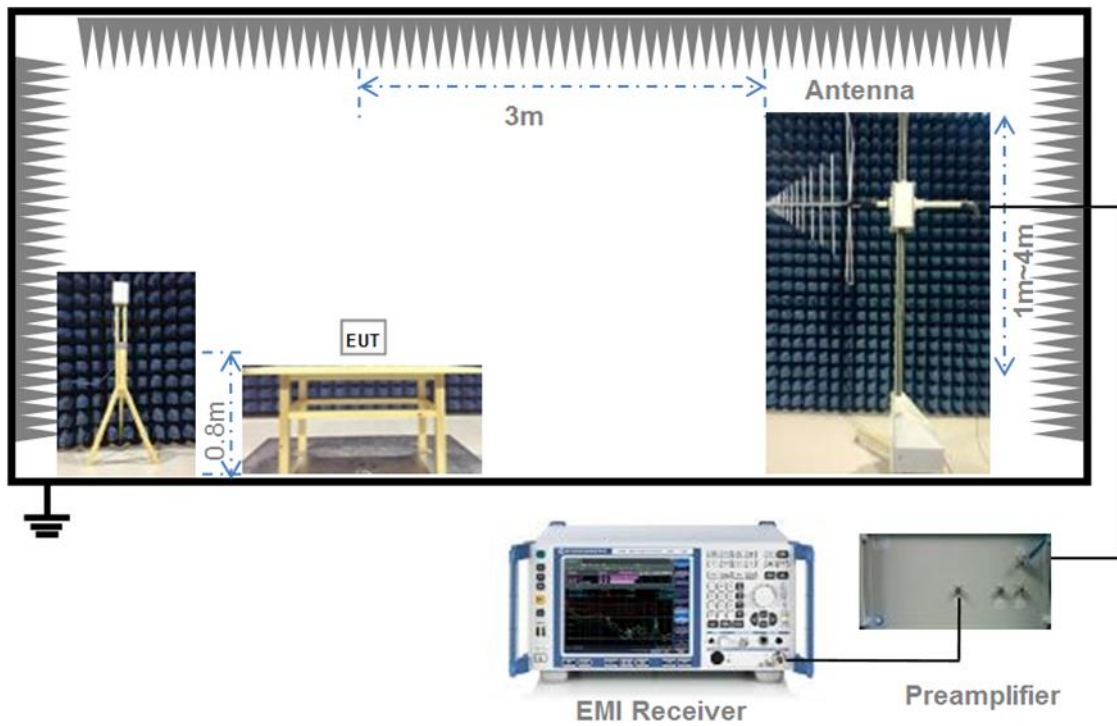
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)

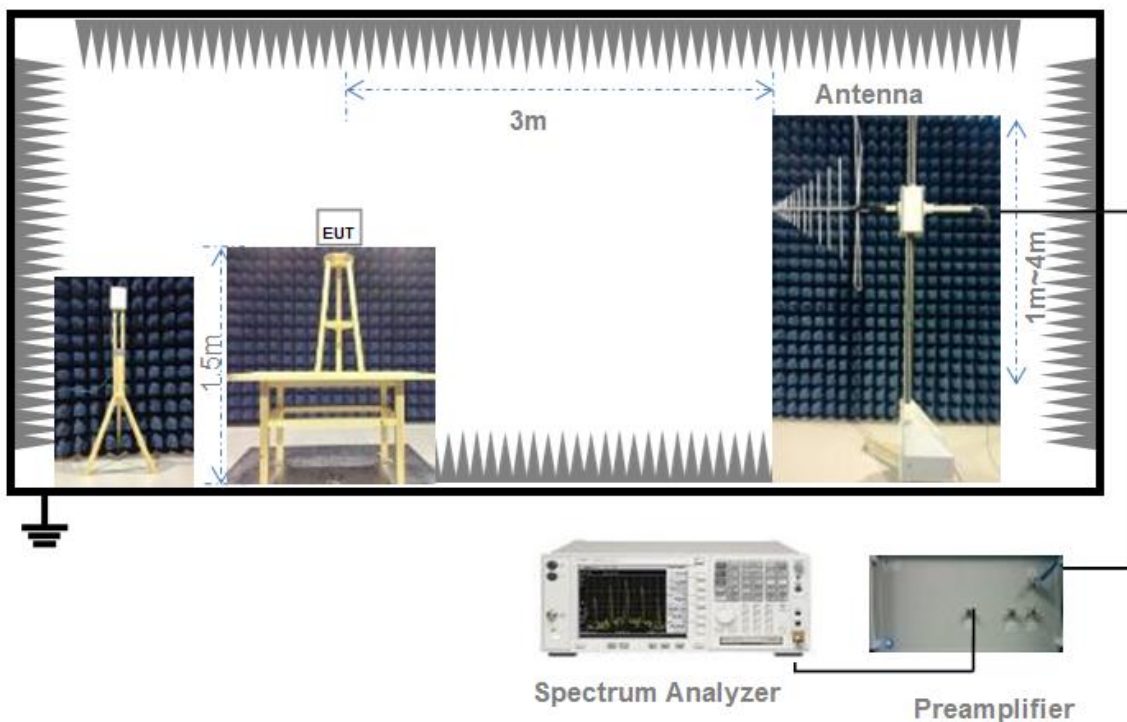


(Diagram 3)

#### 4.4.4 For Radiated Test (30 MHz-1 GHz)

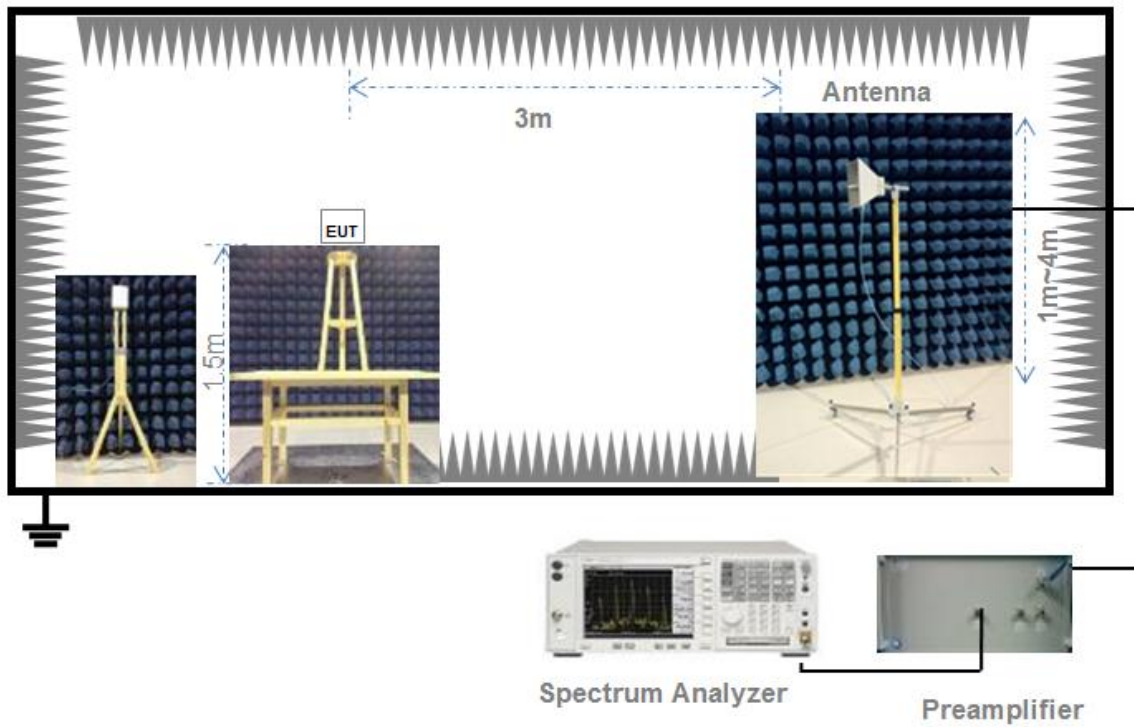


(Diagram 4)



(Diagram 5)

#### 4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 6)

## 5 TEST ITEMS

### 5.1 Antenna Requirements

#### 5.1.1 Relevant Standards

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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

#### 5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

## 5.2 10 dB Bandwidth

### 5.2.1 Limit

FCC §15.250(a);

The -10 dB bandwidth of a device operating under the provisions of this section must be contained within the 5925-7250 MHz band under all conditions of operation including the effects from stepped frequency, frequency hopping or other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

FCC §15.250(b);

The -10 dB bandwidth of the fundamental emission shall be at least 50 MHz. For transmitters that employ frequency hopping, stepped frequency or similar modulation types, measurement of the -10 dB minimum bandwidth specified in this paragraph shall be made with the frequency hop or step function disabled and with the transmitter operating continuously at a fundamental frequency following the provisions of §15.31(m).

### 5.2.2 Test Setups

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.2.3 Test Procedure

Use the following spectrum analyzer settings:

RBW = 1 MHz

VBW  $\geq$  3 MHz

Sweep = auto

Detector function = peak

Trace = max hold

### 5.2.4 Test Result

Please refer to ANNEX A.1.

## 5.3 Frequency Stability

### 5.3.1 Limit

FCC §15.250(a);

The -10 dB bandwidth of a device operating under the provisions of this section must be contained within the 5925-7250 MHz band under all conditions of operation including the effects from stepped frequency, frequency hopping or other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

### 5.3.2 Test Setups

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.3.3 Test Procedure

Use the following spectrum analyzer settings:

RBW = 1 MHz

VBW  $\geq$  3 MHz

Sweep = auto

Detector function = peak

Trace = max hold

### 5.3.4 Test Result

Please refer to ANNEX A.2.

## 5.4 AC Conducted Emission

### 5.4.1 Limit

FCC §15.207;

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB $\mu$ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

### 5.4.2 Test Setup

See section 4.4.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

### 5.4.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

### 5.4.4 Test Result

Please refer to ANNEX A.3.



## 5.5 Radiated Emissions

### 5.5.1 Limit

#### FCC §15.250(d)(1)

The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following RMS average limits based on measurements using a 1 MHz resolution bandwidth:

Frequency in MHz	EIPR in dBm
960–1610	-75.3
1610–1990	-63.3
1990–3100	-61.3
3100–5925	-51.3
5925-7250	-41.3
7250-10600	-51.3
Above 10600	-61.3

#### FCC §15.250(d)(2)

In addition to the radiated emission limits specified in the table in paragraph (d)(1) of this section, transmitters operating under the provisions of this section shall not exceed the following RMS average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency in MHz	EIPR in dBm
1164-1240	-85.3
1559-1610	-85.3

#### FCC §15.250(d)(4)&FCC §15.209;

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency(MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Measurement Distance(m)
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

### 5.5.2 Test Setups

See section 4.4.3 to 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.5.3 Test Procedure

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The height of the antenna was varied from 1 to 4 meters. For each suspected emissions, the antenna tower was scan (from 1m to 4m) and the the turntables

was turned (from 0° to 360°) to find the maximum reading.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

9 kHz to 960 MHz:

Span = wide enough to fully capture the emission being measured

RBW = 100 kHz

VBW = 300 kHz

Sweep time = auto

Detector function = peak(Margin which is less than 3 dB will be repeated one by one using the quasi-peak)

Trace = max hold

960 MHz to 40 GHz:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz

VBW = 3 MHz

Sweep time = 1s

Detector function = RMS

Trace = max hold

#### 5.5.4 Test Result

Please refer to ANNEX A.4.

## 5.6 Peak Emissions within a 50MHz Bandwidth

### 5.6.1 Limit

FCC §15.250(d)(3);

There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs and this 50 MHz bandwidth must be contained within the 5925-7250 MHz band. The peak EIRP limit is  $20 \log (RBW/50)$  dBm where RBW is the resolution bandwidth in megahertz that is employed by the measurement instrument. RBW shall not be lower than 1 MHz or greater than 50 MHz. The video bandwidth of the measurement instrument shall not be less than RBW. For example, the peak power limit could be expressed in a 8 MHz bandwidth as follows in Equation :

$$EIRP_{8\text{ MHz}} = 20\log (8/50) = -15.9 \text{ dBm}$$

### 5.6.2 Test Setups

See section 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.6.3 Test Procedure

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The height of the antenna was varied from 1 to 4 meters. For each suspected emissions, the antenna tower was scan (from 1m to 4m) and the the turntables was turned (from 0° to 360° ) to find the maximum reading.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 8 MHz

VBW = 20 MHz

Sweep = auto

Detector function = peak

Trace = max hold

### 5.6.4 Test Result

Please refer to ANNEX A.5.

# ANNEX A TEST RESULT

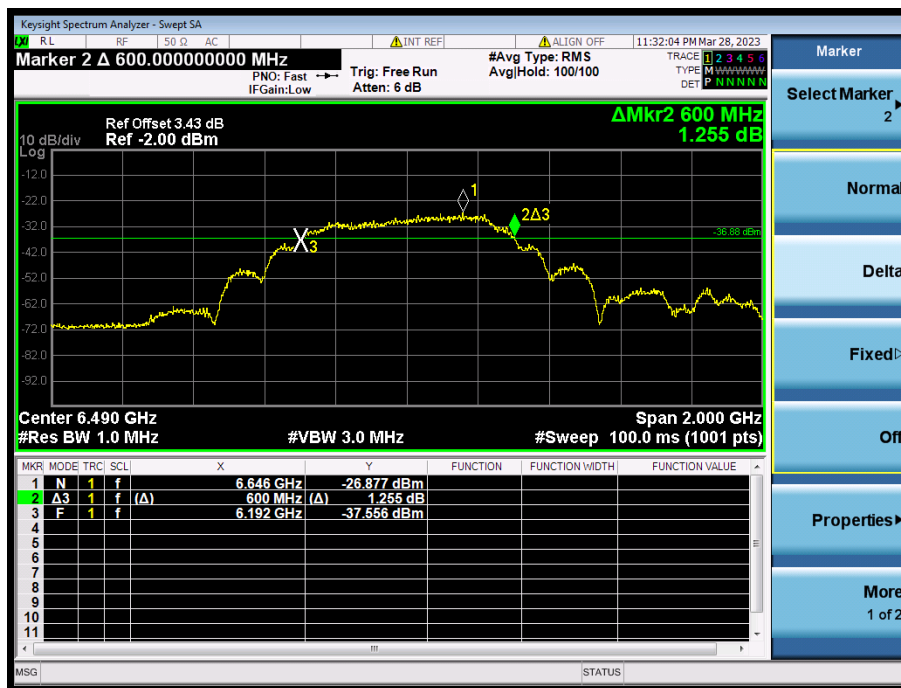
## A.1 10 dB Bandwidth

### Test Data

F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	10 dB Bandwidth (MHz)	Limit	Verdict
6192	6792	600	10 dB Bandwidth > 50 MHz 10 dB bandwidth contained between 5925 to 7250 MHz	Pass

### Test plots

#### 10 dB Bandwidth



## A.2 Frequency Stability

### Test Data

#### Temperature Variation

Temperature	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	Limit	Verdict
LT	6186	6794	10 dB bandwidth contained between 5925 to 7250 MHz	Pass
NT	6192	6792		Pass
HT	6194	6790		Pass

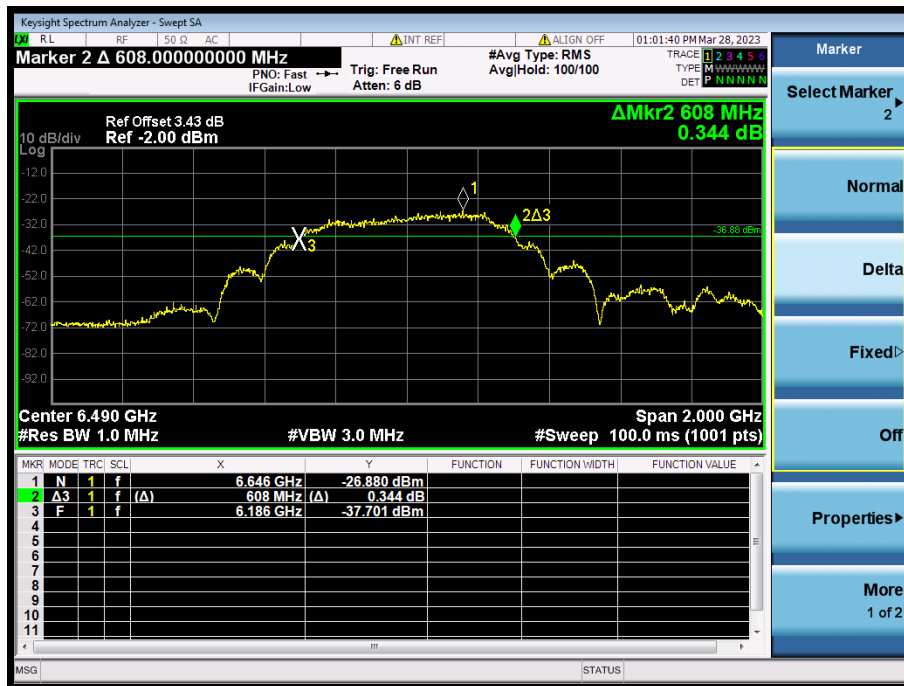
#### Voltage Variation

Voltage	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	Limit	Verdict
LV	6194	6792	10 dB bandwidth contained between 5925 to 7250 MHz	Pass
NV	6194	6792		Pass
HV	6194	6792		Pass

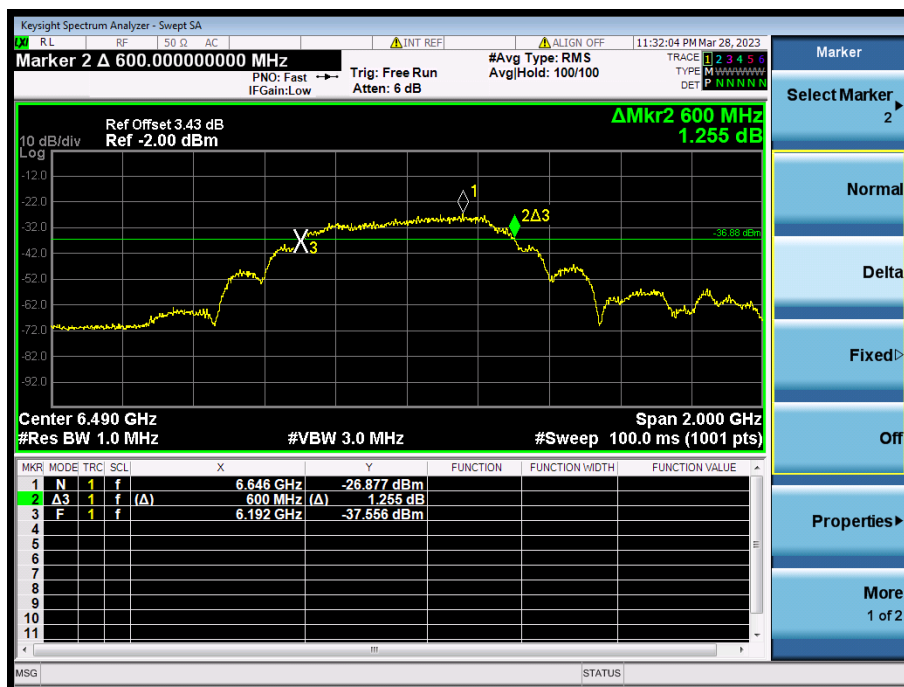
Test plots

Temperature Variation

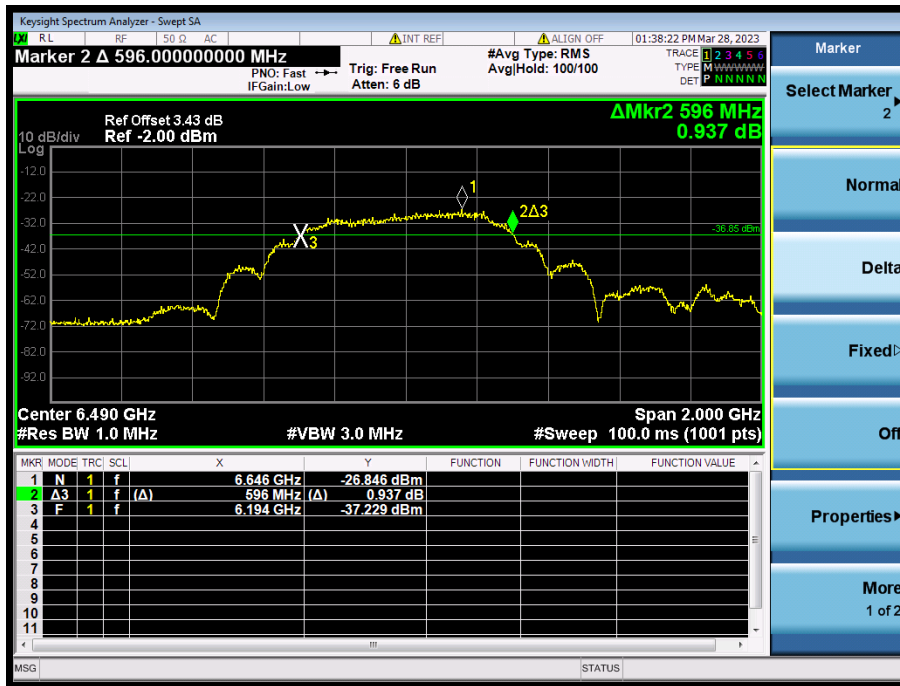
Temperature (LT)



Temperature (NT)

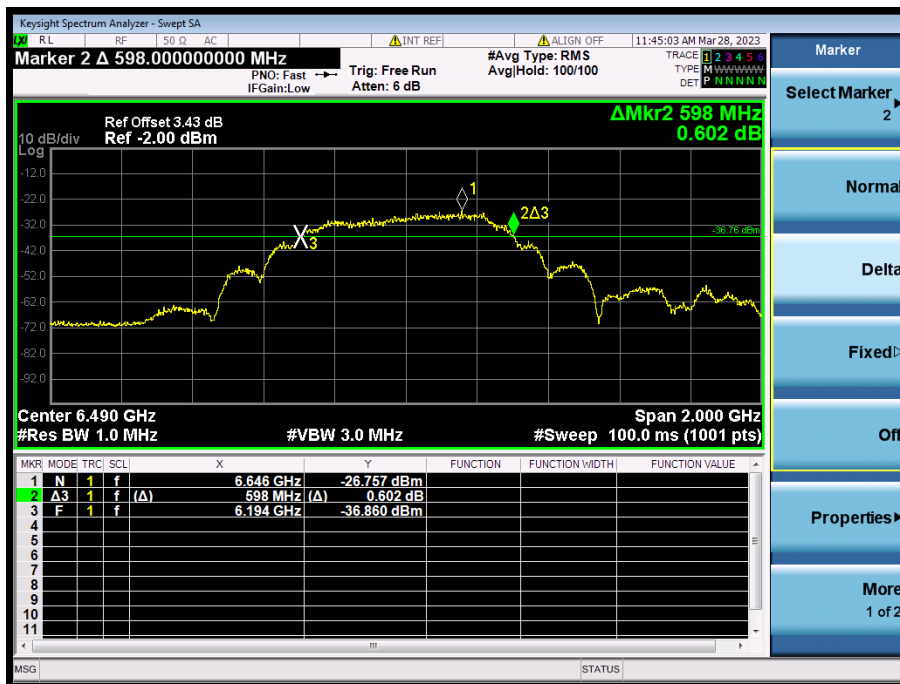


### Temperature (HT)

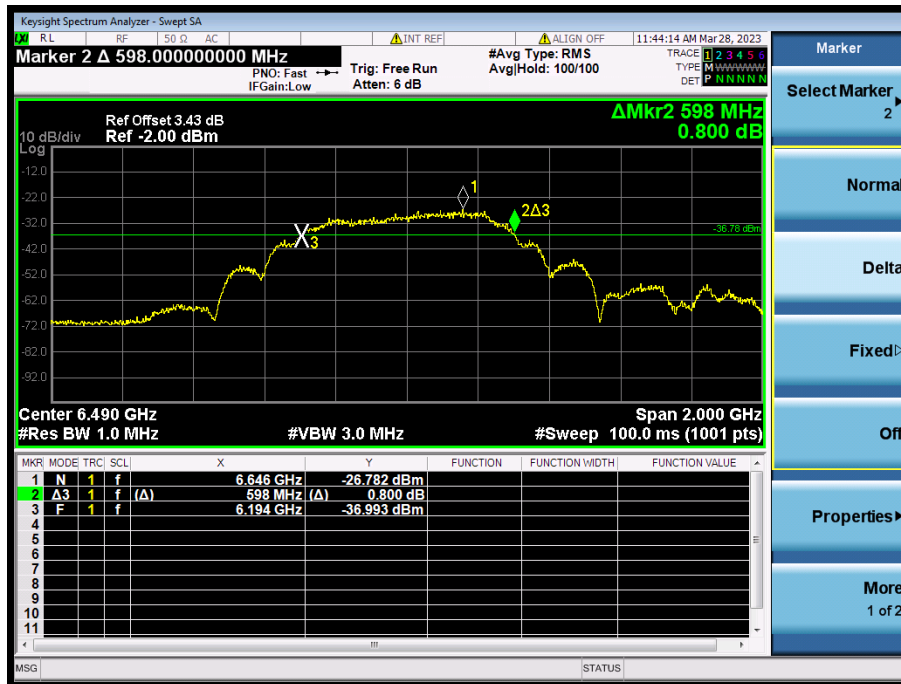


### Voltage Variation

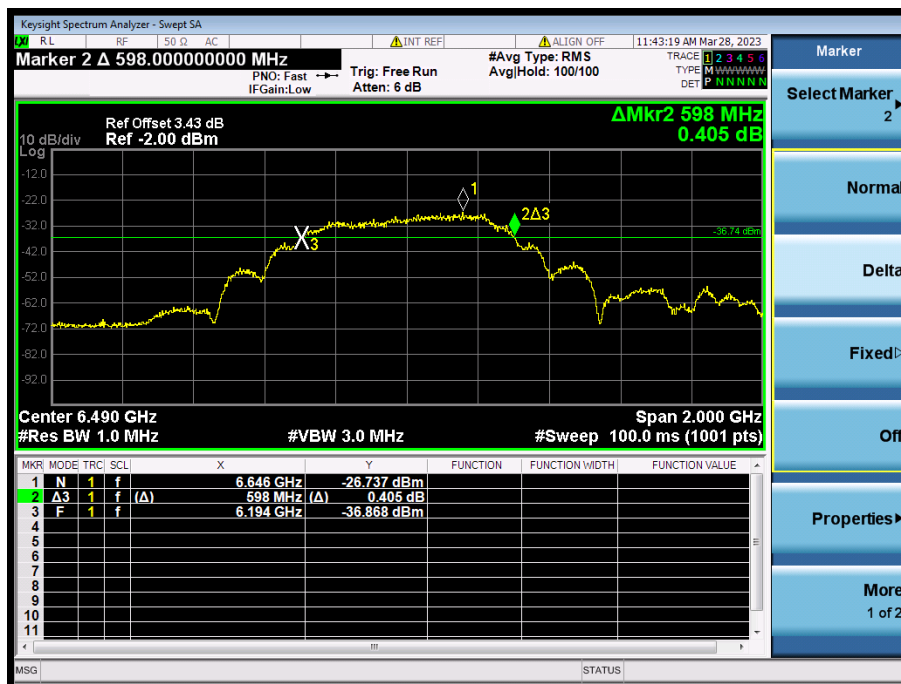
#### Voltage (LV)



Voltage (NV)



Voltage (HV)





### A.3 AC Conducted Emissions

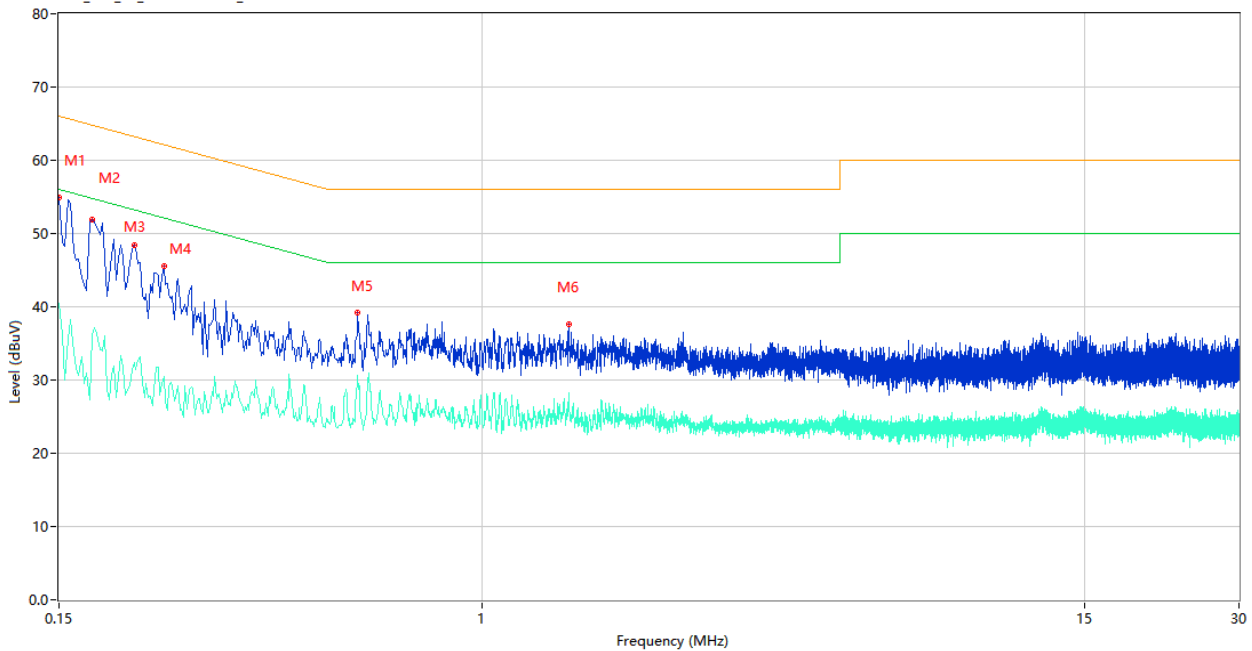
Note <sup>1</sup>: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note <sup>2</sup>: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz ) shown here.

#### Test Data and Plots

##### PHASE L

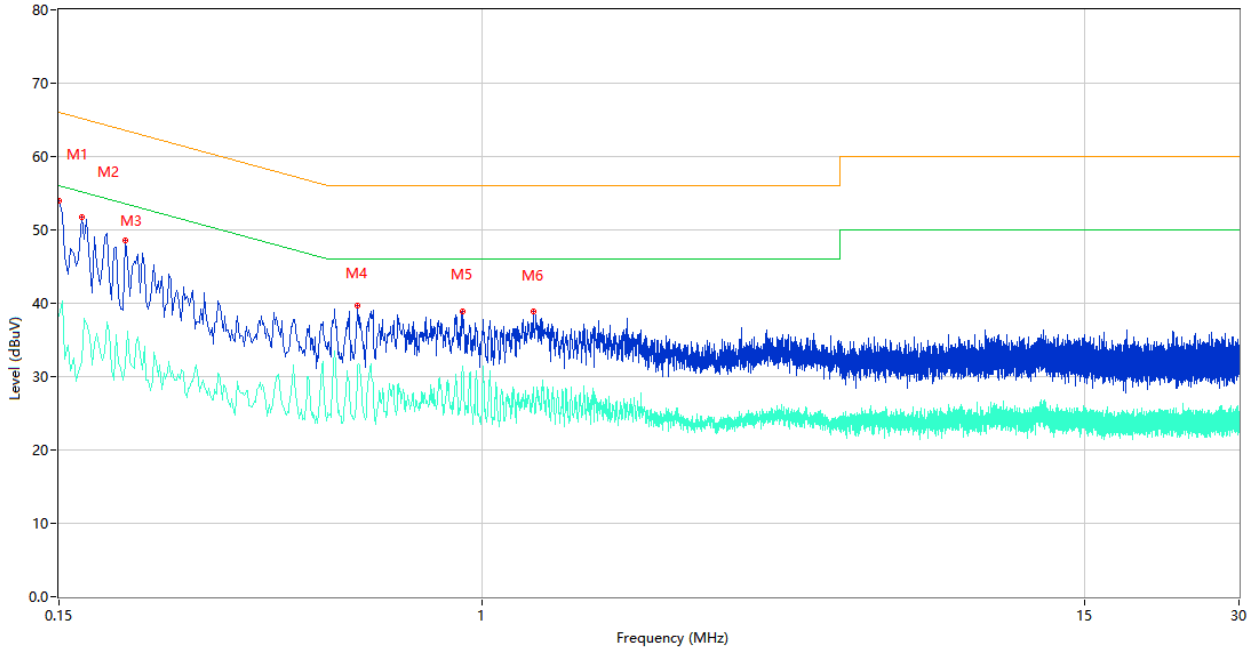
CE Test case\_FCC\_CE\_FCC PART 15B\_Class B



No.	Frequency (MHz)	Results (dBUV)	Factor (dB)	Limit (dBUV)	Margin (dB)	Detector	Line	Verdict
1	0.150	54.85	10.09	66.00	11.15	Peak	L	Pass
1**	0.150	40.47	10.09	56.00	15.53	AV	L	Pass
2	0.174	51.97	10.07	64.77	12.80	Peak	L	Pass
2**	0.174	36.20	10.07	54.77	18.57	AV	L	Pass
3	0.210	48.38	10.05	63.21	14.83	Peak	L	Pass
3**	0.210	32.32	10.05	53.21	20.89	AV	L	Pass
4	0.240	45.63	10.02	62.10	16.47	Peak	L	Pass
4**	0.240	30.44	10.02	52.10	21.66	AV	L	Pass
5	0.574	39.24	10.27	56.00	16.76	Peak	L	Pass
5**	0.574	30.67	10.27	46.00	15.33	AV	L	Pass
6	1.478	37.67	10.28	56.00	18.33	Peak	L	Pass
6**	1.478	28.23	10.28	46.00	17.77	AV	L	Pass

PHASE N

CE Test case\_FCC\_CE\_FCC PART 15B\_Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.150	53.92	10.09	66.00	12.08	Peak	N	Pass
1**	0.150	38.29	10.09	56.00	17.71	AV	N	Pass
2	0.166	51.74	10.08	65.16	13.42	Peak	N	Pass
2**	0.166	32.00	10.08	55.16	23.16	AV	N	Pass
3	0.202	48.63	10.05	63.53	14.90	Peak	N	Pass
3**	0.202	31.54	10.05	53.53	21.99	AV	N	Pass
4	0.572	39.71	10.27	56.00	16.29	Peak	N	Pass
4**	0.572	30.16	10.27	46.00	15.84	AV	N	Pass
5	0.920	38.92	10.25	56.00	17.08	Peak	N	Pass
5**	0.920	31.39	10.25	46.00	14.61	AV	N	Pass
6	1.260	38.86	10.56	56.00	17.14	Peak	N	Pass
6**	1.260	28.51	10.56	46.00	17.49	AV	N	Pass

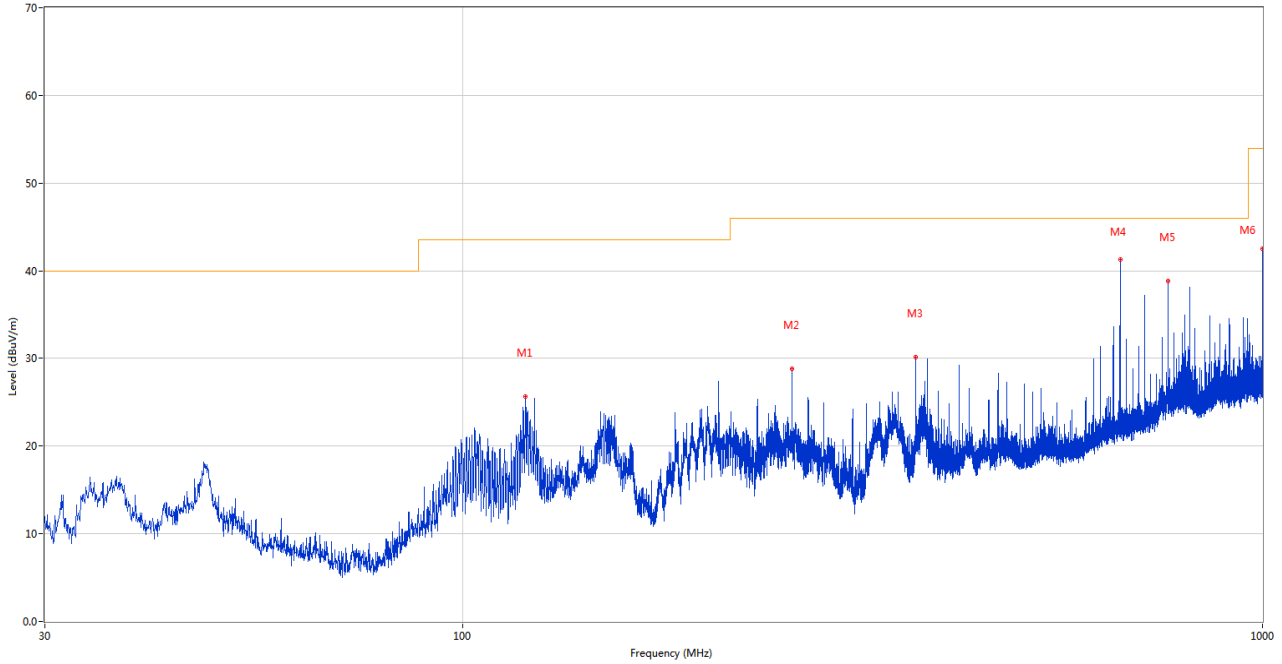
## A.4 Radiated Emissions

Note: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.209 was not reported.

### Test Data and Plots

#### 30 MHz to 1 GHz, ANT H

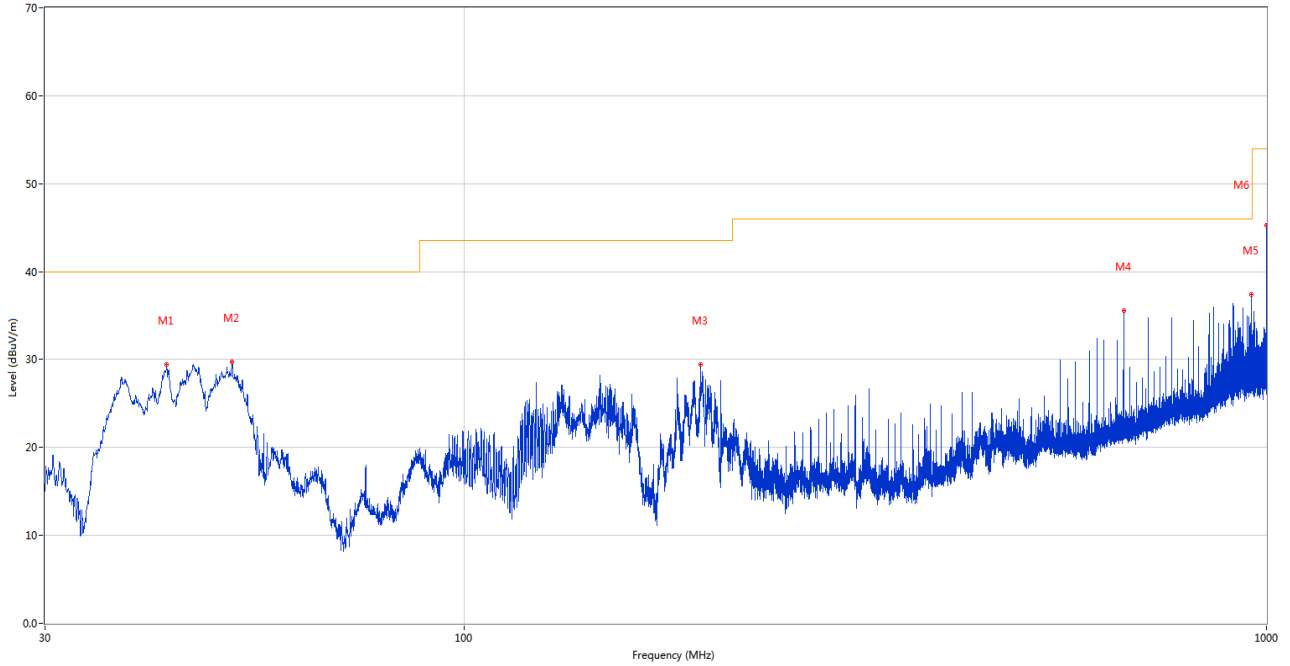
RE Test case\_FCC Part 15B\_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	119.773	25.61	-27.22	43.5	17.89	Peak	166.00	200	Horizontal	Pass
2	258.047	28.78	-26.08	46.0	17.22	Peak	216.00	100	Horizontal	Pass
3	368.627	30.17	-22.31	46.0	15.83	Peak	181.00	200	Horizontal	Pass
4	663.555	41.24	-14.86	46.0	4.76	Peak	0.00	100	Horizontal	Pass
5	761.865	38.83	-13.60	46.0	7.17	Peak	174.00	100	Horizontal	Pass
6	1000.000	42.50	-10.59	54.0	11.50	Peak	228.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case\_FCC Part 15B\_FCC Part 15B Class B 30MHz-1GHz

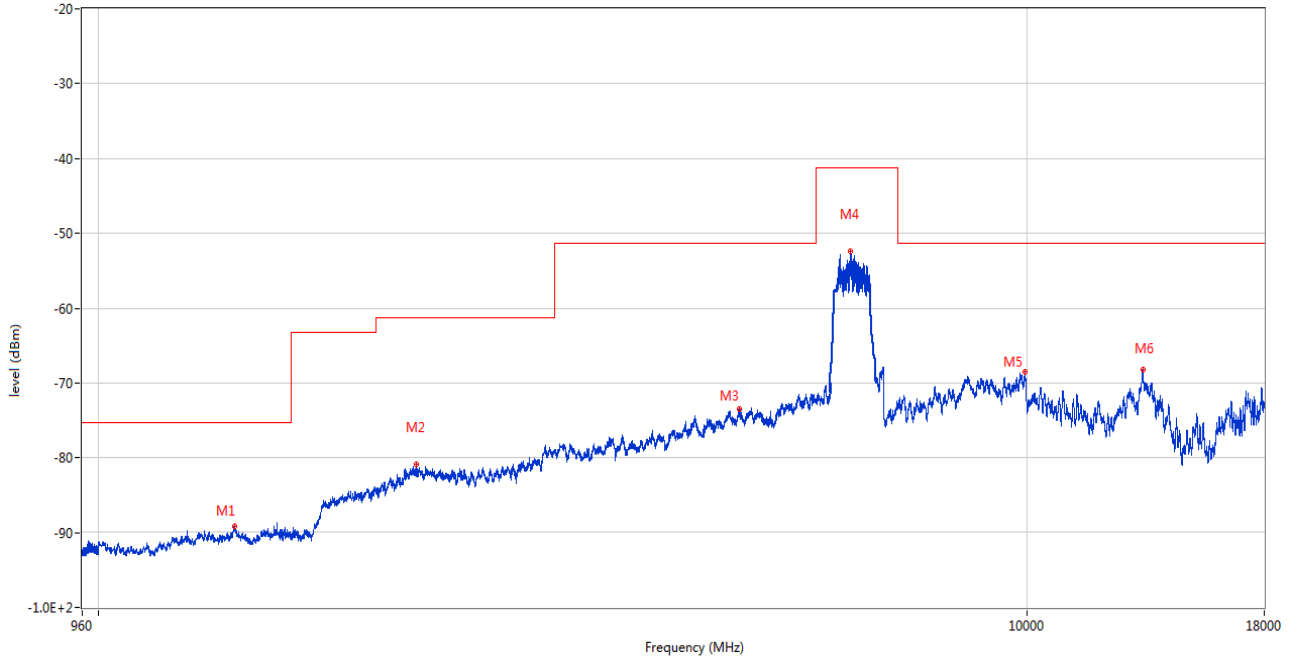


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.562	29.39	-26.48	40.0	10.61	Peak	218.00	100	Vertical	Pass
2	51.340	29.70	-26.87	40.0	10.30	Peak	236.00	100	Vertical	Pass
3	197.131	29.47	-28.74	43.5	14.03	Peak	11.00	100	Vertical	Pass
4	663.555	35.54	-14.86	46.0	10.46	Peak	273.00	100	Vertical	Pass
5	958.387	37.43	-10.82	46.0	8.57	Peak	338.00	100	Vertical	Pass
6	1000.000	45.28	-10.59	54.0	8.72	Peak	0.00	100	Vertical	Pass

Note: The spurious above 18G is noise only, do not show on the report.

960 MHz to 18 GHz, ANT H

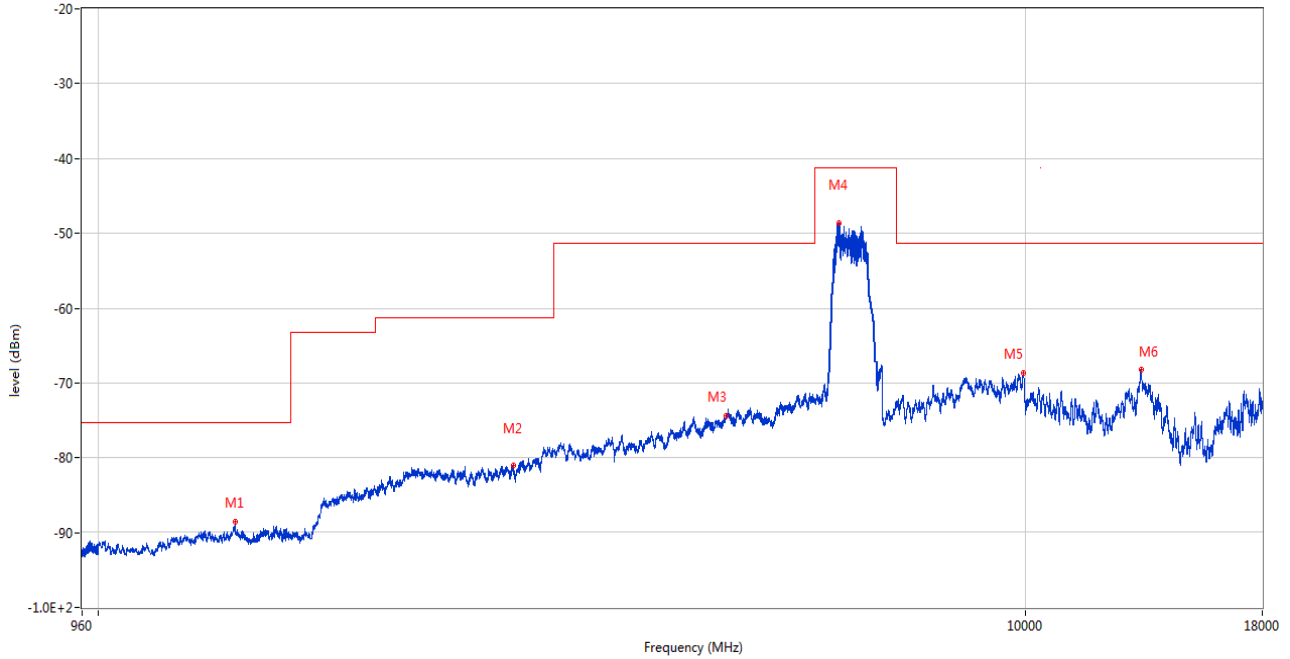
RE Test case\_FCC Part 15F\_FCC PART 15.517(c)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1402.000	-89.17	-17.82	-75.3	13.87	154.00	Horizontal	Horizontal	Pass
2201.000	-80.93	-10.03	-61.3	19.63	170.00	Horizontal	Horizontal	Pass
4892.000	-73.49	-0.02	-51.3	22.19	284.00	Horizontal	Horizontal	Pass
6450.000	-52.45	7.01	-41.3	11.15	156.00	Horizontal	Horizontal	Pass
9944.001	-68.59	6.78	-51.3	17.29	27.00	Horizontal	Horizontal	Pass
13315.687	-68.31	5.66	-51.3	17.01	121.00	Horizontal	Horizontal	Pass

960 MHz to 18 GHz, ANT V

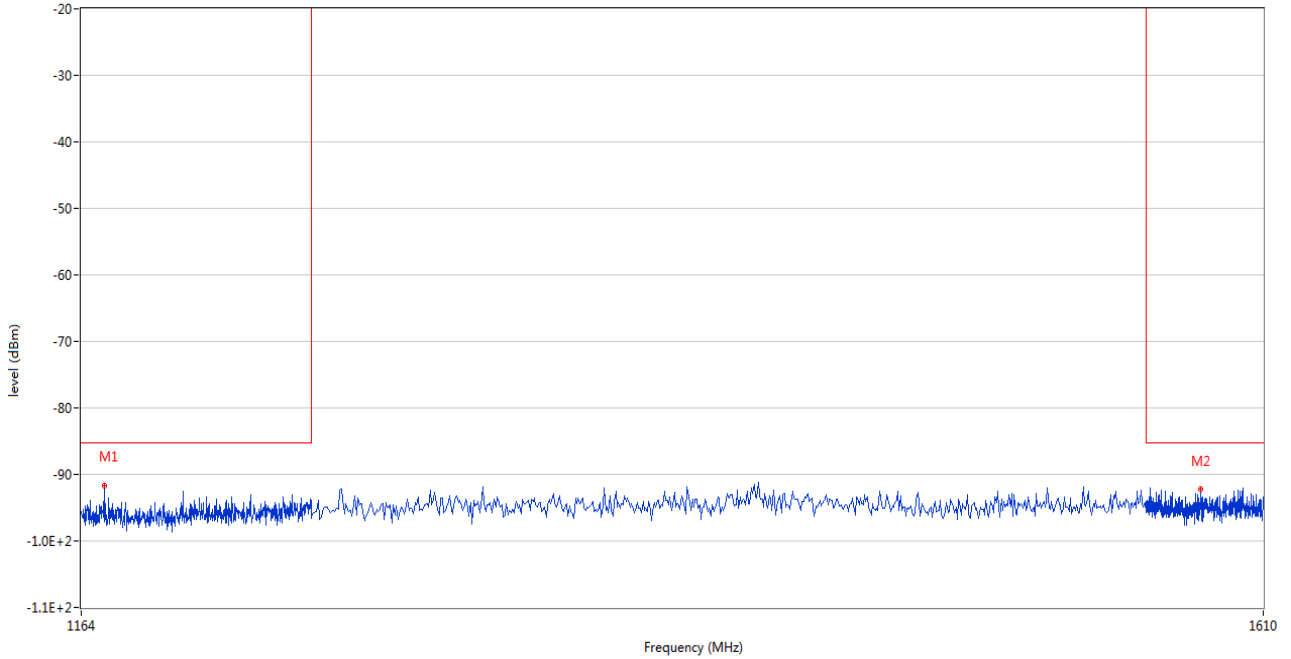
RE Test case\_FCC Part 15F\_FCC PART 15.517(c)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1404.000	-88.56	-18.01	-75.3	13.26	6.00	Vertical	Horizontal	Pass
2800.500	-81.05	-8.44	-61.3	19.75	199.00	Vertical	Horizontal	Pass
4752.000	-74.38	0.13	-51.3	23.08	339.00	Vertical	Horizontal	Pass
6292.000	-48.57	5.12	-41.3	7.27	274.00	Vertical	Horizontal	Pass
9939.687	-68.72	6.67	-51.3	17.42	334.00	Vertical	Horizontal	Pass
13317.000	-68.23	5.68	-51.3	16.93	10.00	Vertical	Horizontal	Pass

1.164 GHz to 1.61 GHz, ANT H

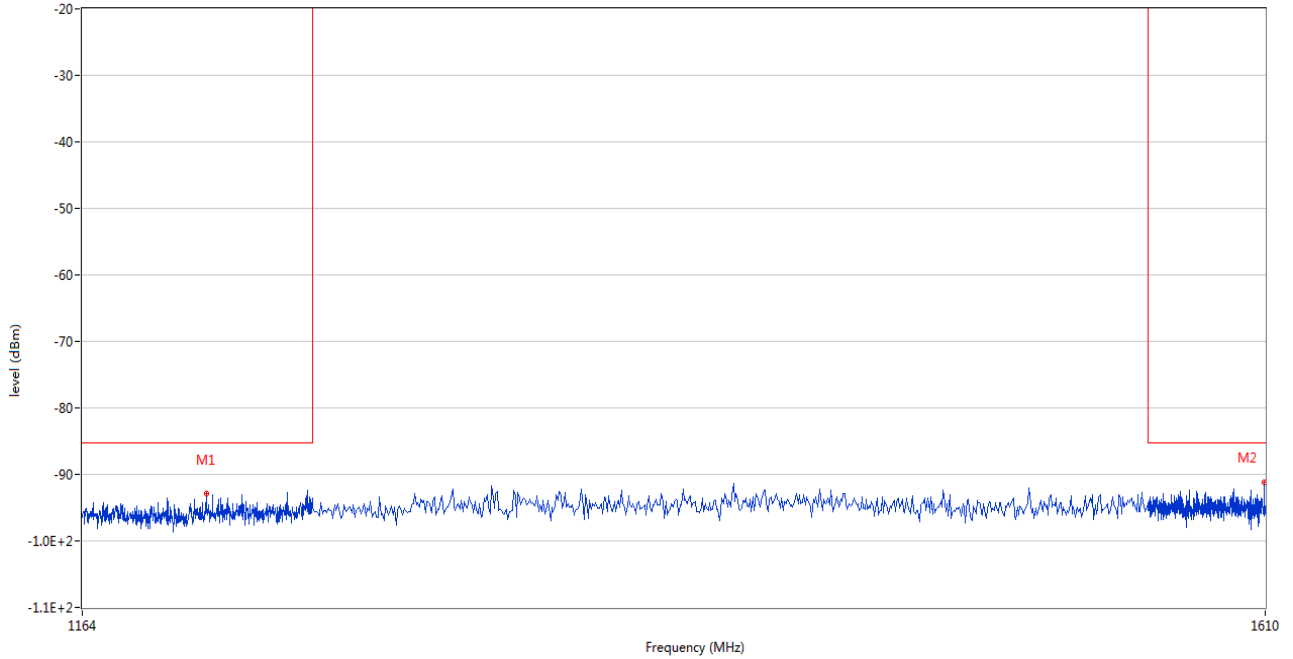
RE Test case\_FCC Part 15F\_FCC PART 15.517(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1171.347	-91.70	-6.41	-85.3	6.40	99.00	Horizontal	Horizontal	Pass
1582.715	-92.12	-5.82	-85.3	6.82	84.00	Horizontal	Horizontal	Pass

1.164 GHz to 1.61 GHz, ANT V

RE Test case\_FCC Part 15F\_FCC PART 15.517(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1204.280	-92.91	-6.27	-85.3	7.61	88.00	Vertical	Horizontal	Pass
1609.490	-91.11	-5.91	-85.3	5.81	122.00	Vertical	Horizontal	Pass

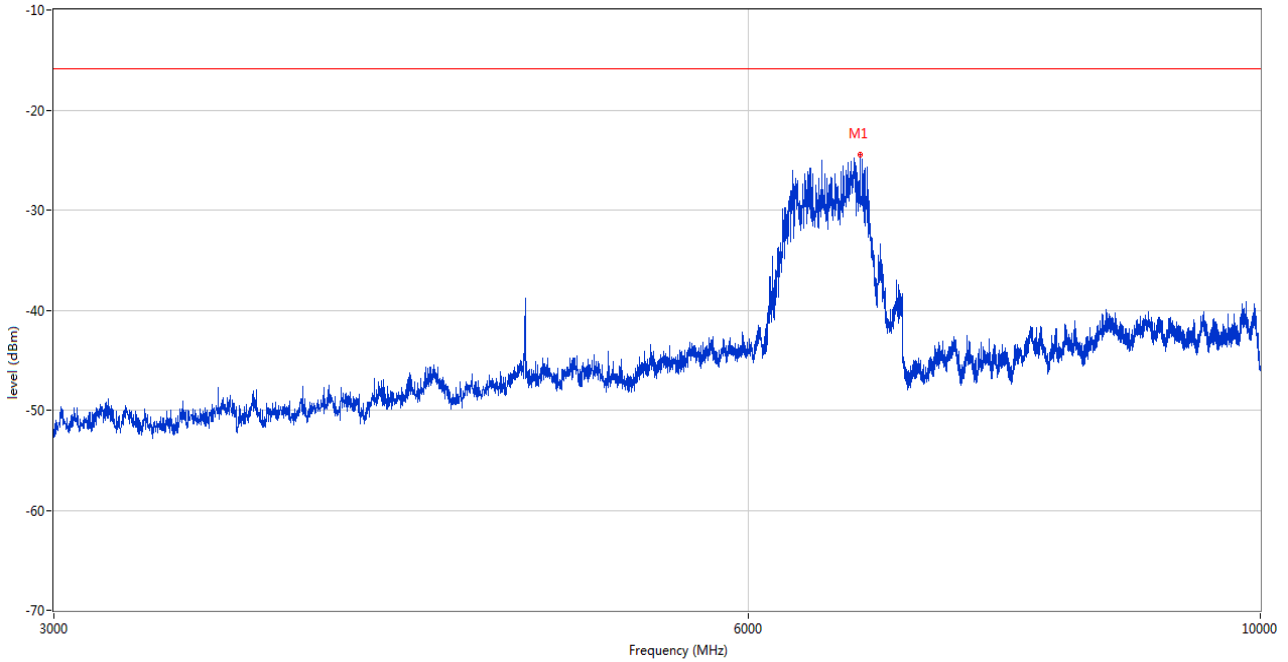


## A.5 Peak Emissions within a 50MHz Bandwidth

### Test Data and Plot

**ANT H**

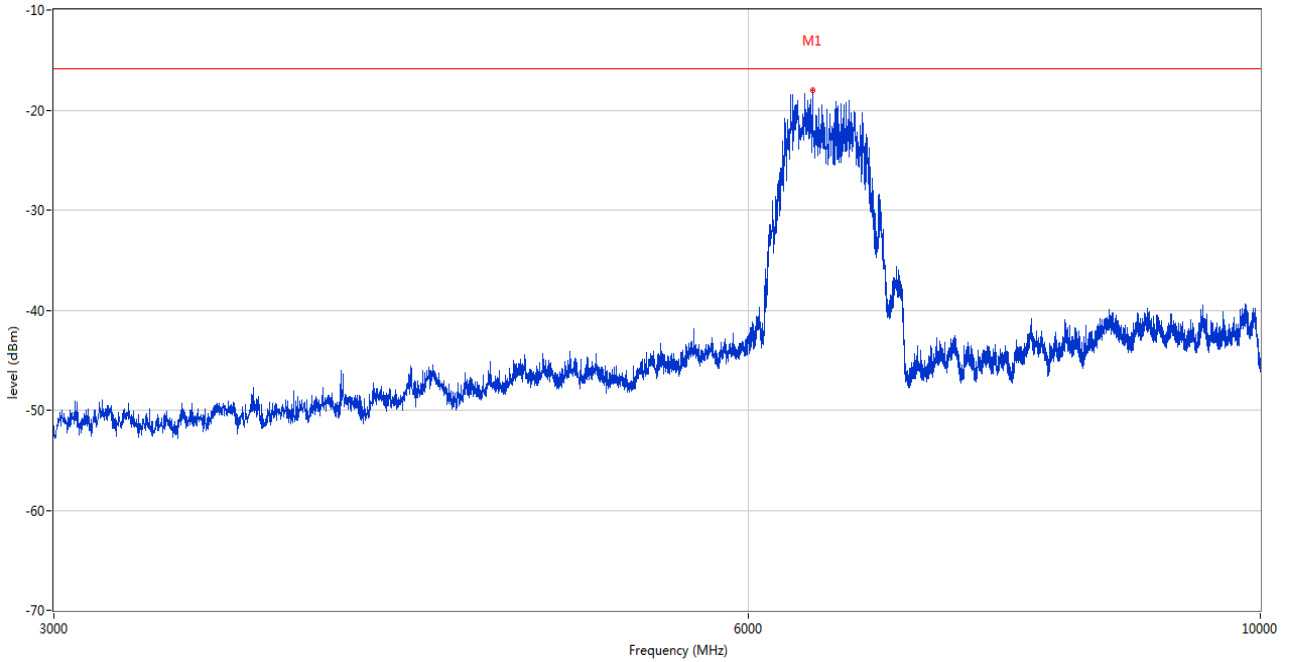
RE Test case\_FCC Part 15F\_FCC PART 15.517(c) - PSD



Frequency (MHz)	Result (dBm/8 MHz)	Factor (dB)	Limit (dBm/8 MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
6707.000	-24.42	4.96	-15.9	8.52	112.00	Horizontal	Horizontal	Pass

ANT V

RE Test case\_FCC Part 15F\_FCC PART 15.517(c) - PSD



Frequency (MHz)	Result (dBm/8 MHz)	Factor (dB)	Limit (dBm/8 MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
6396.000	-18.05	4.41	-15.9	2.15	193.00	Vertical	Horizontal	Pass

## **ANNEX B TEST SETUP PHOTOS**

Please refer the document “BL-SZ2331260-AR.PDF”.

## Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--