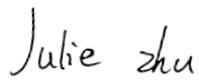


# TEST REPORT

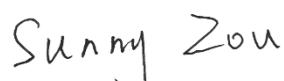
**Applicant:** Xi'an Linksci Technology Co., Ltd.  
**Address:** Main building, Room A301, ZTE Industrial Park,  
No.10, Tangyan South Road, Hi-tech Development  
Zone, Xi'an, Shaanxi, Province, China  
**Equipment Type:** ANTENNA-UWB  
**Model Name:** LD220\_UKA  
**Brand Name:** Polestar  
**FCC ID:** 2BKRNL220UKA  
**Test Standard:** 47 CFR Part 15 Subpart F  
(refer to section 3.1)  
**Sample Arrival Date:** Aug. 23, 2024  
**Test Date:** Sep. 03, 2024 - Sep. 11, 2024  
**Date of Issue:** Sep. 18, 2024

**ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Julie Zhu**Checked by:** Ye Hongji**Approved by:** Sunny Zou

(Technical Director)



**Revision History**

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Sep. 18, 2024</u>	<u>Initial Issue</u>

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## 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	Xi'an Linksci Technology Co., Ltd.
Address	Main building, Room A301, ZTE Industrial Park, No.10, Tangyan South Road, Hi-tech Development Zone, Xi'an, Shaanxi, Province, China

### 2.2 Manufacturer Information

Manufacturer	Xi'an Linksci Technology Co., Ltd.
Address	Main building, Room A301, ZTE Industrial Park, No.10, Tangyan South Road, Hi-tech Development Zone, Xi'an, Shaanxi, Province, China

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

EUT Name	ANTENNA-UWB
Model Name Under Test	LD220_UKA
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	UkkD_H003
Software Version	80036201/AA
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

## 2.4 Technical Information

Network and Wireless connectivity	Bluetooth BLE, UWB
-----------------------------------	--------------------

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

Modulation Type	UWB
Product Type	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Operating Frequency	6.0GHz-8.5GHz
Antenna Type	Ceramic Antenna
Antenna Gain	3.8 dBi

All channel was listed on the following table:

Channel number	Freq. (MHz)
5	6489.6
9	7987.2

Note: The above EUT information in section 2.3 and 2.4 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 F	Ultra - Wideband Operation
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>
3	Conducted Emission	15.207	ANNEX A.1	N/A	Note <sup>3</sup>
2	Operational Limitations	15.519(a)	--	Pass	Note <sup>2</sup>
4	UWB Bandwidth	15.519(b)	ANNEX A.3	Pass	--
5	Radiated Emissions	15.519(c)/15.209	ANNEX A.3	Pass	--
6	Radiated Emissions in GPS Bands	15.519(d)	ANNEX A.4	Pass	--
7	Peak Emissions within a 50 MHz Bandwidth	15.519(e)	ANNEX A.5	Pass	--
8	Transmission time	15.519(a)	ANNEX A.6	Pass	

Note 1: Please refer to section 5.1

Note 2: Please refer to section 5.3

Note 3: The EUT is an in-vehicle device, so the Conducted Emission test is not applicable.

## 4 GENERAL TEST CONFIGURATIONS

### 4.1 Test Environments

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

Relative Humidity	58% to 63%				
Atmospheric Pressure	100 kPa to 102 kPa				
Temperature	NT (Normal Temperature)				+23.9°C to +24.6°C
Working Voltage of the EUT	NV (Normal Voltage)				12.0 V

### 4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY50330200	2024.05.08	2025.05.07
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2023.12.27	2024.12.26
Spectrum Analyzer	KEYSIGHT	N9020A	MY52510065	2024.08.01	2025.07.31
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	00884	2022.02.20	2025.02.19
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01631	2022.02.23	2025.02.22
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2027.06.14
Anechoic Chamber	RAINFORD	9m*6m*6m	144	2022.02.19	2025.09.03
Amplifier	COM-MV	LSCX_LNA 1-12G-01	180602	2024.08.01	2025.07.01
Amplifier	COM-MV	XKu_LNA7-18G-01	180601	2024.08.01	2025.07.31
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2024.08.01	2025.07.31
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2025.01.22
Amplifier	COM-MV	ZT30-1000M	B2018054558	2023.12.05	2024.12.04
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	130	2024.07.13	2027.07.12
EMI Receiver	Agilent	N9038A	MY55330120	2024.08.01	2025.07.31
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2022.04.12	2025.04.11
Amplifier	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04
Anechoic Chamber	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20

## 4.3 Measurement Uncertainty

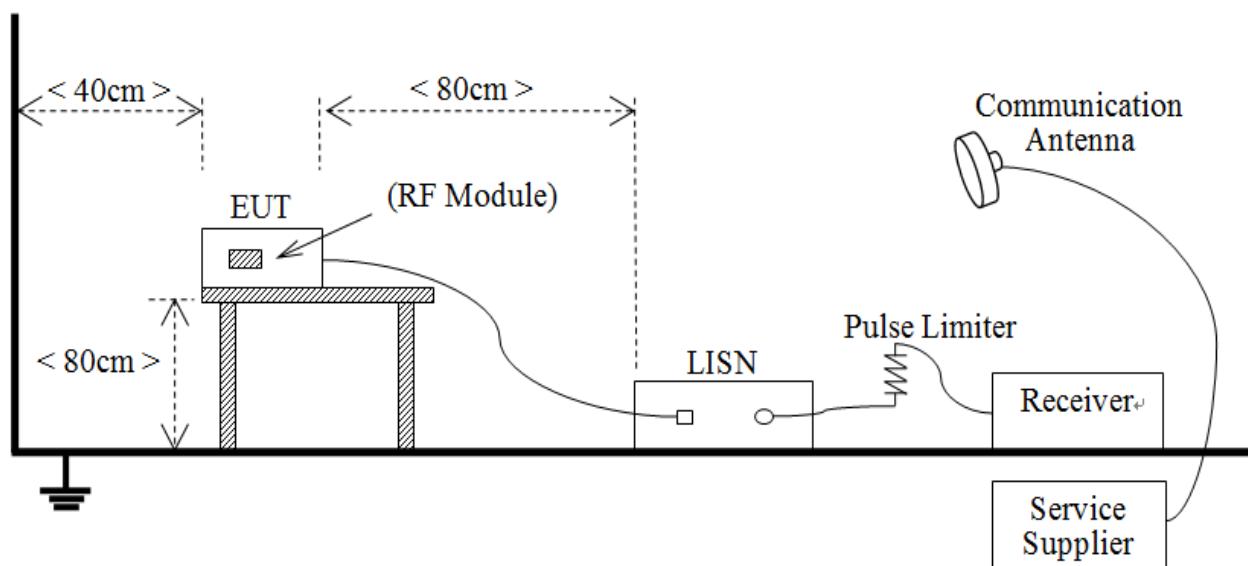
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

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	0.8°C
Humidity	4%

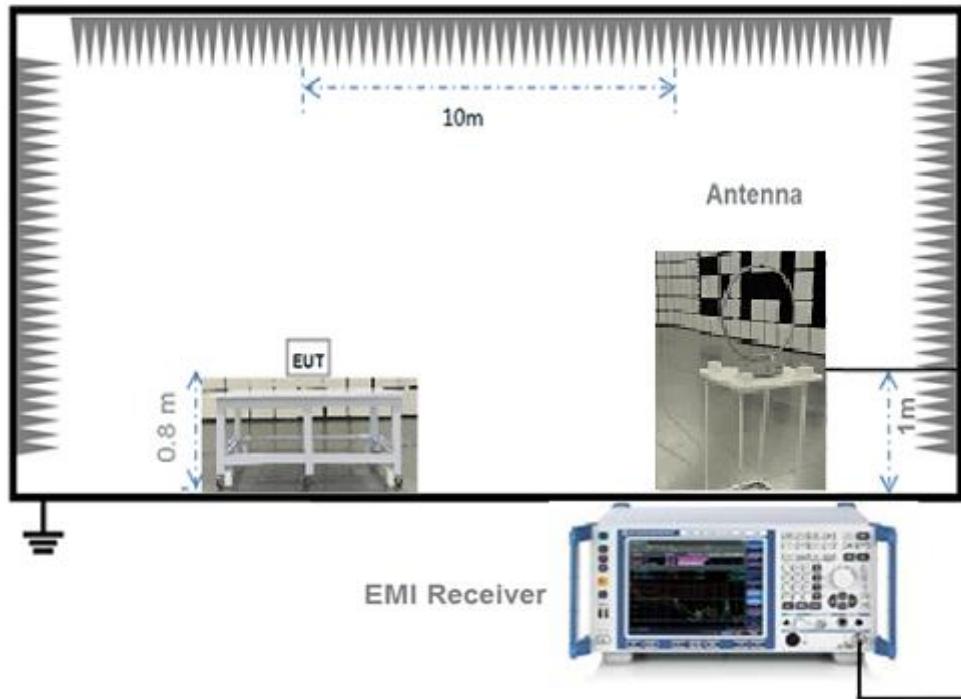
## 4.4 Description of Test Setup

### 4.4.1 For AC Power Supply Port Test



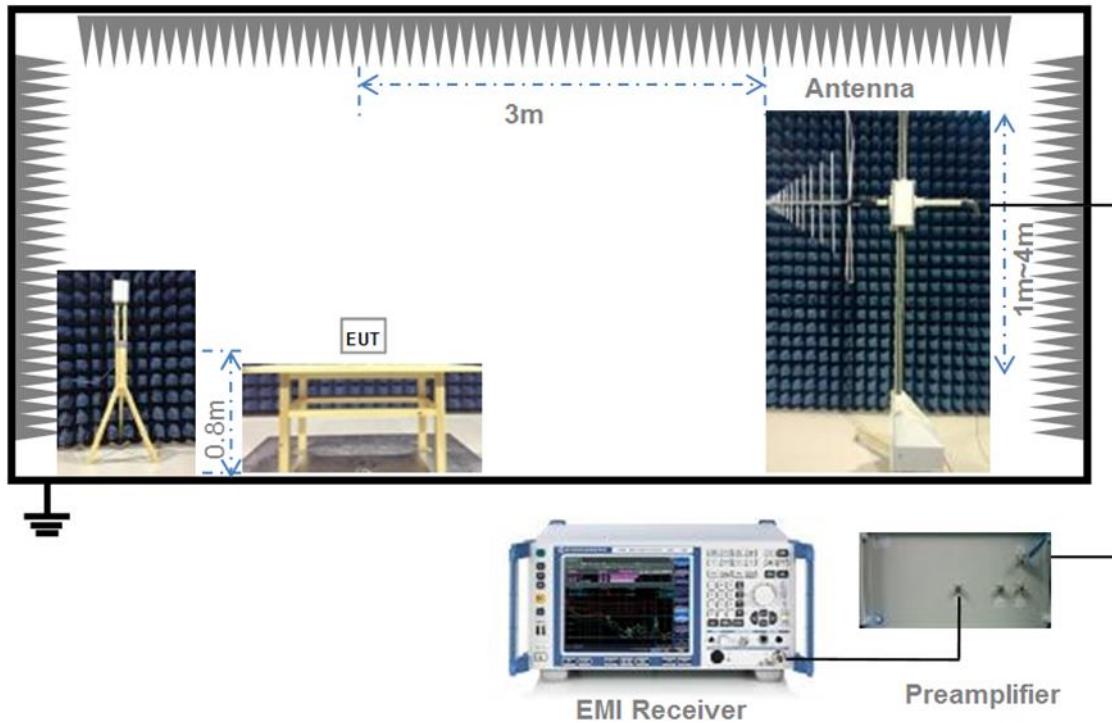
**(Diagram 1)**

#### 4.4.2 For Radiated Test (Below 30 MHz)

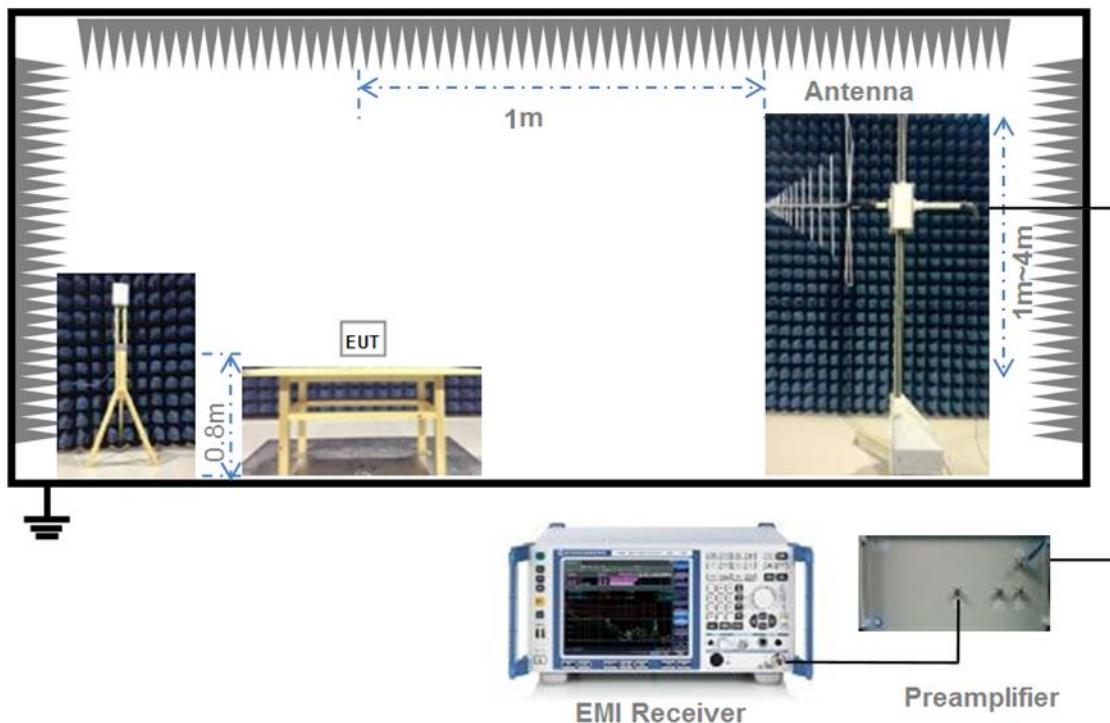


**(Diagram 2)**

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

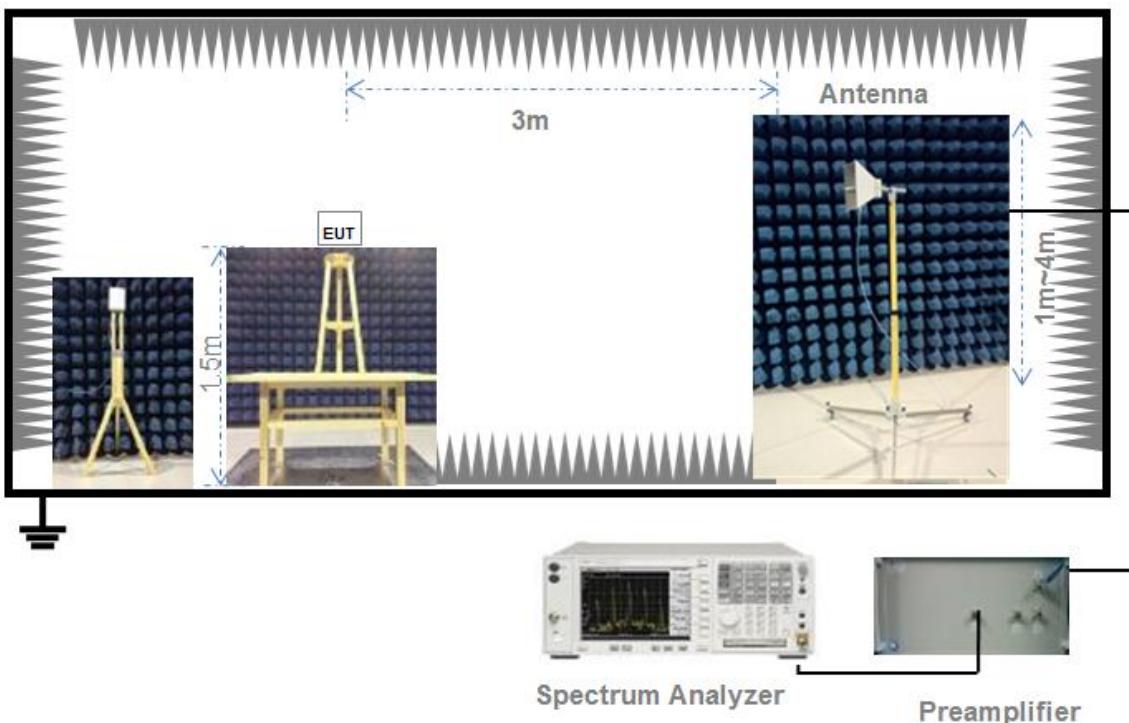


**(Diagram 3)**

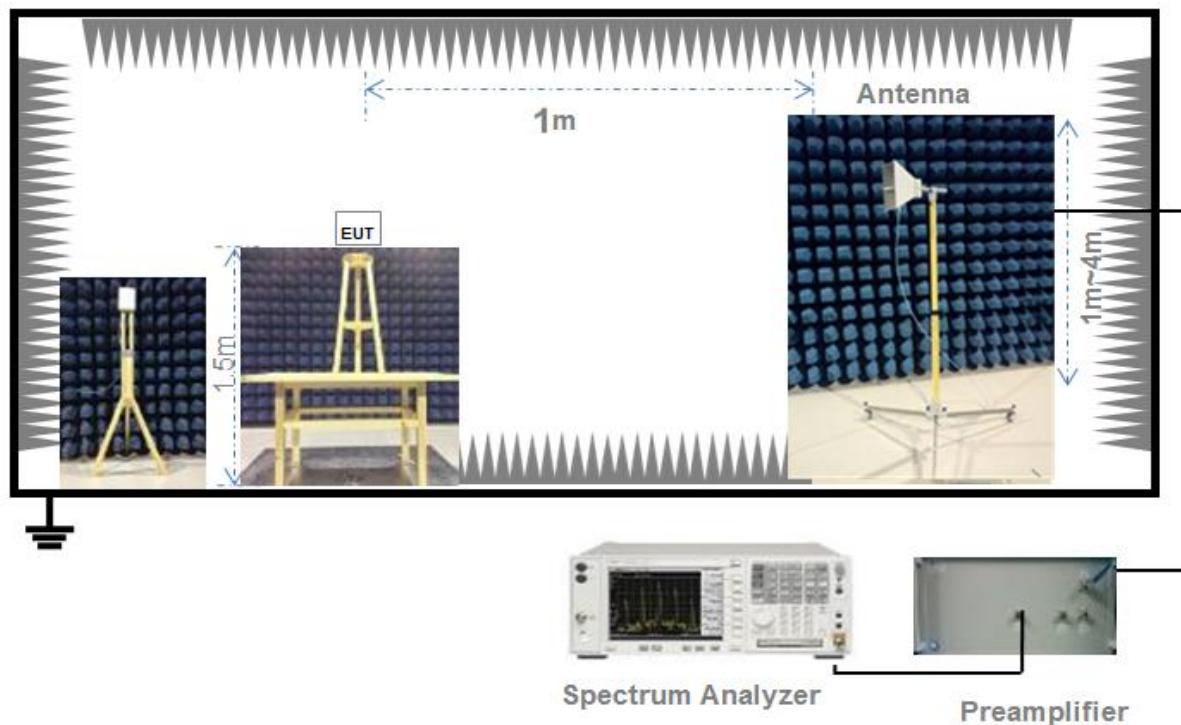


(Diagram 4)

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



(Diagram 5)

**(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 Conducted Emission

### 5.2.1 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

### 5.2.2 Test Setup

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

### 5.2.3 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.

### 5.2.4 Test Result

Please refer to ANNEX A.1.

## 5.3 Operational Limitations

### 5.3.1 Relevant Standards

#### FCC §15.519(a)(1)

A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

The client has been informed of this requirement.

#### FCC §15.519(a)(2)

The use of antennas mounted on outdoor structures, e.g., antennas mounted on the outside of a building or on a telephone pole, or any fixed outdoors infrastructure is prohibited. Antennas may be mounted only on the hand held UWB device.

The client has been informed of this requirement.

#### FCC §15.519(a)(3)

UWB devices operating under the provisions of this section may operate indoors or outdoors.

The client has been informed of this requirement.

## 5.4 UWB Bandwidth

### 5.4.1 Limit

FCC §15.503(d)

Ultra-wideband (UWB) transmitter. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

FCC §15.519(b)

The UWB bandwidth of a UWB system operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

### 5.4.2 Test Setups

See section 4.4.4 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.4.3 Test Procedure

Use the following spectrum analyzer settings:

RBW = 1 MHz

VBW  $\geq$  3 MHz

Sweep = auto

Detector function = RMS

Trace = max hold

### 5.4.4 Test Result

Please refer to ANNEX A.2.

## 5.5 Radiated Emissions

### 5.5.1 Limit

#### FCC §15.519(c)

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

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

#### 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 ( $\mu$ V/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 4.4.2 to 4.4.4 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.3.

## 5.6 Radiated Emissions in GPS Bands

### 5.6.1 Limit

#### FCC §15.519(d)

In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following 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

### 5.6.2 Test Setups

See section 4.4.4 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:

Span = wide enough to fully capture the emission being measured

RBW = 1 kHz

VBW = 3 kHz

Sweep time = 1s

Detector function = RMS

Trace = max hold

### 5.6.4 Test Result

Please refer to ANNEX A.4.

## 5.7 Peak Emissions within a 50MHz Bandwidth

### 5.7.1 Limit

#### FCC §15.519(e)

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,  $f_M$ . That limit is 0 dBm EIRP. It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in §15.521.

It is acceptable to employ an RBW of less than 50 MHz (but no less than 1 MHz) when performing the required peak power measurements. When this approach is employed, the peak emissions EIRP limit (0 dBm / 50 MHz) is converted to a limit commensurate with the RBW by employing a  $[20 \log (RBW/50 \text{ MHz})]$  relationship. For example, the peak power limit could be expressed in a 1 MHz bandwidth as follows in Equation :

$$EIRP_{1 \text{ MHz}} = EIRP_{50 \text{ MHz}} + 20 \log (1 \text{ MHz} / 50 \text{ MHz}) = 0 \text{ dBm} + (-34 \text{ dBm}) = -34 \text{ dBm}$$

### 5.7.2 Test Setups

See section 4.4.4 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.7.3 Test Procedure

The Turn Table is actuated to turn from  $0^\circ$  to  $360^\circ$ , 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  $0^\circ$  to  $360^\circ$  ) 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 = 1 MHz

VBW = 3 MHz

Sweep = auto

Detector function = peak

Trace = max hold

### 5.7.4 Test Result

Please refer to ANNEX A.5.

## 5.8 Transmission time

### 5.8.1 Limit

FCC §15.519(a)

A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

### 5.8.2 Test Setups

See section 4.4.4 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

### 5.8.3 Test Procedure

Use the following spectrum analyzer settings:

Span = zero-span

RBW = 3 MHz

VBW = 8 MHz

Sweep = auto

Detector function = peak

Trace = max hold

### 5.8.4 Test Result

Please refer to ANNEX A.6.

## ANNEX A TEST RESULT

### A.1 Conducted Emissions

Note: Not applicable.

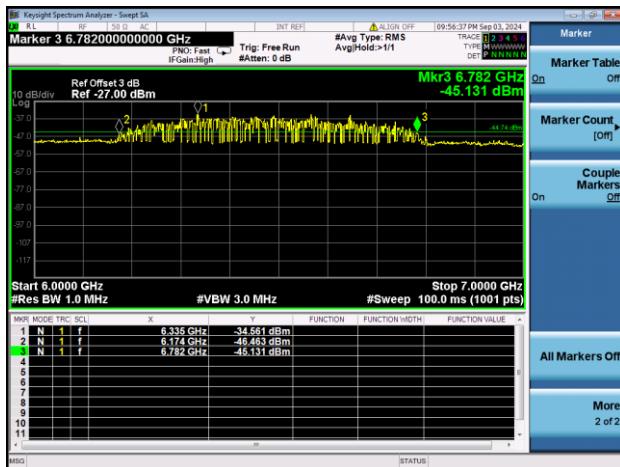
## A.2 UWB Bandwidth

### Test Data

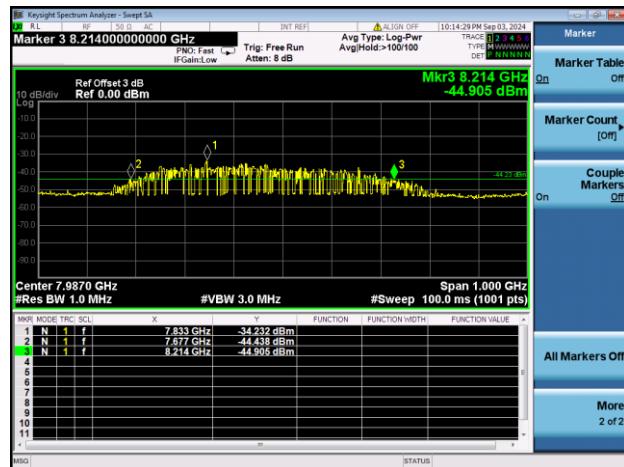
F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	UWB Bandwidth (MHz)	Limit (MHz)	Verdict
6174	6782	608	Fractional bandwidth $\geq 0.2$ or UWB Bandwidth $\geq 500$ MHz 10 dB bandwidth contained between 3100 to 10600 MHz	Pass
7677	8214	537	Fractional bandwidth $\geq 0.2$ or UWB Bandwidth $\geq 500$ MHz 10 dB bandwidth contained between 3100 to 10600 MHz	Pass

### Test Data and Plots

6489.6MHz



7987.2MHz



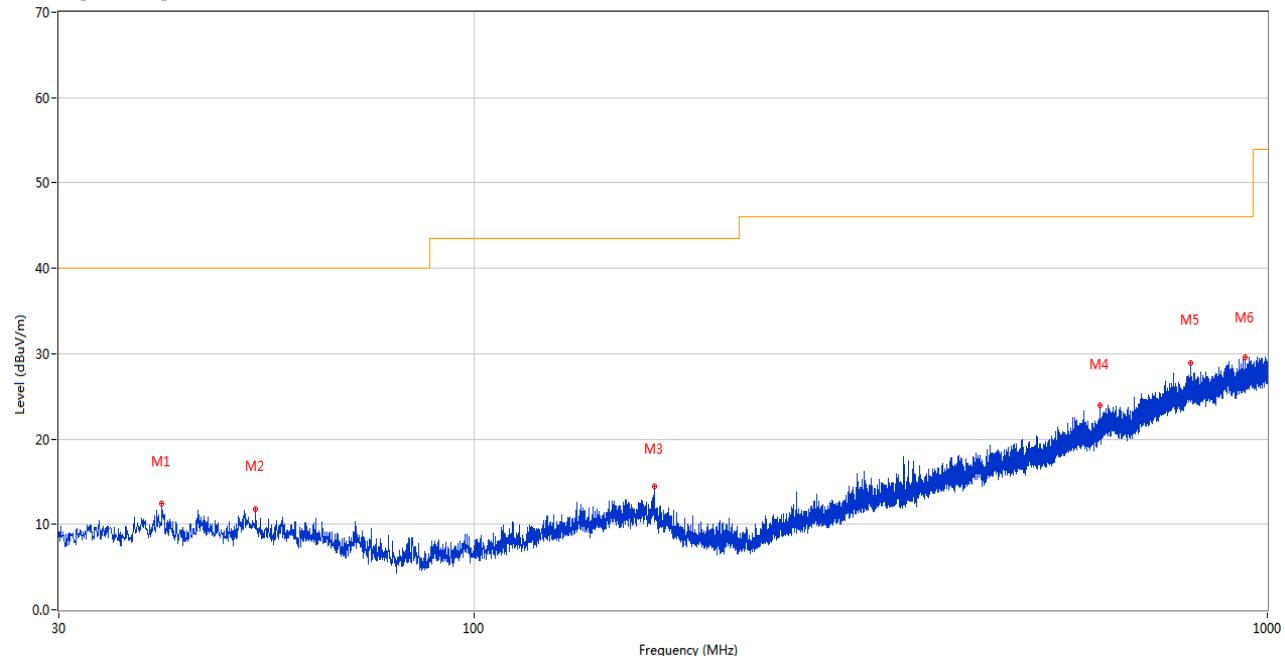
### A.3 Radiated Emissions

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

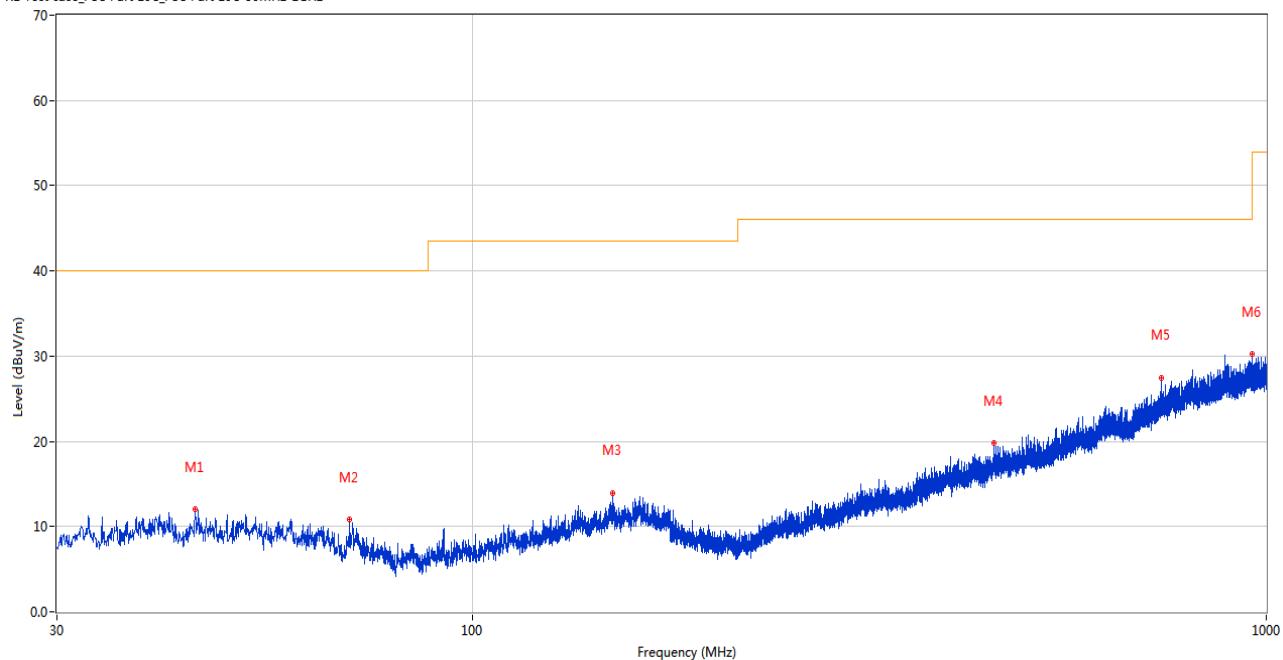
RE Test case\_FCC Part 15C\_FCC Part 15C-30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	40.476	12.42	-26.08	40.0	27.58	Peak	116.00	100	Horizontal	Pass
2	53.135	11.80	-26.70	40.0	28.20	Peak	360.00	200	Horizontal	Pass
3	168.952	14.39	-25.68	43.5	29.11	Peak	142.00	100	Horizontal	Pass
4	615.929	24.00	-15.84	46.0	22.00	Peak	41.00	200	Horizontal	Pass
5	800.229	28.87	-11.77	46.0	17.13	Peak	342.00	100	Horizontal	Pass
6	938.938	29.55	-10.71	46.0	16.45	Peak	114.00	200	Horizontal	Pass

**30 MHz to 1 GHz, ANT V**

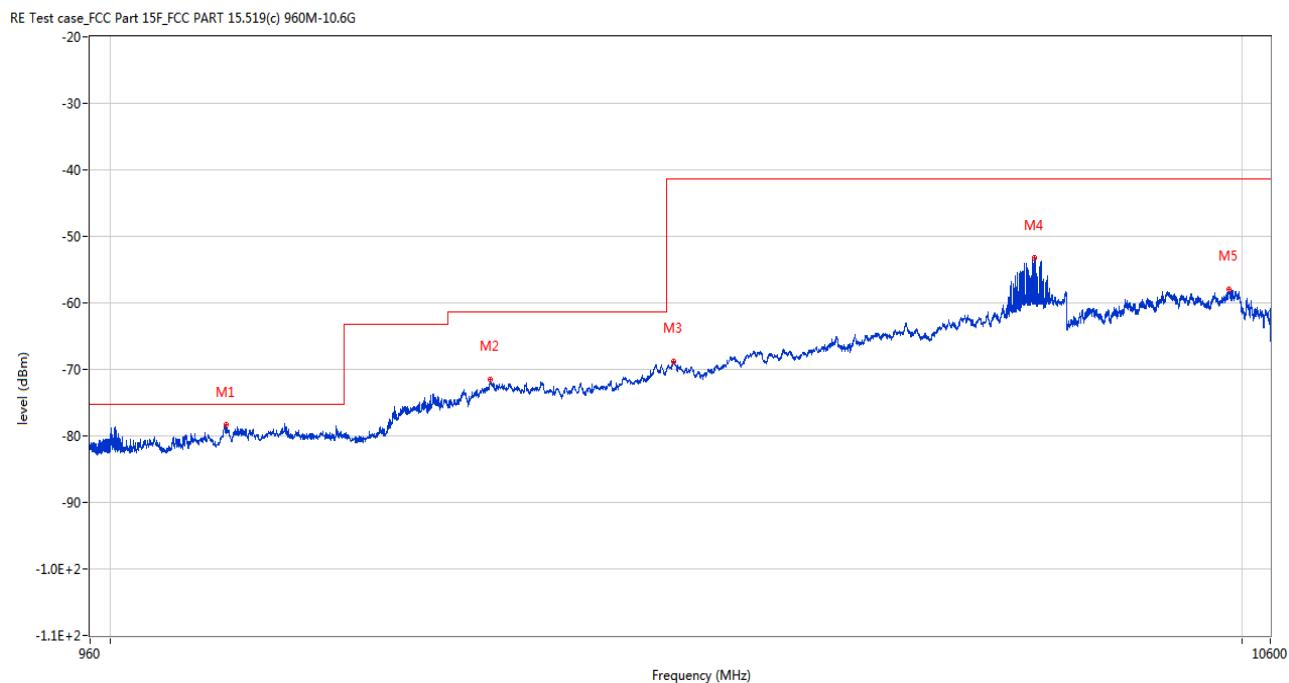
RE Test case\_FCC Part 15C\_FCC Part 15C-30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	44.841	12.00	-26.57	40.0	28.00	Peak	360.00	100	Vertical	Pass
2	70.109	10.84	-29.10	40.0	29.16	Peak	4.00	200	Vertical	Pass
3	150.377	13.95	-25.53	43.5	29.55	Peak	108.00	100	Vertical	Pass
4	453.405	19.78	-19.84	46.0	26.22	Peak	206.00	100	Vertical	Pass
5	737.955	27.49	-13.42	46.0	18.51	Peak	120.00	200	Vertical	Pass
6	959.696	30.23	-10.27	46.0	15.77	Peak	360.00	200	Vertical	Pass

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

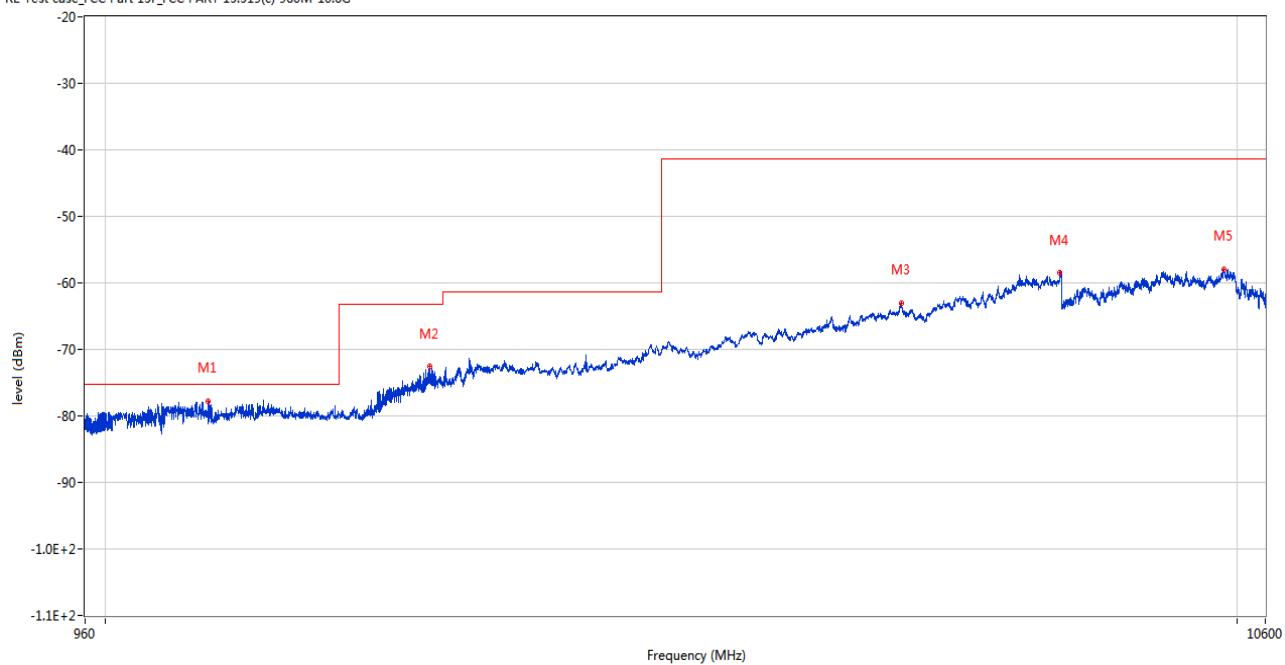
### 6489.6 MHz ANT H



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1267.500	-78.37	-17.35	-75.3	3.07	140.00	Horizontal	Horizontal	Pass
2166.000	-71.54	-9.83	-61.3	10.24	75.00	Horizontal	Horizontal	Pass
3147.000	-68.74	-4.41	-41.3	27.44	63.00	Horizontal	Horizontal	Pass
6564.000	-53.29	3.60	-41.3	11.99	314.00	Horizontal	Horizontal	Pass
9750.400	-57.94	7.41	-41.3	16.64	124.00	Horizontal	Horizontal	Pass

**6489.6 MHz ANT V**

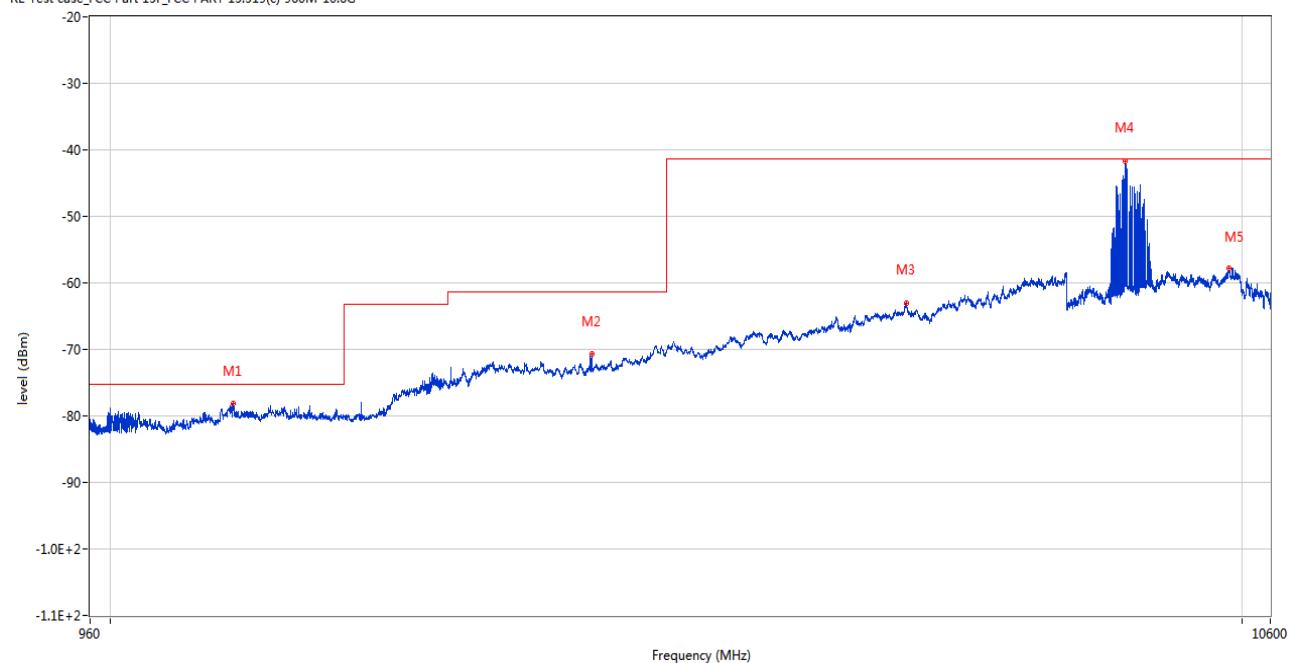
RE Test case\_FCC Part 15F\_FCC PART 15.519(c) 960M-10.6G



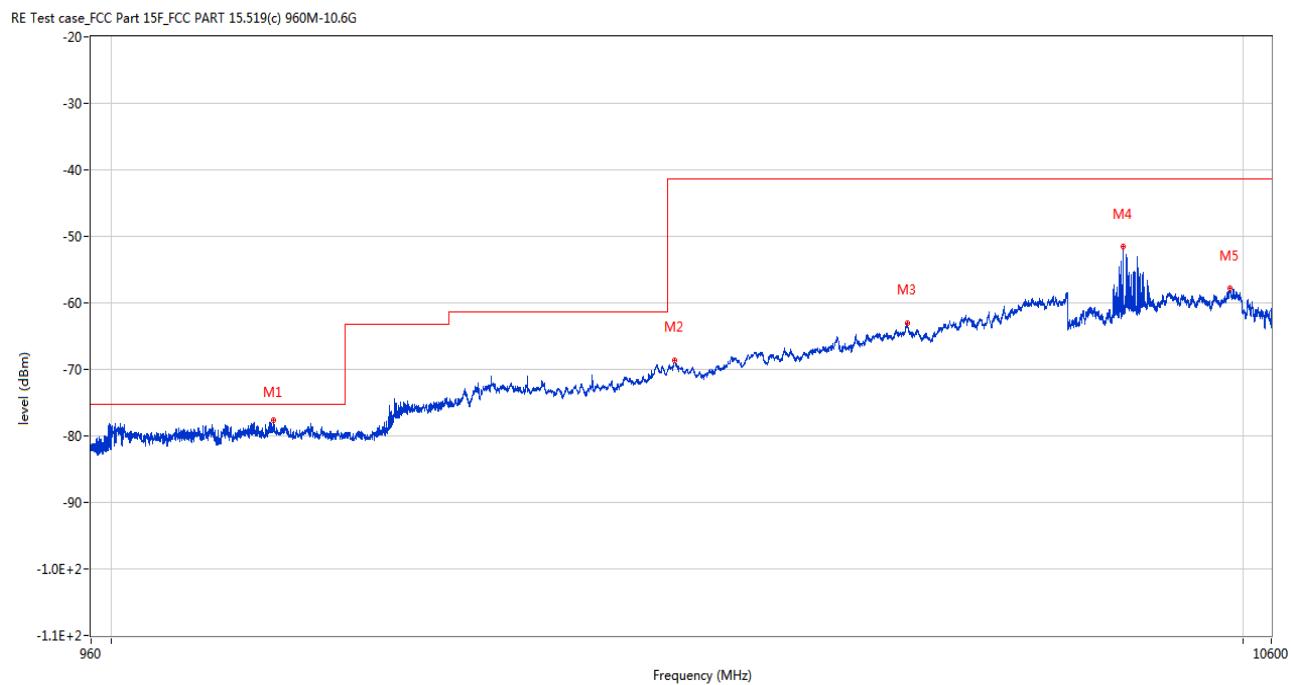
Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1232.500	-77.87	-17.85	-75.3	2.57	0.00	Vertical	Horizontal	Pass
1937.500	-72.59	-12.58	-63.3	9.29	100.00	Vertical	Horizontal	Pass
5051.000	-63.01	1.46	-41.3	21.71	257.00	Vertical	Horizontal	Pass
6979.000	-58.53	7.18	-41.3	17.23	50.00	Vertical	Horizontal	Pass
9735.999	-57.92	7.22	-41.3	16.62	257.00	Vertical	Horizontal	Pass

**7987.2 MHz ANT H**

RE Test case\_FCC Part 15F\_FCC PART 15.519(c) 960M-10.6G



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1285.000	-78.10	-17.47	-75.3	2.80	123.00	Horizontal	Horizontal	Pass
2666.500	-70.72	-8.93	-61.3	9.42	146.00	Horizontal	Horizontal	Pass
5052.000	-63.01	1.44	-41.3	21.71	105.00	Horizontal	Horizontal	Pass
7884.700	-41.65	4.41	-41.3	0.35	294.00	Horizontal	Horizontal	Pass
9745.901	-57.78	7.34	-41.3	16.48	68.00	Horizontal	Horizontal	Pass

**7987.2 MHz ANT V**

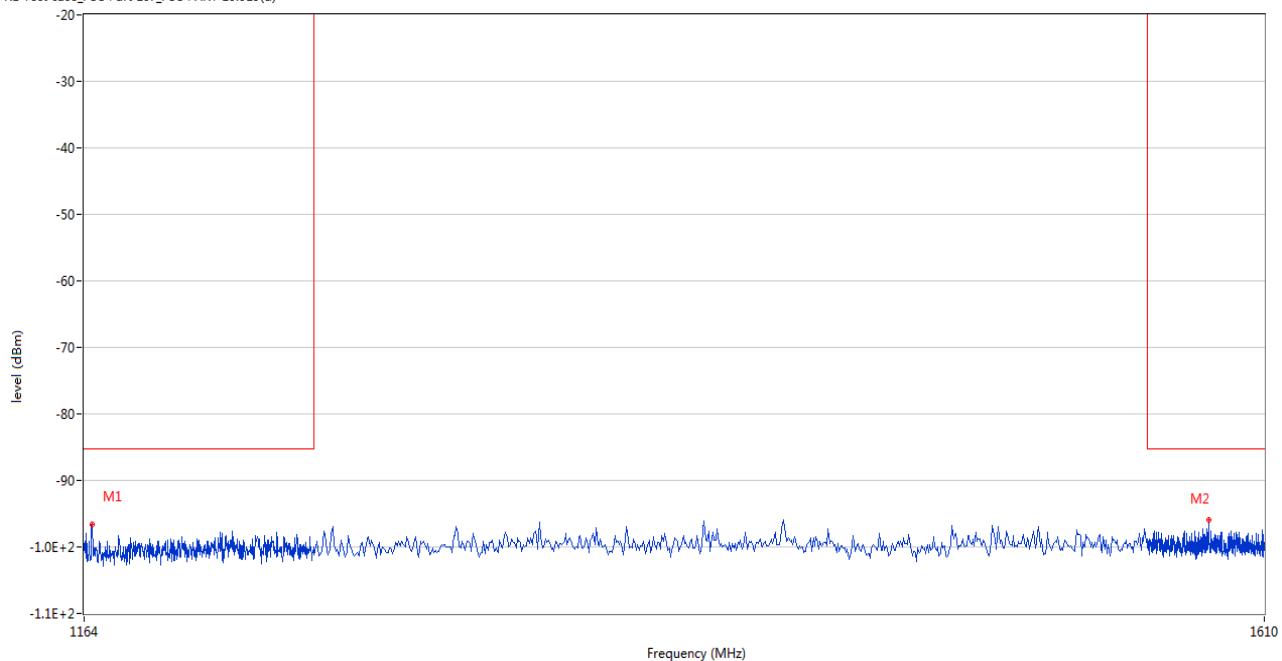
Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1391.000	-77.55	-16.81	-75.3	2.25	161.00	Vertical	Horizontal	Pass
3147.000	-68.63	-4.41	-41.3	27.33	360.00	Vertical	Horizontal	Pass
5052.000	-63.01	1.44	-41.3	21.71	170.00	Vertical	Horizontal	Pass
7835.200	-51.59	4.35	-41.3	10.29	289.00	Vertical	Horizontal	Pass
9745.000	-57.87	7.32	-41.3	16.57	262.00	Vertical	Horizontal	Pass

## A.4 Radiated Emissions in GPS Bands

### Test Data and Plots

6489.6 MHz ANT H

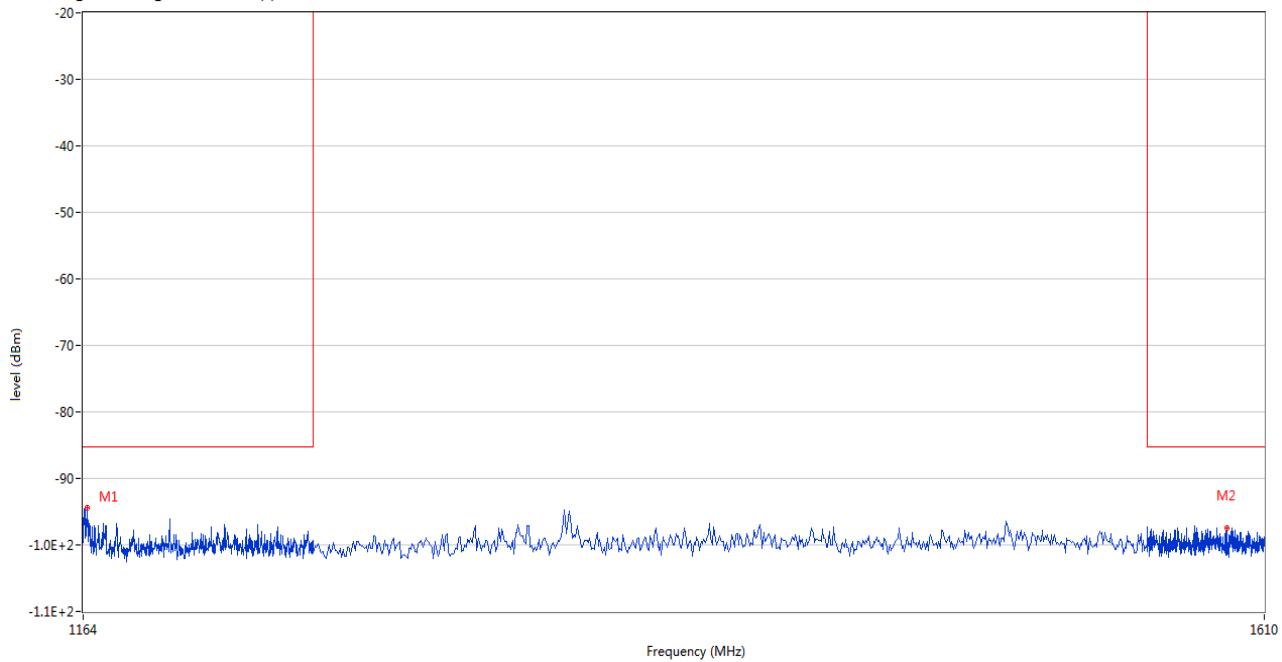
RE Test case\_FCC Part 15F\_FCC PART 15.519(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1166.533	-96.55	-18.22	-85.3	11.25	101.00	Horizontal	Horizontal	Pass
1585.520	-96.01	-17.01	-85.3	10.71	218.00	Horizontal	Horizontal	Pass

**6489.6 MHz ANT V**

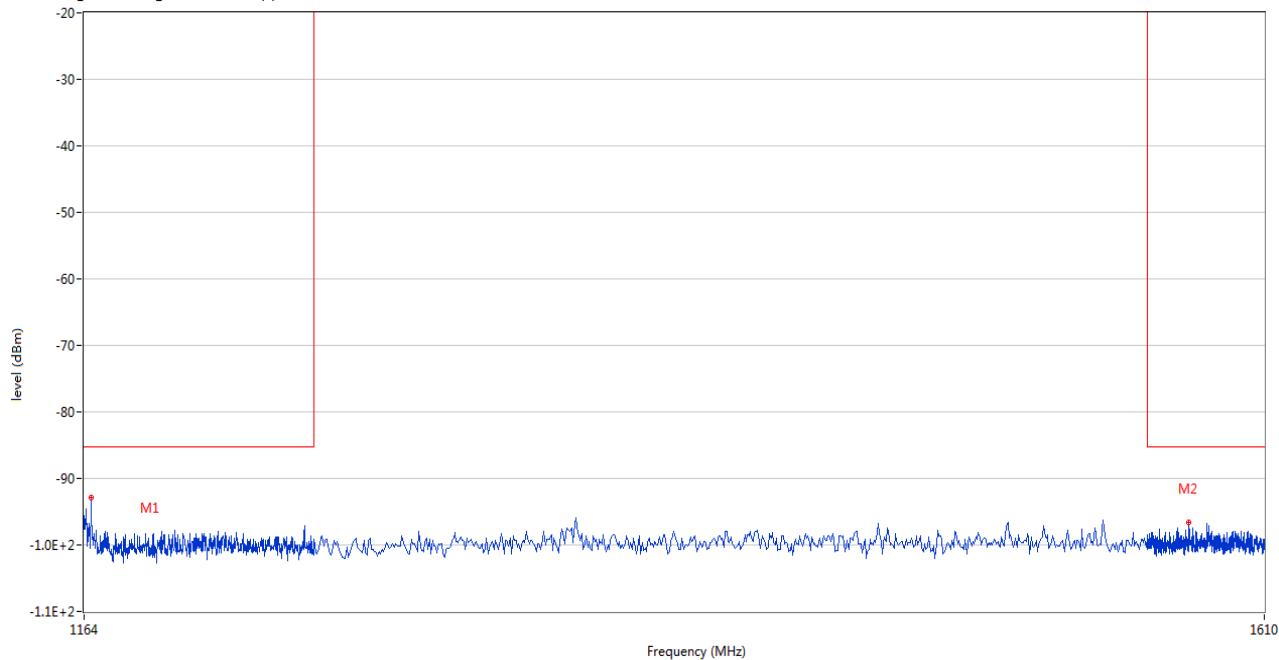
RE Test case\_FCC Part 15F\_FCC PART 15.519(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1165.393	-94.42	-18.20	-85.3	9.12	2.00	Vertical	Horizontal	Pass
1593.425	-97.39	-17.65	-85.3	12.09	334.00	Vertical	Horizontal	Pass

**7987.2 MHz ANT H**

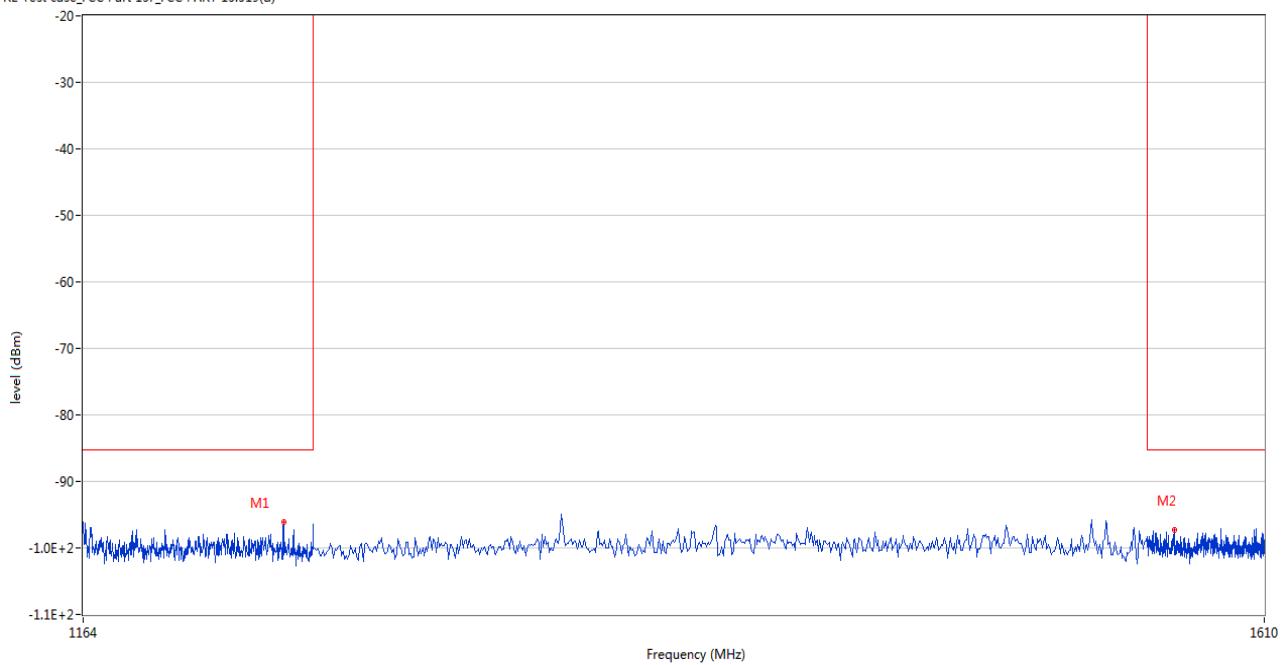
RE Test case\_FCC Part 15F\_FCC PART 15.519(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1166.280	-92.83	-18.22	-85.3	7.53	360.00	Horizontal	Horizontal	Pass
1577.105	-96.59	-17.66	-85.3	11.29	355.00	Horizontal	Horizontal	Pass

**7987.2 MHz ANT V**

RE Test case\_FCC Part 15F\_FCC PART 15.519(d)



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
1229.867	-96.04	-17.75	-85.3	10.74	359.00	Vertical	Horizontal	Pass
1570.815	-97.26	-17.30	-85.3	11.96	220.00	Vertical	Horizontal	Pass

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

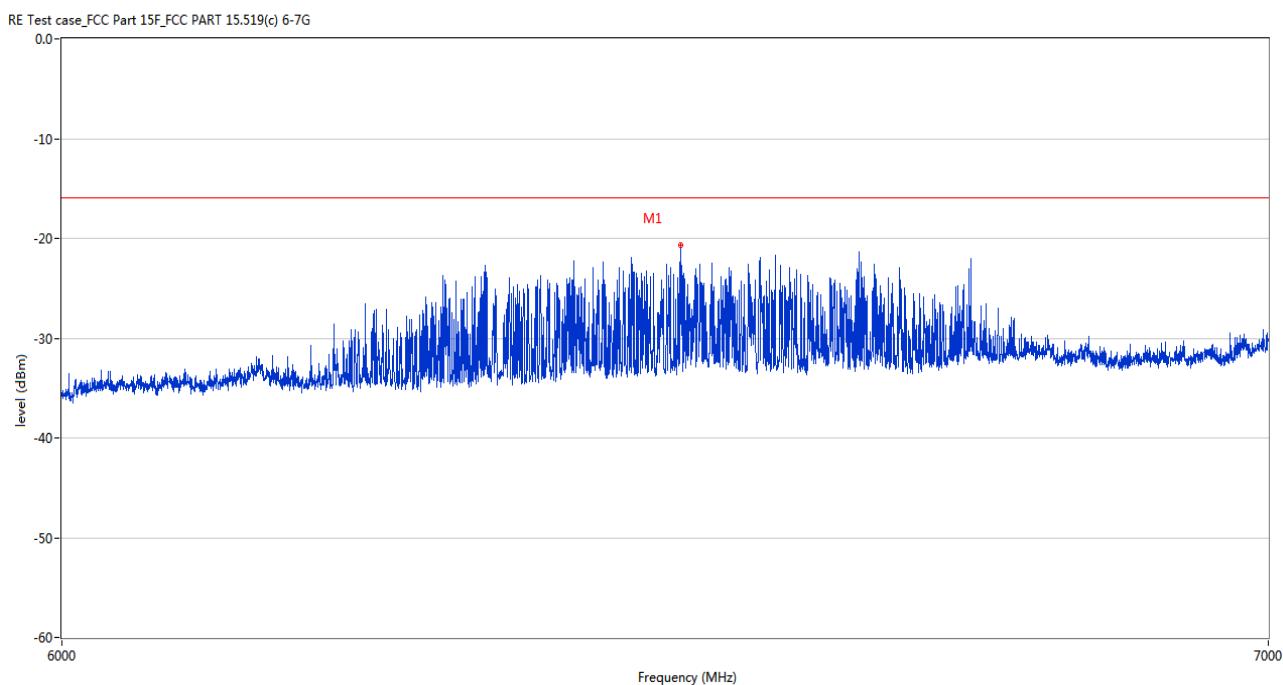
Note: the correct factor of RBW 8MHz to 50MHz is  $20 \log (50\text{MHz}/8 \text{MHz}) = 15.92$

### Test Data

Measured Channel (MHz)	Measured Peak e.i.r.p. power (dBm/8 MHz)	Peak e.i.r.p. power (dBm/50 MHz)	Limit (dBm/50 MHz)	Verdict
6489.6	-20.73	-4.81	$\leq 0$	Pass
6489.6	-28.71	-12.79	$\leq 0$	Pass
7987.2	-22.15	-6.23	$\leq 0$	Pass
7987.2	-31.90	-15.98	$\leq 0$	Pass

### Test Data and Plot

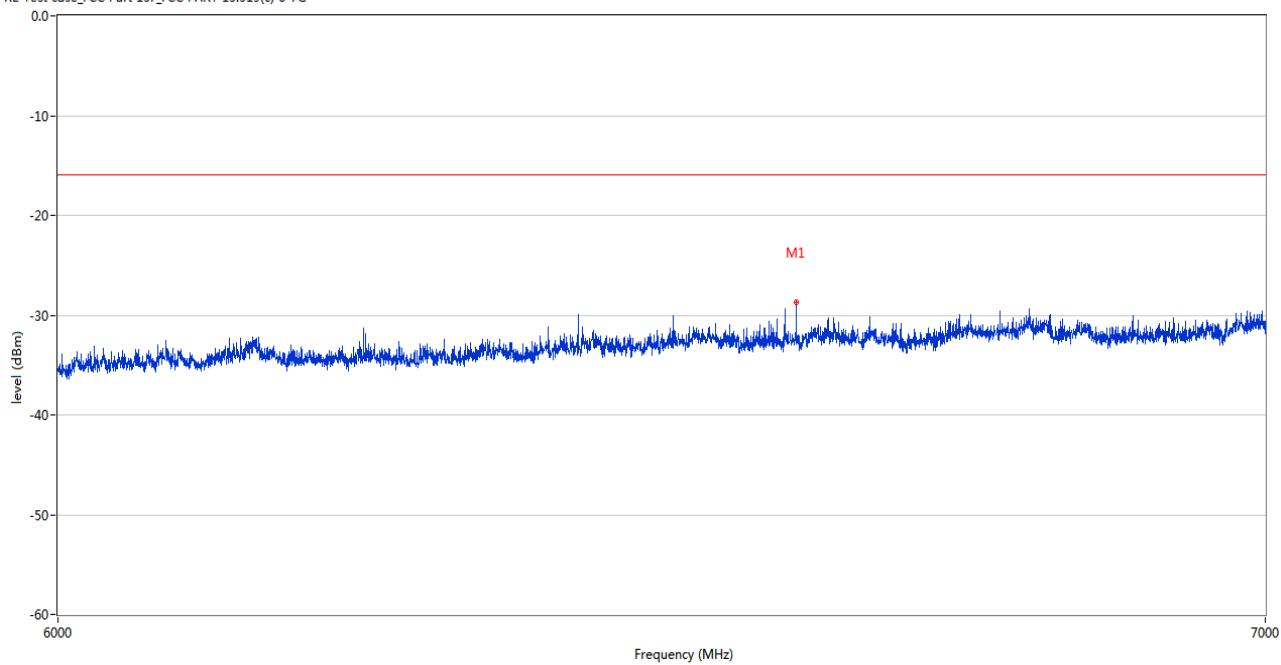
#### 6489.6 MHz ANT H



Frequency (MHz)	Result (dBm/8MHz)	Factor (dB)	Limit (dBm/8MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
6494.000	-20.73	11.16	-15.9	4.83	327.00	Horizontal	Horizontal	Pass

**6489.6 MHz ANT V**

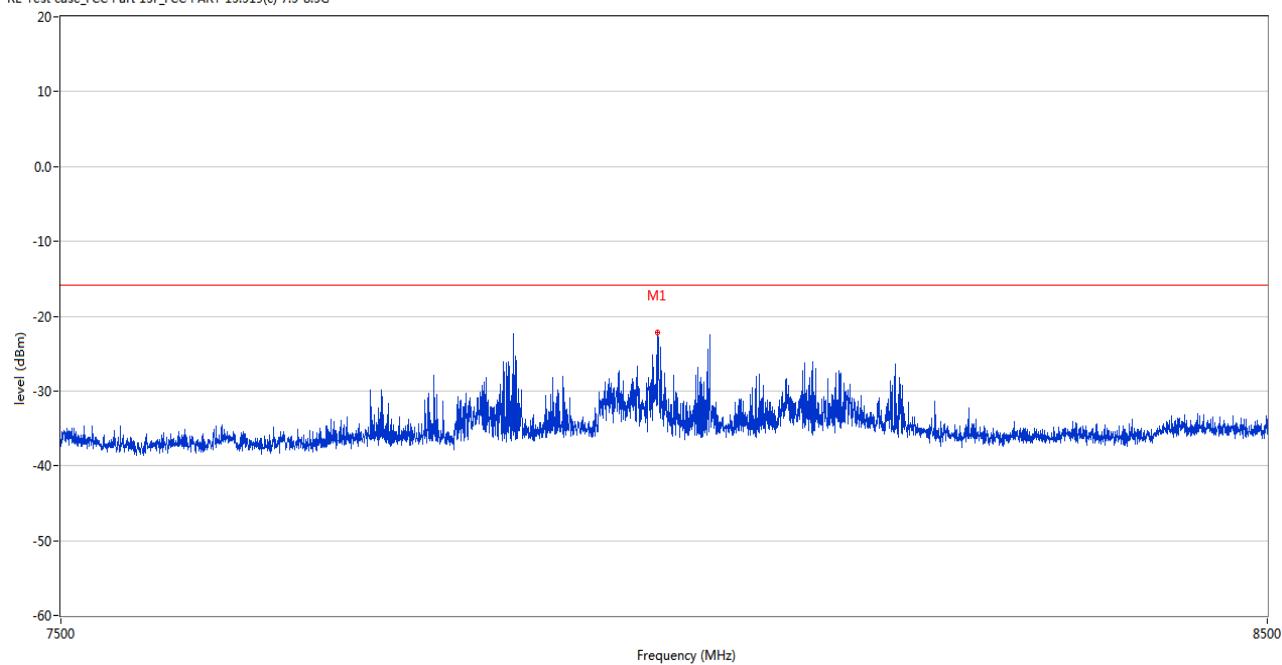
RE Test case\_FCC Part 15F\_FCC PART 15.519(c) 6-7G



Frequency (MHz)	Result (dBm/8MHz)	Factor (dB)	Limit (dBm/8MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
6593.250	-28.71	11.59	-15.9	12.81	44.00	Vertical	Horizontal	Pass

**7987.2 MHz ANT H**

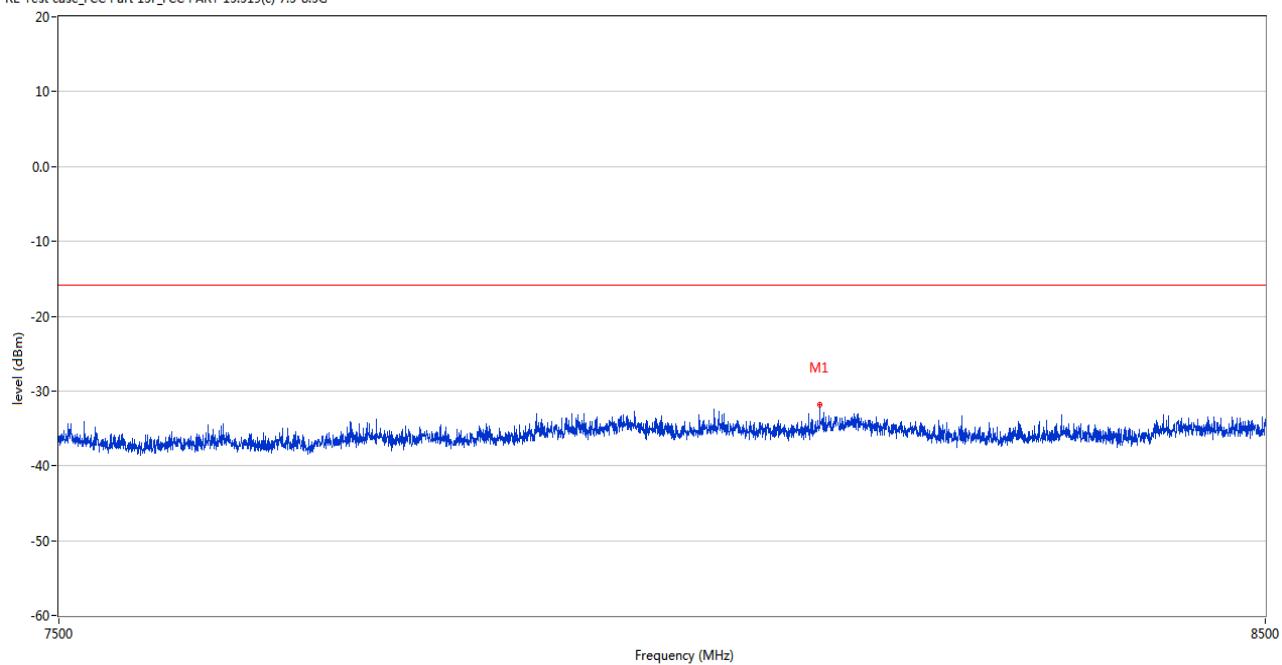
RE Test case\_FCC Part 15F\_FCC PART 15.519(c) 7.5-8.5G



Frequency (MHz)	Result (dBm/8MHz)	Factor (dB)	Limit (dBm/8MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
7979.250	-22.15	12.92	-15.9	6.25	275.00	Horizontal	Horizontal	Pass

**7987.2 MHz ANT V**

RE Test case\_FCC Part 15F\_FCC PART 15.519(c) 7.5-8.5G



Frequency (MHz)	Result (dBm/8MHz)	Factor (dB)	Limit (dBm/8MHz)	Margin (dB)	Table (o)	ANT	EUT	Verdict
8116.000	-31.90	13.06	-15.9	16.00	236.00	Vertical	Horizontal	Pass

## A.6 Transmission time

### Test data

Test Mode	Transmission time (s)	Limit(s)
UWB	1.8	<10

## **ANNEX B TEST SETUP PHOTOS**

Please refer the document “BL-SZ2481069-AR.PDF”.

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document “BL-SZ2481069-AW.PDF”.

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document “BL-SZ2481069-AI.PDF”.

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--END OF REPORT--