




**TEST REPORT**

<b>FCC ID.</b> .....	2AW3GTM010	
<b>Test Report No.</b> .....	TCT250422E025	
<b>Date of issue</b> .....	Apr. 28, 2025	
<b>Testing laboratory</b> .....	SHENZHEN TONGCE TESTING LAB	
<b>Testing location/ address:</b>	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
<b>Applicant's name</b> .....	Shenzhen Torich Electronic Technology Co., Ltd	
<b>Address</b> .....	4/5F, Unit B2, Fenghuang Gang 3Rd Industiral Area, Baotian 1st Road, No.231, Bao'An District, Shenzhen, 518102 China	
<b>Manufacturer's name</b> ...	Shenzhen Torich Electronic Technology Co., Ltd	
<b>Address</b> .....	4/5F, Unit B2, Fenghuang Gang 3Rd Industiral Area, Baotian 1st Road, No.231, Bao'An District, Shenzhen, 518102 China	
<b>Standard(s)</b> .....	FCC CFR Title 47 Part 15 Subpart C Section 15.249 ANSI C63.10:2020	
<b>Product Name</b> .....	Wireless Mouse	
<b>Trade Mark</b> .....	N/A	
<b>Model/Type reference</b> .....	Refer to model list of page 3	
<b>Rating(s)</b> .....	DC 3V(2*AAA Battery)	
<b>Date of receipt of test item</b> .....	Apr. 22, 2025	
<b>Date (s) of performance of test</b> .....	Apr. 22, 2025 ~ Apr. 28, 2025	
<b>Tested by (+signature)</b> ...	Ronaldo LUO	
<b>Check by (+signature)</b> .....	Beryl ZHAO	
<b>Approved by (+signature):</b>	Tomsin	

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## Table of Contents

<b>1. General Product Information .....</b>	<b>3</b>
1.1. EUT description .....	3
1.2. Model(s) list.....	3
1.3. Operation Frequency .....	4
<b>2. Test Result Summary .....</b>	<b>5</b>
<b>3. General Information.....</b>	<b>6</b>
3.1. Test Environment and Mode.....	6
3.2. Description of Support Units.....	6
<b>4. Facilities and Accreditations .....</b>	<b>7</b>
4.1. Facilities .....	7
4.2. Location .....	7
4.3. Measurement Uncertainty .....	7
<b>5. Test Results and Measurement Data .....</b>	<b>8</b>
5.1. Antenna Requirement .....	8
5.2. Conducted Emission.....	9
5.3. Radiated Emission Measurement .....	10
5.4. 20dB Occupied Bandwidth .....	22
<b>Appendix A: Photographs of Test Setup</b>	
<b>Appendix B: Photographs of EUT</b>	

## 1. General Product Information

### 1.1. EUT description

Product Name.....:	Wireless Mouse
Model/Type reference.....:	TM010
Sample Number.....:	TCT250422E025-0101
Operation Frequency .....	2403.65MHz~2479.65MHz
Number of Channel .....	16
Modulation Technology .....	GFSK
Antenna Type.....:	PCB Antenna
Antenna Gain.....:	3.85dBi
Rating(s).....:	DC 3V(2*AAA Battery)

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

No.	Model No.	Tested with
1	TM010	<input checked="" type="checkbox"/>
Other models	TM-001, TM-002, TM-003, TM-004, TM-005, TM-006, TM-008, TM-009, TM-011, TM-012, TM-013, TM-014, TM-015, TM-015Pro, TM-015C+, TM-016, TM-017, TM-018, TM-019, TM-020, TM-021, TM-023SE, TM-023, TM-024, TM-025, TM-026, TM-027, TM-028, TM-029, TM-030, TM-6500, TM-217, TM-218, TM-219, TM-220, TM-221, TM-222, TM-223, TM-224, TM-225, TM-226, GM-0008, GM-009, GM-010, GM-011, GM-012, GM-013, GM-014	<input type="checkbox"/>

Note: TM010 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names and colors. So the test data of TM010 can represent the remaining models.

### 1.3. Operation Frequency

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2403.65MHz	7	2436.65MHz	13	2463.65MHz
2	2407.65MHz	8	2439.65MHz	14	2466.65MHz
3	2414.65MHz	9	2441.65MHz	15	2473.65MHz
4	2419.65MHz	10	2445.65MHz	16	2479.65MHz
5	2422.65MHz	11	2453.65MHz		
6	2426.65MHz	12	2459.65MHz		

Remark: Channel 1, 9 & 16 have been tested.

## 2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	N/A
Field Strength of Fundamental	§15.249 (a)	PASS
Spurious Emissions	§15.249 (a) (d)/ §15.209	PASS
Band Edge	§15.249 (d)/ §15.205	PASS
20dB Occupied Bandwidth	§15.215 (c)	PASS

**Note:**

1. Pass: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 3. General Information

#### 3.1. Test Environment and Mode

Operating Environment:	
Condition	Radiated Emission
Temperature:	24.8 °C
Humidity:	51 % RH
Atmospheric Pressure:	1010 mbar
Test Software:	
Software Information:	Engineering mode
Power Level:	default
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel
The sample was placed 0.8m & 1.5m for the measurement below & above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case (Z axis) are shown in Test Results of the following pages.	

#### 3.2. 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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 4. Facilities and Accreditations

### 4.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Innovation, Science and Economic Development Canada for radio equipment testing.

### 4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

### 4.3. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 3.10$ dB
2	RF power, conducted	$\pm 0.12$ dB
3	Spurious emissions, conducted	$\pm 0.11$ dB
4	All emissions, radiated(<1 GHz)	$\pm 4.56$ dB
5	All emissions, radiated(1 GHz - 18 GHz)	$\pm 4.22$ dB
6	All emissions, radiated(18 GHz- 40 GHz)	$\pm 4.36$ dB



## 5. Test Results and Measurement Data

### 5.1. Antenna Requirement

<b>Standard requirement:</b>	FCC Part15 C Section 15.203
------------------------------	-----------------------------

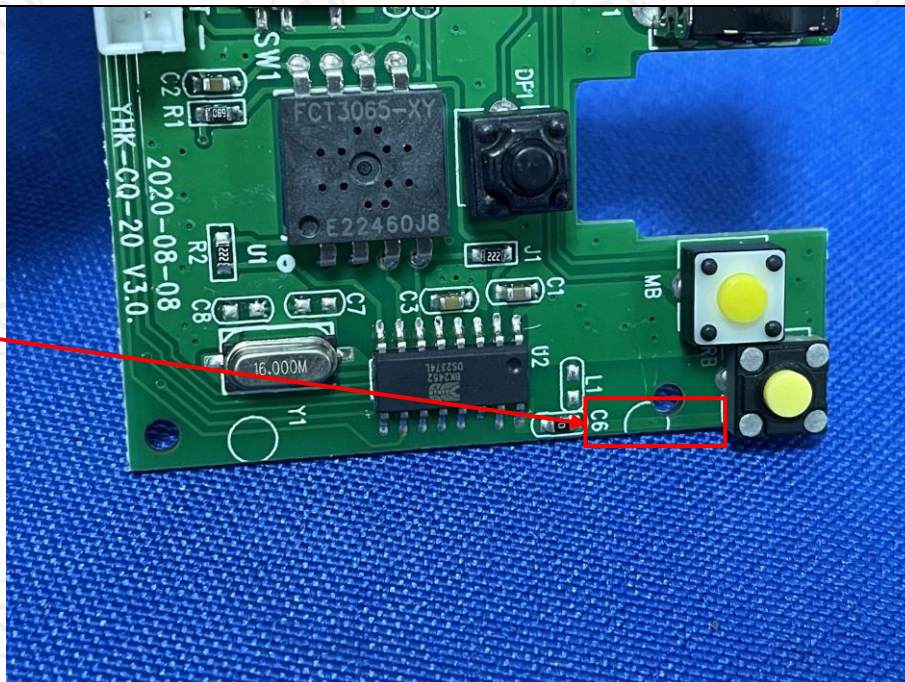
15.203 requirement:

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, 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.

<b>E.U.T Antenna:</b>	
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The EUT antenna is PCB antenna which permanently attached, and the best case gain of the antenna is 3.85dBi.

Antenna





## 5.2. Conducted Emission

### 5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	<div><p>Reference Plane</p><p>40cm</p><p>E.U.T</p><p>AC power</p><p>80cm</p><p>LISN</p><p>Filter</p><p>AC power</p><p>EMI Receiver</p><p>Test table/Insulation plane</p><p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>														
Test Mode:	Transmitting Mode														
Test Procedure:	<div><div>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</div><div>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2020 on conducted measurement.</div></div>														
Test Result:	N/A; Because the EUT is powered by the battery, so the item is not applicable.														

## 5.3. Radiated Emission Measurement

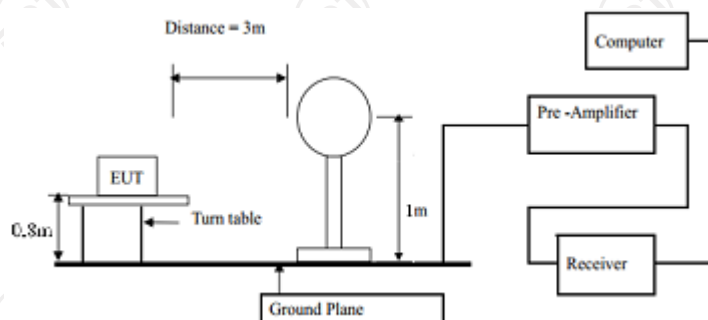
### 5.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2020				
Frequency Range:	9 kHz to 25 GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit(Field strength of the fundamental signal):	Frequency		Limit (dBuV/m @3m)		Remark
	2400MHz-2483.5MHz		94.00		Average Value
			114.00		Peak Value
Limit(Spurious Emissions):	Frequency		Limit (dBuV/m @3m)		Remark
	0.009-0.490		2400/F(KHz)		Quasi-peak Value
	0.490-1.705		24000/F(KHz)		Quasi-peak Value
	1.705-30		30		Quasi-peak Value
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		54.0		Average Value
74.0			Peak Value		
Limit (band edge) :	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 Section 15.209, whichever is the lesser attenuation.				
Test Procedure:	<div>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber in below 1GHz, 1.5m above the ground in above 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna height 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.</div>				

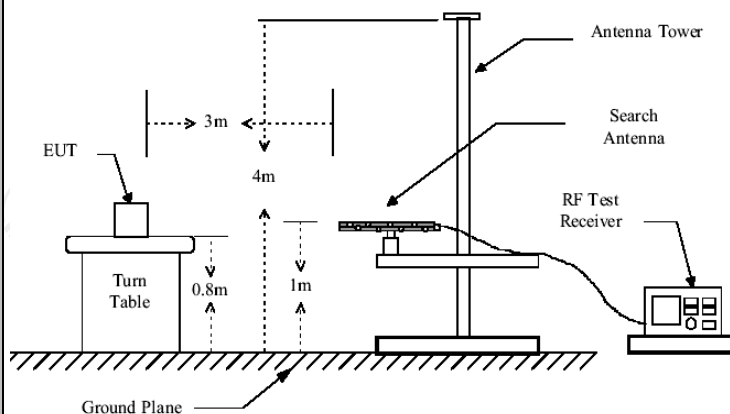
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

## Test setup:

For radiated emissions below 30MHz

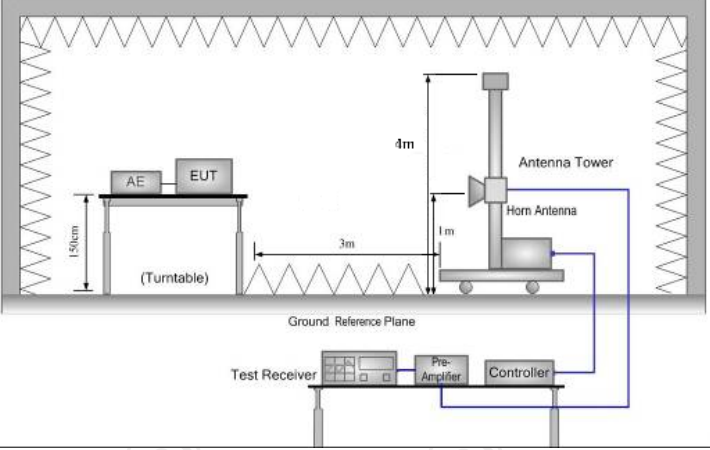


30MHz to 1GHz



Above 1GHz

(The diagram below shows the test setup that is utilized to make the measurements for emission from 1GHz to the tenth harmonic of the highest fundamental frequency or to 40GHz emissions, whichever is lower.)

	
Test results:	PASS

### 5.3.2. Test Instruments

Radiated Emission Test Site (966)					
Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
EMI Test Receiver	R&S	ESCI7	100529	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 27, 2024	Jun. 26, 2025
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024	Jun. 26, 2025
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 27, 2024	Jun. 26, 2025
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 23, 2025	Jan. 22, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2024	Jun. 26, 2025
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ EMC	FA-03A2 RE+	1.1.4.2	/	/

### 5.3.3. Test Data

#### Field Strength of Fundamental

Frequency (MHz)	Emission PK (dBuV/m)	Horizontal /Vertical	Limits PK (dBuV/m)	Margin (dB)
2403.65	86.41	H	114	-27.59
2403.65	68.04	V	114	-45.96
2441.65	86.31	H	114	-27.69
2441.65	68.41	V	114	-45.59
2479.65	84.48	H	114	-29.52
2479.65	66.33	V	114	-47.67

Frequency (MHz)	Emission AV (dBuV/m)	Horizontal /Vertical	Limits AV (dBuV/m)	Margin (dB)
2403.65	86.38	H	94	-7.62
2403.65	67.94	V	94	-26.06
2441.65	86.27	H	94	-7.73
2441.65	68.52	V	94	-25.48
2479.65	84.33	H	94	-9.67
2479.65	66.21	V	94	-27.79

#### Spurious Emissions

##### Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBuV/m)	Limit@3m (dBuV/m)
--	--	--
--	--	--
--	--	--
--	--	--

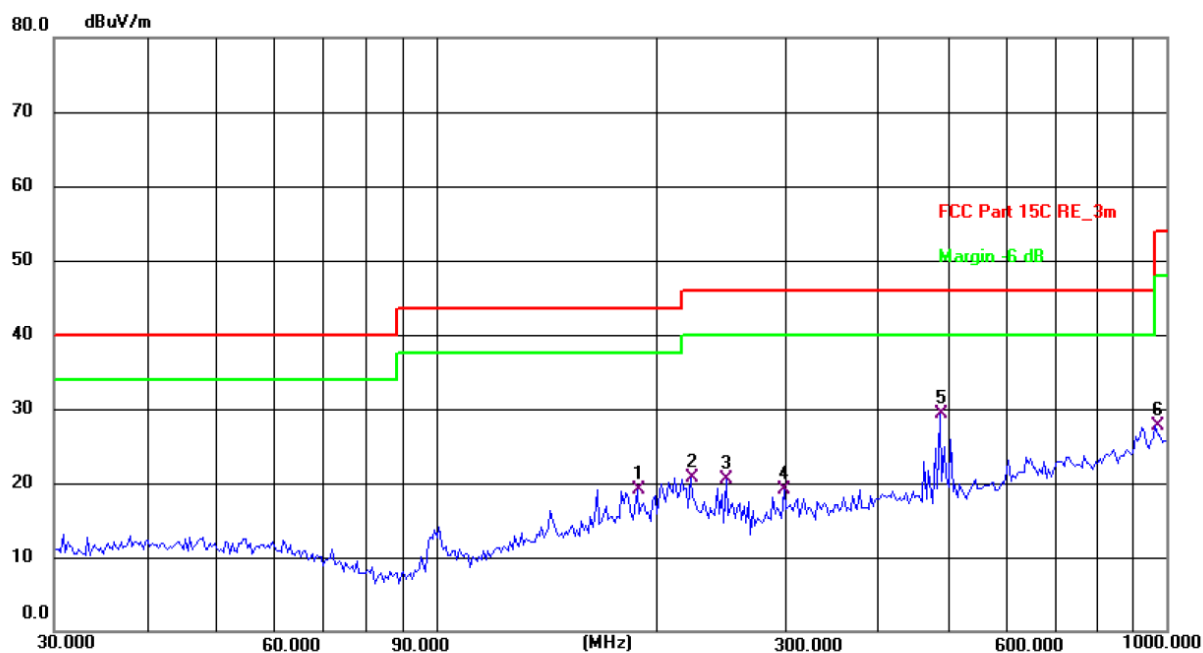
**Note:** 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

3. For fundamental frequency, RBW >20dB BW, VBW>=RBW, PK detector is for PK value, RMS detector is for AV value.

## Frequency Range (30MHz-1GHz)

Horizontal:



Site: 3m Anechoic Chamber1

Polarization: **Horizontal**

Temperature: 24.8(C)

Humidity: 51 %

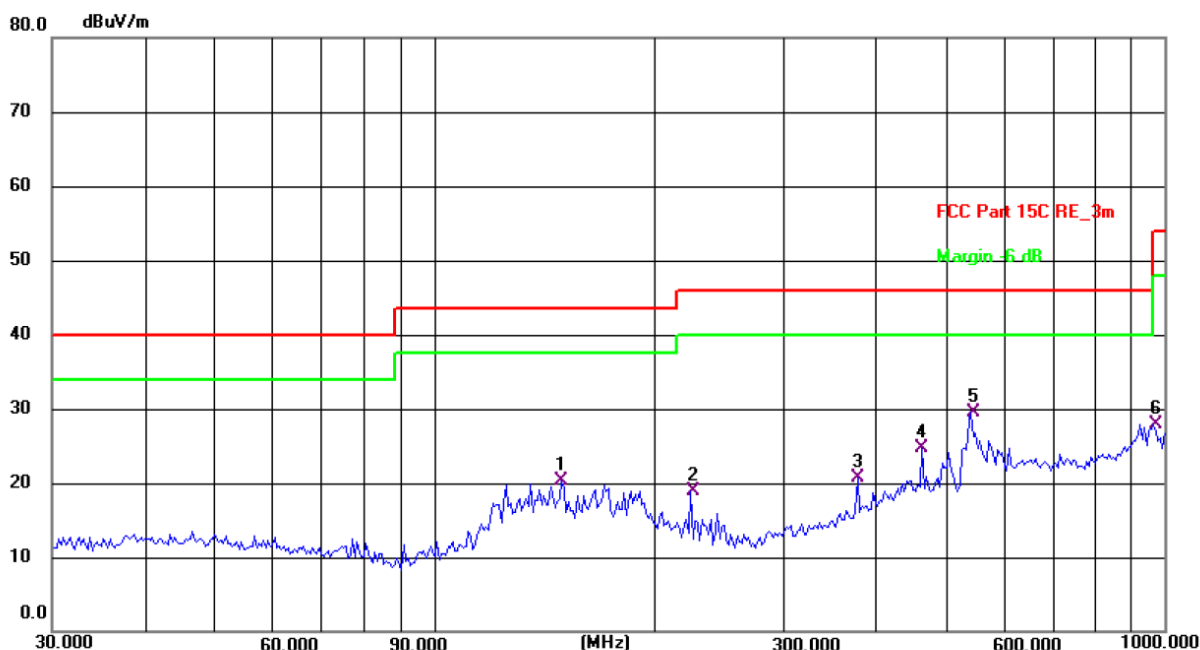
Limit: FCC Part 15C RE\_3m

Power: DC 3V(2\*AAA battery)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	188.4125	33.25	-14.05	19.20	43.50	-24.30	QP	P	
2	222.9502	35.74	-14.95	20.79	46.00	-25.21	QP	P	
3	249.4250	34.04	-13.57	20.47	46.00	-25.53	QP	P	
4	299.3158	30.11	-10.98	19.13	46.00	-26.87	QP	P	
5 *	489.0269	37.03	-7.79	29.24	46.00	-16.76	QP	P	
6	965.5421	27.75	-0.07	27.68	54.00	-26.32	QP	P	



Vertical:



Site: 3m Anechoic Chamber1

Polarization: **Vertical**

Temperature: 24.8(C) Humidity: 51 %

Limit: FCC Part 15C RE\_3m

Power: DC 3V(2\*AAA battery)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	149.4857	31.60	-11.38	20.22	43.50	-23.28	QP	P	
2	224.5193	33.83	-14.91	18.92	46.00	-27.08	QP	P	
3	379.9141	30.39	-9.65	20.74	46.00	-25.26	QP	P	
4	465.5994	32.86	-8.16	24.70	46.00	-21.30	QP	P	
5 *	543.2742	36.33	-6.81	29.52	46.00	-16.48	QP	P	
6	965.5421	28.00	-0.07	27.93	54.00	-26.07	QP	P	

**Note:** Measurements were conducted in all channels (high, middle, low), and the worst case (Lowest channel) was submitted only.

## Above 1GHz

Low channel: 2403.65MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4807.30	H	56.06	---	-9.49	46.57	---	74	54	-7.43
7210.95	H	46.52	---	-1.39	45.13	---	74	54	-8.87
---	---	---	---	---	---	---	---	---	---
4807.30	V	56.31	---	-9.49	46.82	---	74	54	-7.18
7210.95	V	46.98	---	-1.39	45.59	---	74	54	-8.41
---	---	---	---	---	---	---	---	---	---

Middle channel: 2441.65MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4883.30	H	55.51	---	-9.32	46.19	---	74	54	-7.81
7324.95	H	46.33	---	-1.10	45.23	---	74	54	-8.77
---	---	---	---	---	---	---	---	---	---
4883.30	V	57.01	---	-9.32	47.69	---	74	54	-6.31
7324.95	V	47.78	---	-1.10	46.68	---	74	54	-7.32
---	---	---	---	---	---	---	---	---	---

High channel: 2479.65MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
4959.30	H	57.13	---	-9.19	47.94	---	74	54	-6.06
7438.95	H	46.69	---	-0.93	45.76	---	74	54	-8.24
---	---	---	---	---	---	---	---	---	---
4959.30	V	56.87	---	-9.19	47.68	---	74	54	-6.32
7438.95	V	45.40	---	-0.93	44.47	---	74	54	-9.53
---	---	---	---	---	---	---	---	---	---

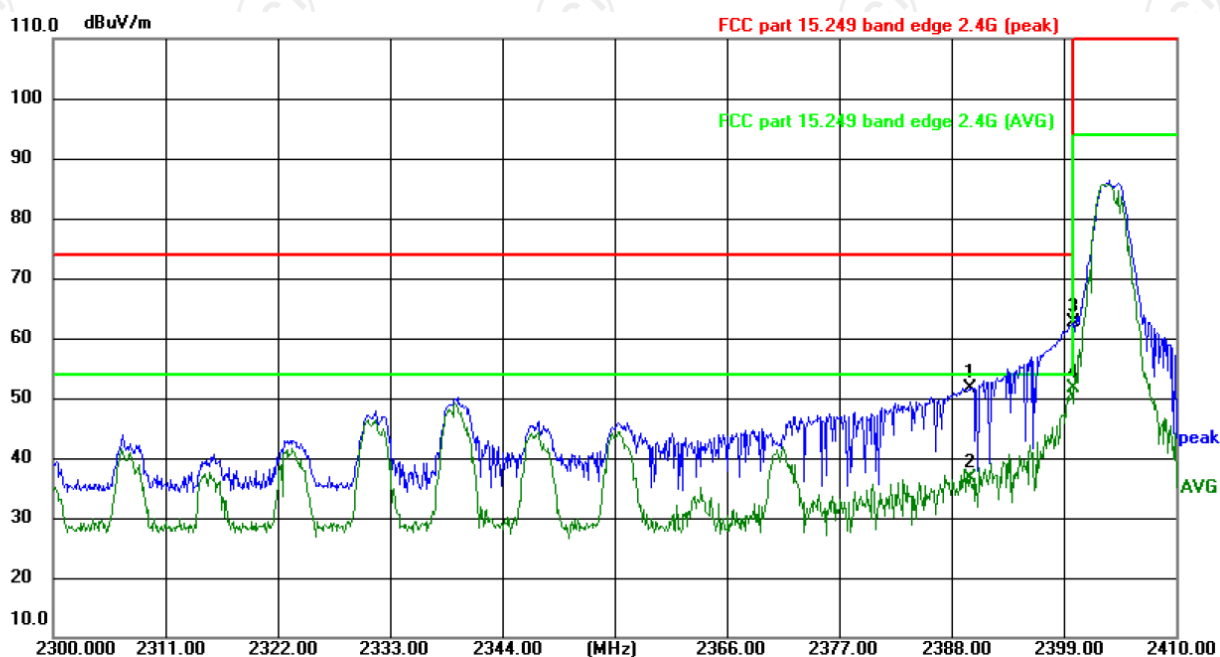
### Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
5. Data of measurement shown “---”in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
6. All the restriction bands are compliance with the limit of 15.209.

## Band Edge Requirement

Lowest channel 2403.65:

Horizontal:



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

Temperature: 24.6(°C)

Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak)

Power: DC 3V(2\*AAA battery)

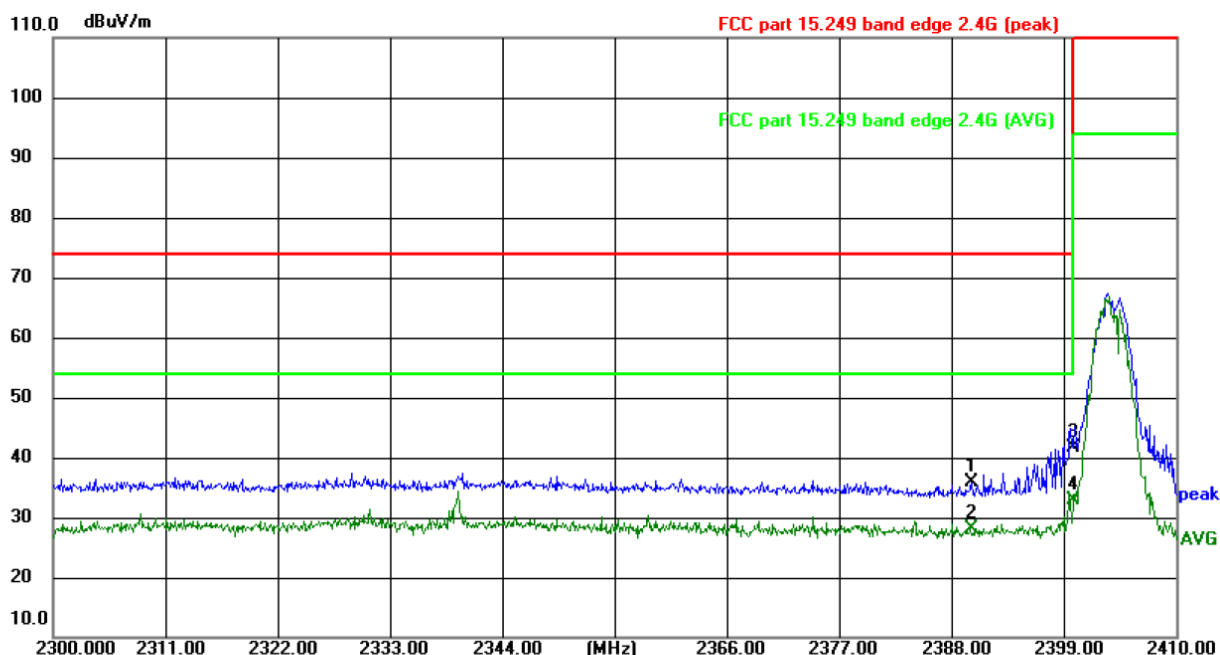
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
2390.000	H	68.00	---	-16.26	51.74	---	74	54	-22.26
2390.000	H	---	52.83	-16.26	---	36.57	74	54	-17.43
2400.000	H	79.07	---	-16.35	62.72	---	74	54	-11.28
2400.000	H	---	67.88	-16.35	---	51.53	74	54	-2.47

### Note:

1. Emission Level = Peak Reading + Correction Factor; Correction Factor = Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak/AVG) (dBuV/m) - limit (Peak/AVG) (dBuV/m)

Vertical:



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 24.6(°C)

Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak)

Power:DC 3V(2\*AAA battery)

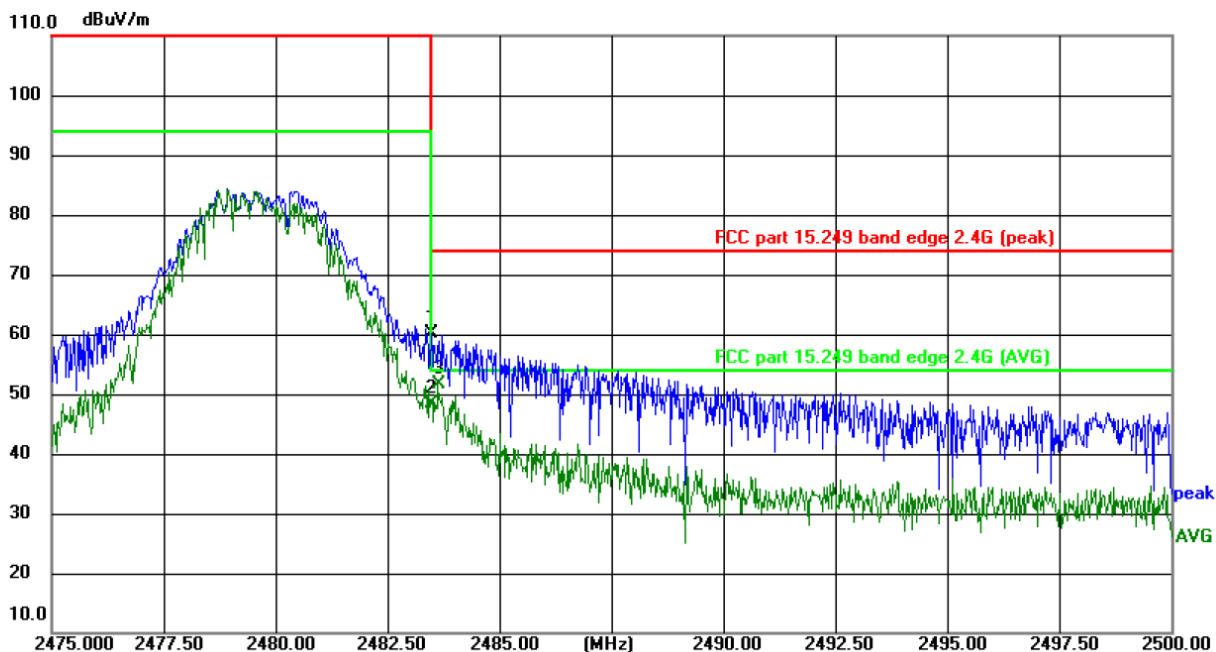
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
2390.000	V	52.26	---	-16.26	36.00	---	74	54	-38.00
2390.000	V	---	44.51	-16.26	---	28.25	74	54	-25.75
2400.000	V	57.86	---	-16.35	41.51	---	74	54	-32.49
2400.000	V	---	49.21	-16.35	---	32.86	74	54	-21.14

**Note:**

- 1.Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
- 2.Margin (dB) = Emission Level (Peak/AVG) (dBuV/m)- limit (Peak/AVG) (dBuV/m)

Highest channel 2479.65:

Horizontal:



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

Temperature: 24.6(°C)

Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak)

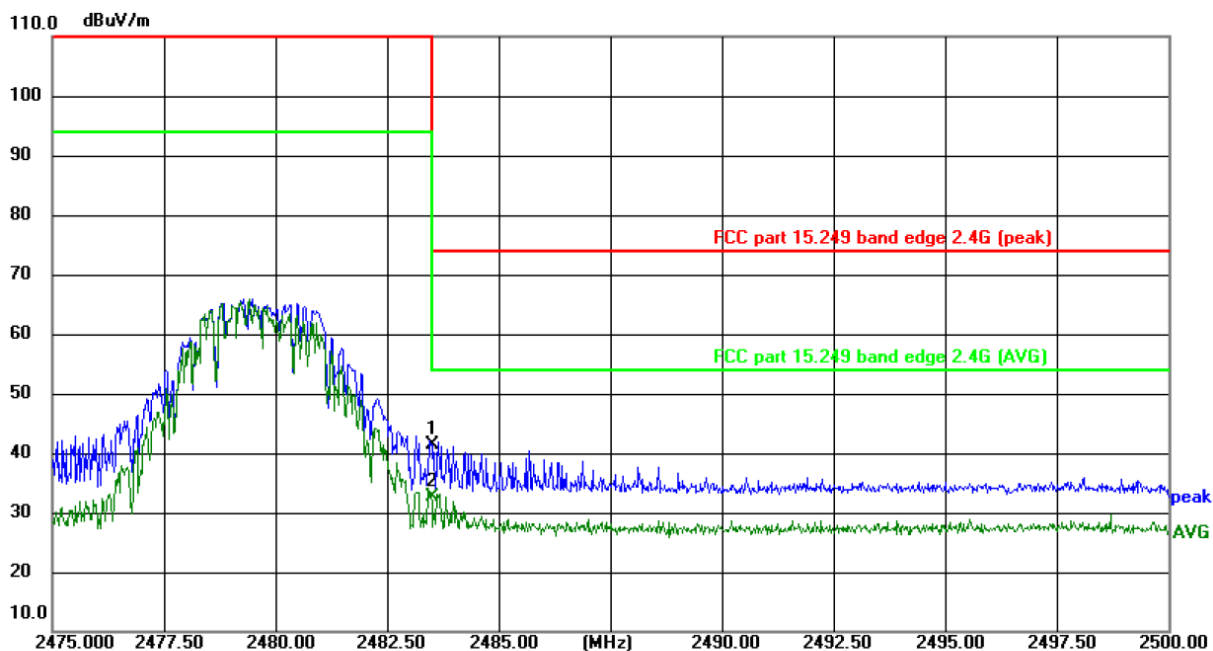
Power:DC 3V(2\*AAA battery)

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
2483.500	H	76.06	---	-15.91	60.15	---	74	54	-13.85
2483.500	H	---	64.29	-15.91	---	48.38	74	54	-5.62
2483.633	H	---	67.47	-15.91	---	51.56	74	54	-2.44

**Note:**

- 1.Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
- 2.Margin (dB) = Emission Level (Peak/AVG) (dBμV/m)- limit (Peak/AVG) (dBμV/m)

Vertical:



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 24.6(°C)

Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak)

Power:DC 3V(2\*AAA battery)


Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
2483.500	V	57.38	---	-15.91	41.47	---	74	54	-32.53
2483.500	V	---	48.58	-15.91	---	32.67	74	54	-21.33

**Note:**

- 1.Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
- 2.Margin (dB) = Emission Level (Peak/AVG) (dBuV/m)- limit (Peak/AVG) (dBuV/m)

## 5.4. 20dB Occupied Bandwidth

### 5.4.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 C Section 15.215(c)
<b>Test Method:</b>	ANSI C63.10:2020
<b>Limit:</b>	N/A
	<ol style="list-style-type: none"> <li>1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT.</li> <li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW<math>\geq</math>1% of the 20 dB bandwidth; VBW<math>\geq</math>RBW; Sweep = auto; Detector function = peak; Trace = max hold.</li> <li>4. Measure and record the results in the test report.</li> </ol>
<b>Test setup:</b>	 <p>The diagram illustrates the test setup. On the left is a green Spectrum Analyzer with a screen and two knobs. A black cable connects it to a yellow rectangular box on the right labeled 'EUT'.</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test results:</b>	PASS

### 5.4.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	R&S	FSU	200054	Jun. 27, 2024	Jun. 26, 2025

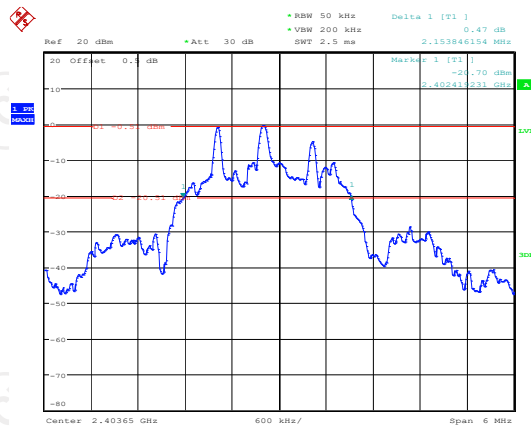


### 5.4.3. Test data

Test Channel	20dB Occupy Bandwidth (kHz)	Limit	Conclusion
Lowest	2153.85	---	PASS
Middle	2230.77	---	PASS
Highest	2221.15	---	PASS

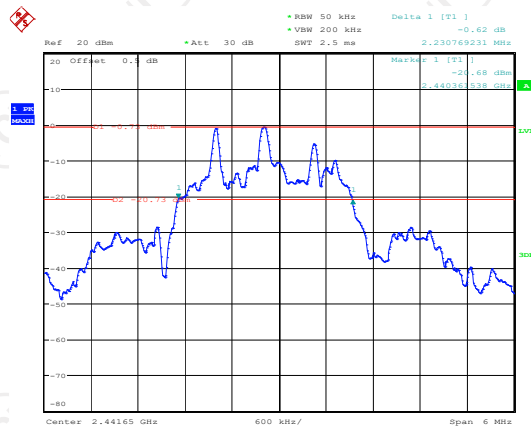
Test plots as follows:

### Lowest channel



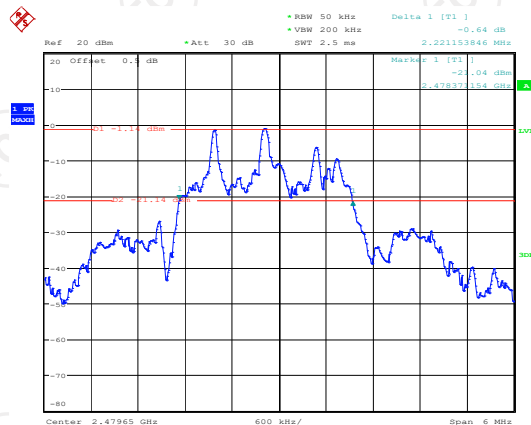
Date: 24.APR.2025 12:04:46

### Middle channel



Date: 24.APR.2025 12:10:35

### Highest channel



Date: 24.APR.2025 12:14:05

## Appendix A: Photographs of Test Setup

Please refer to document Appendix No.: TCT250422E025-A

## Appendix B: Photographs of EUT

Please refer to document Appendix No.: TCT250422E025-B & TCT250422E025-C

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