



FCC Test Report

FCC ID: 2BW8H-18003-1

Applicant: Shantou City Chenghai District Shuangge Toy Factory

Address: NO.6, TUQIU ROAD 2, HUAI DONG VILLAGE, LIANXIA TOWN, CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, China

Manufacturer: Shantou City Chenghai District Shuangge Toy Factory

Address: NO.6, TUQIU ROAD 2, HUAI DONG VILLAGE, LIANXIA TOWN, CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, China

Product Name: Remote Control Toy Series

Trade Mark: N/A

Model Number: 18003-1, 18001-1, 18002-1, 18004-1, 18005-1, 18006-2, 18007-1, 18003-3, 18003-5, 18003-31, 18003-32, 18003-33, 18004-2, 18006-1, 18006-2, 18008-1

Date of Receipt: Mar. 30, 2026

Test Date: Mar. 30, 2026 ~ Jul. 17, 2026

Date of Report: Jul. 17, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2020

Test Result: Pass

Report Number: DLE-260717008R

Prepared by(Engineer): Ken Tan

Reviewer(Supervisor): Jack Bu

Approved(Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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**** Issued History ****

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	Jul. 17, 2026	



1. Summary

1.1 Test Procedures and Results

DESCRIPTION OF TEST	SECTION NUMBER	RESULT
AC CONDUCTED EMISSIONS TEST	15.207	N/A
RADIATED EMISSION TEST	15.249(a)/15.209	PASS
BAND EDGE	15.249(d)/15.205	PASS
OCCUPIED BANDWIDTH MEASUREMENT	15.215(c)	PASS
ANTENNA REQUIREMENT	15.203	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.

1.2 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended 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	Uncertainty
1	Conducted Emission Test	$\pm 2.56\text{dB}$
2	RF power,conducted	$\pm 0.42\text{dB}$
3	Spurious emissions,conducted	$\pm 2.76\text{dB}$
4	All emissions,radiated(<1G)	$\pm 3.65\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$
8	6dB Bandwidth	$\pm 0.2\text{MHz}$
9	Power Spectral Density	$\pm 0.3\text{dBm}$

1.3 Information of the Test Laboratory

Shenzhen DL Testing Technology Co., Ltd.

Add.: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Designation Number: CN1307



2. General Information

2.1 General Description of EUT

Equipment:	Remote Control Toy Series
Model Name:	18003-1
Series Model(s):	18001-1, 18002-1, 18004-1, 18005-1, 18006-2, 18007-1, 18003-3, 18003-5, 18003-31, 18003-32, 18003-33, 18004-2, 18006-1, 18006-2, 18008-1
Model Difference:	All model's the function, software and electric circuit are the same, only the model named different. Test sample model: 18003-1.
Antenna Type:	Internal antenna
Antenna Gain:	0.17dBi
Operation Frequency:	2410-2470MHz
Number of Channels:	31CH
Modulation Type:	GFSK
Power Source:	DC3V from Battery
Power Rating:	DC3V from Battery
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain Refer to the antenna specifications. 3. The cable loss data is obtained from the supplier. 4. The test results in the report only apply to the tested sample.	



2.2 Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2410.0	20	2450.0
1	2413.0	21	2453.0
2	2414.0	22	2454.0
3	2417.0	23	2457.0
4	2418.0	24	2458.0
5	2421.0	25	2461.0
6	2422.0	26	2462.0
7	2425.0	27	2465.0
8	2426.0	28	2466.0
9	2429.0	29	2469.0
10	2430.0	30	2470.0
11	2433.0		
12	2434.0		
13	2437.0		
14	2438.0		
15	2441.0		
16	2442.0		
17	2445.0		
18	2446.0		
19	2449.0		

2.3 Operation of EUT during Testing

Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2410MHz

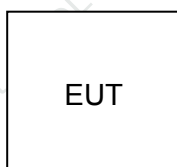
Middle Channel: 2442MHz

High Channel: 2470MHz

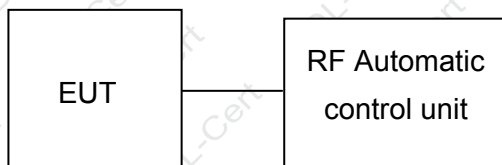


2.4 Description of Test Setup

Operation of EUT during Radiation testing:



Operation of EUT during RF Conducted testing:



The sample was placed (0.8m below 1GHz, 1.5m 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 are shown in Test Results of the following pages. The worst case is X position.



2.5 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.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Note
1	Remote Control Toy Series	N/A	18003-1	N/A	EUT

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.
3. For conducted measurements (20dB Bandwidth), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

2.6 The worst case power setting parameter

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Test Software Version		Combined push-button frequency setting test		
Modulation Type	Transmit Antenna Number	Test Software setting value		
		CH 0	CH 16	CH 30
GFSK	1	default	default	default



2.7 Equipments List for All Test Items

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 25, 2025	Oct. 24, 2026
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 25, 2025	Oct. 24, 2026
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
16	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ EMC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ EMC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0



3. AC Conducted Emissions Test

3.1 AC Conducted Power Line Emission Limit

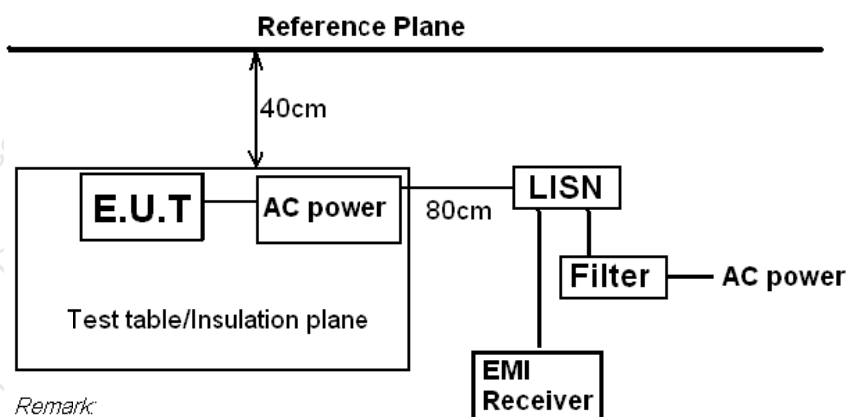
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following.

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency.

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



Remark:

E.U.T: Equipment Under Test

LISN: Line Impedance Stabilization Network

Test table height=0.8m

3.3 Test Procedure

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.



3.4 Test Result

Not applicable.

Note: EUT power supply by Battery Powered, so this test item not applicable.



4. Radiated Emission Test

4.1 Radiation Limit

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.490	300	$20\log 2400/F$ (kHz)	$2400/F$ (kHz)
0.490-1.705	30	$20\log 24000/F$ (kHz)	$24000/F$ (kHz)
1.705-30	30	$20\log 30$	30
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

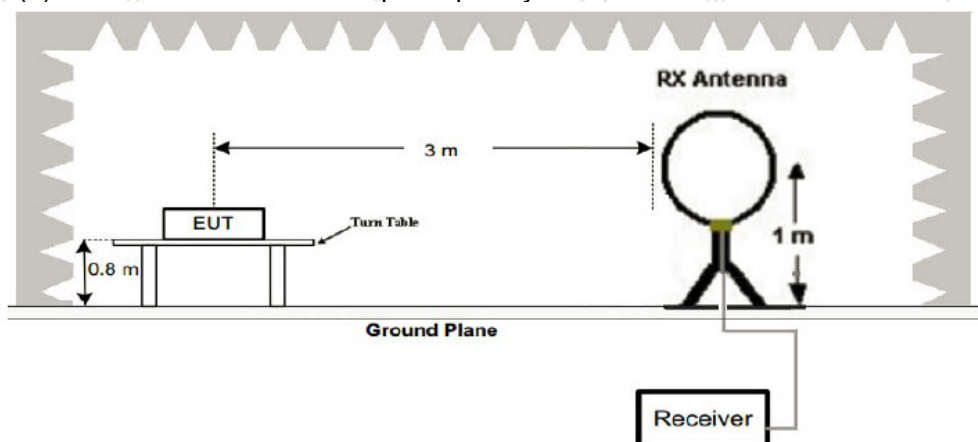
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

For unintentional device, according to § 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

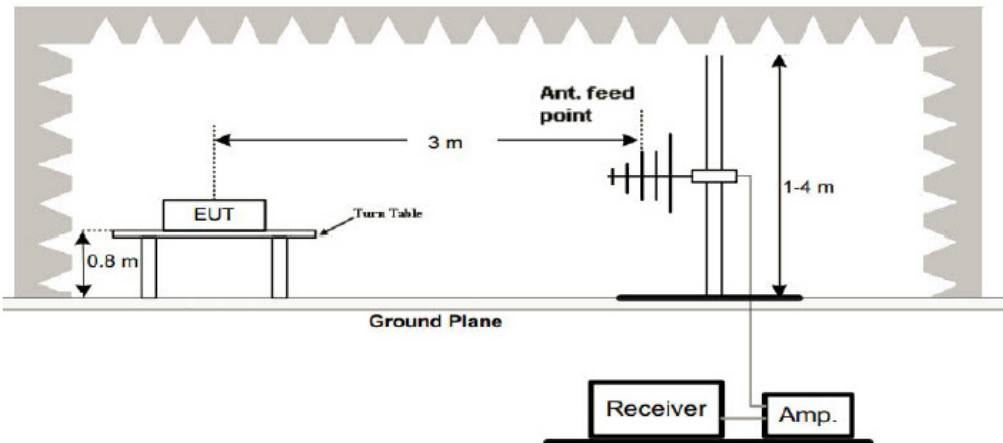
4.2 Test Setup

(1) Radiated Emission Test-Up Frequency Below 30MHz

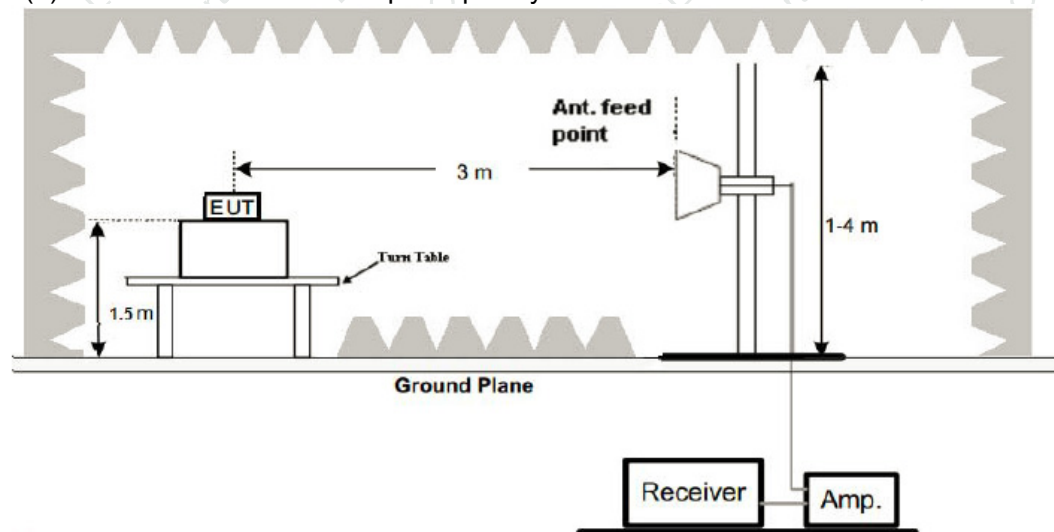




(2) Radiated Emission Test-Up Frequency 30MHz~1GHz



(3) Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to 26GHz per FCC PART 15.33(a).

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.



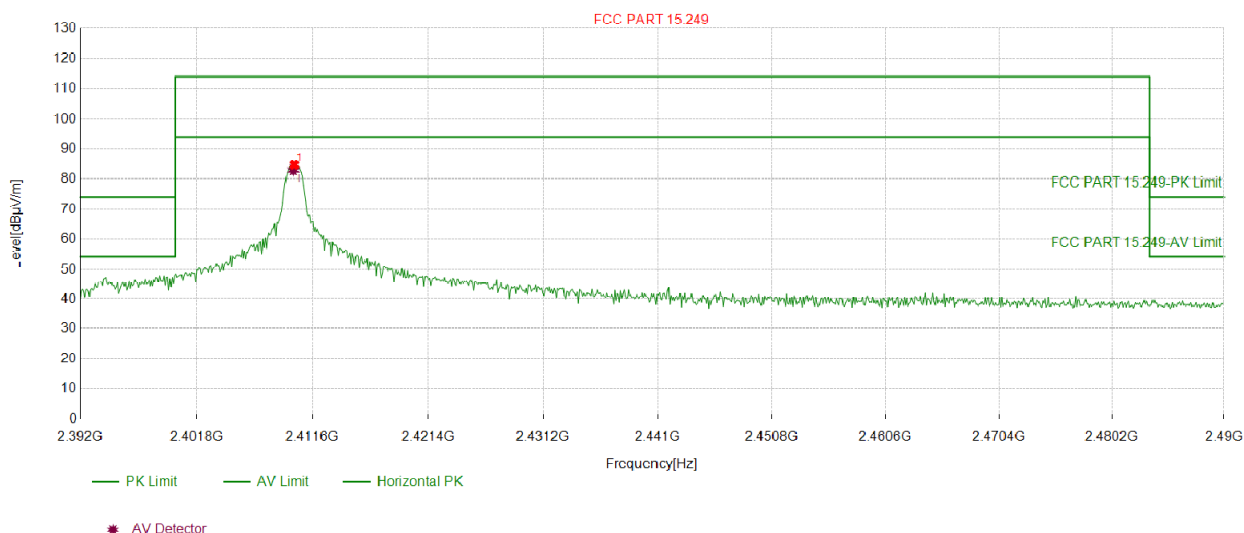
4.4 Test Result

PASS

Field strength of fundamental:

Operation Mode: TX CH Low (2410MHz)

Antenna polarity: Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2410.050	99.00	84.61	-14.39	114.00	29.39	150	65	Horizontal

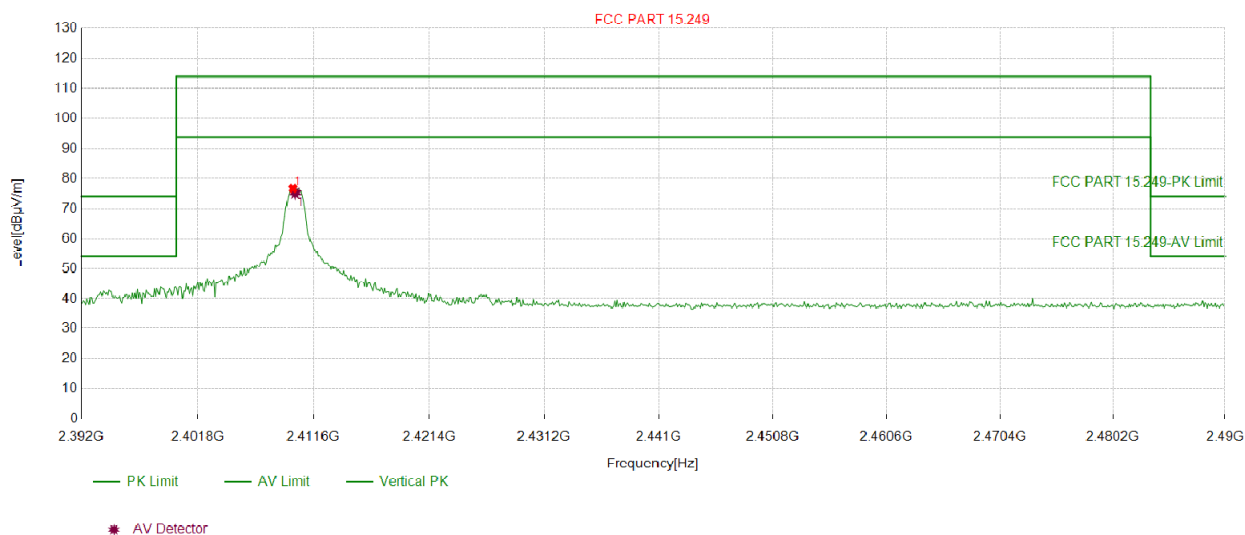
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2409.978	-14.39	82.87	94.00	11.13	150	65	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2409.854	91.01	76.63	-14.38	114.00	37.37	150	64	Vertical

AV Final Data List

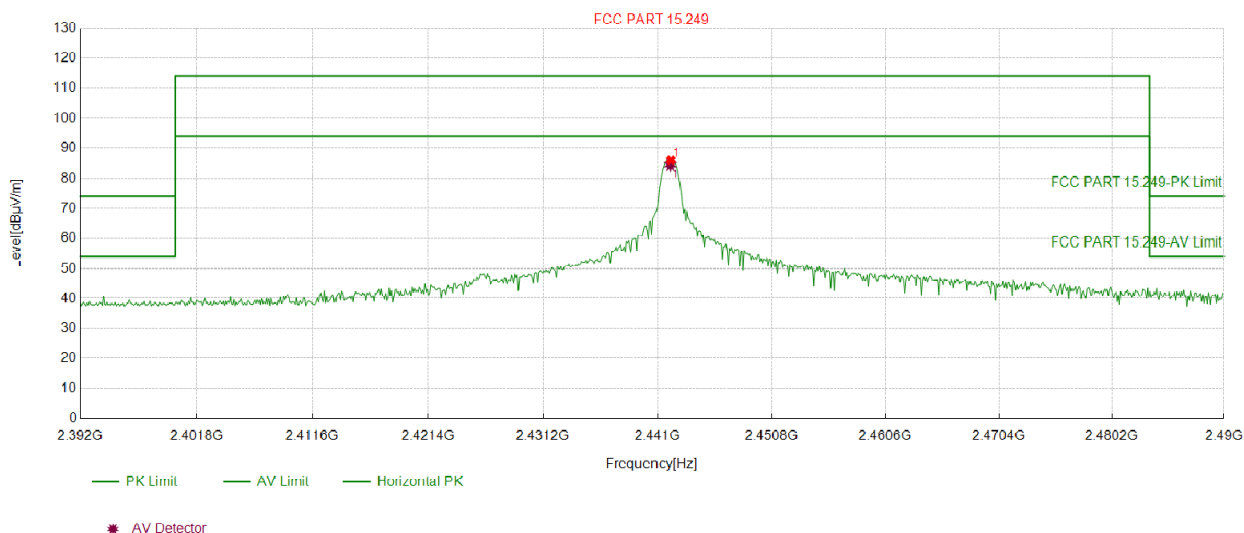
NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2410.047	-14.38	75.13	94.00	18.87	150	64	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Operation Mode: TX CH Middle (2442MHz)

Antenna polarity: Horizontal

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2442.128	100.59	86.03	-14.56	114.00	27.97	150	86	Horizontal

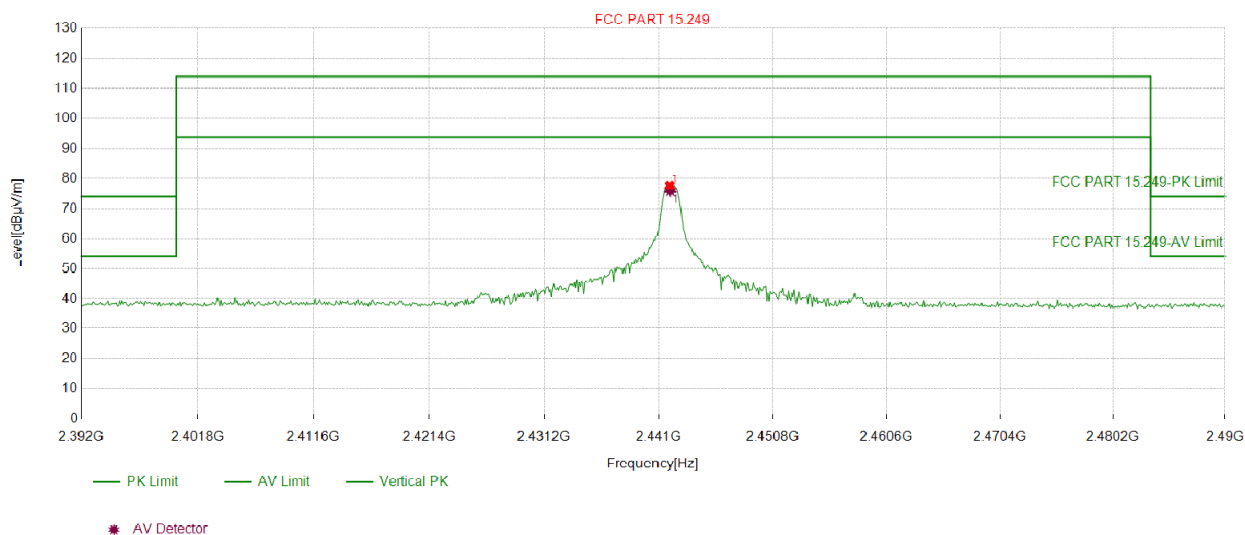
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2442.079	-14.56	84.42	94.00	9.58	150	86	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Polarity
1	2441.932	92.24	77.68	-14.56	114.00	36.32	150	Vertical

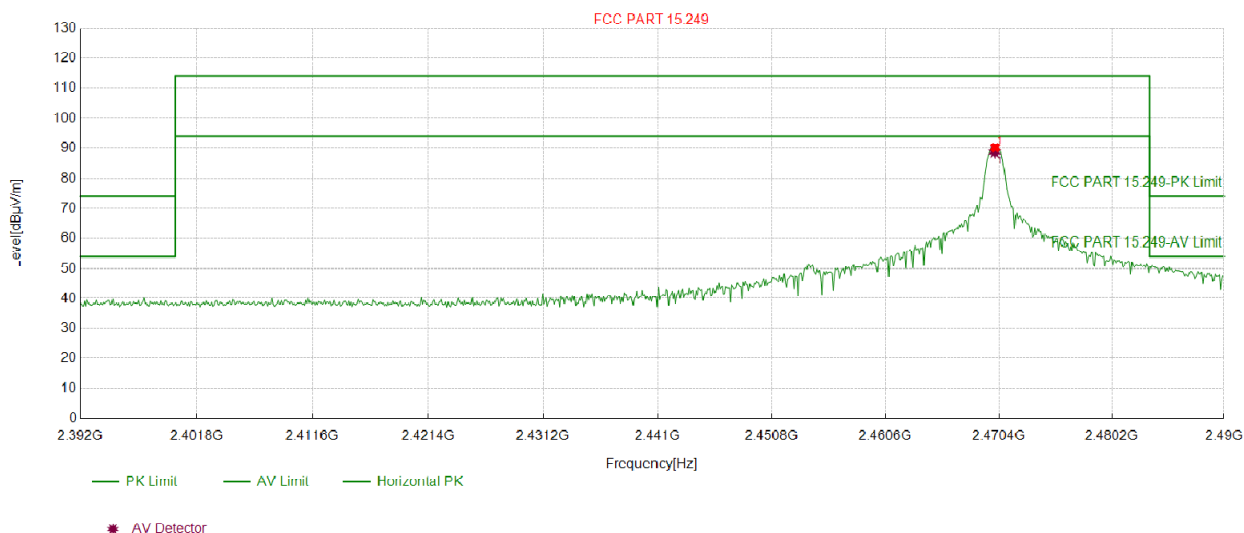
AV Final Data List							
NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Polarity
1	2441.981	-14.56	75.98	94.00	18.02	150	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Operation Mode: TX CH High (2470MHz)

Antenna polarity: Horizontal

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2470.086	104.84	90.16	-14.68	114.00	23.84	150	56	Horizontal

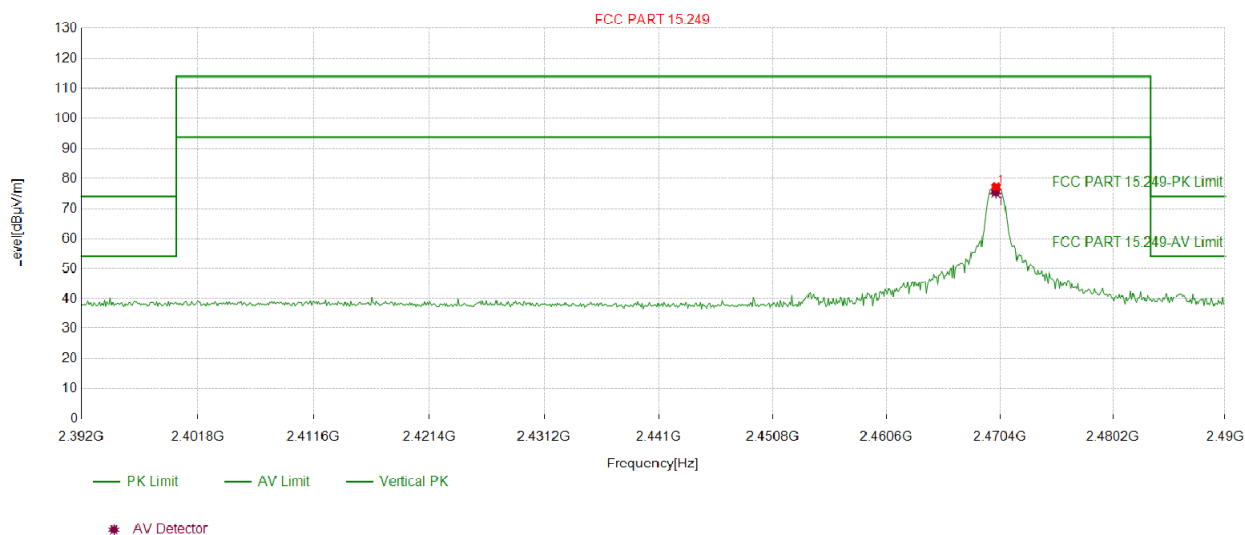
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2470.037	-14.68	88.67	94.00	5.33	150	56	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2470.086	91.82	77.14	-14.68	114.00	36.86	150	330	Vertical

AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2470.037	-14.68	75.48	94.00	18.52	150	330	Vertical

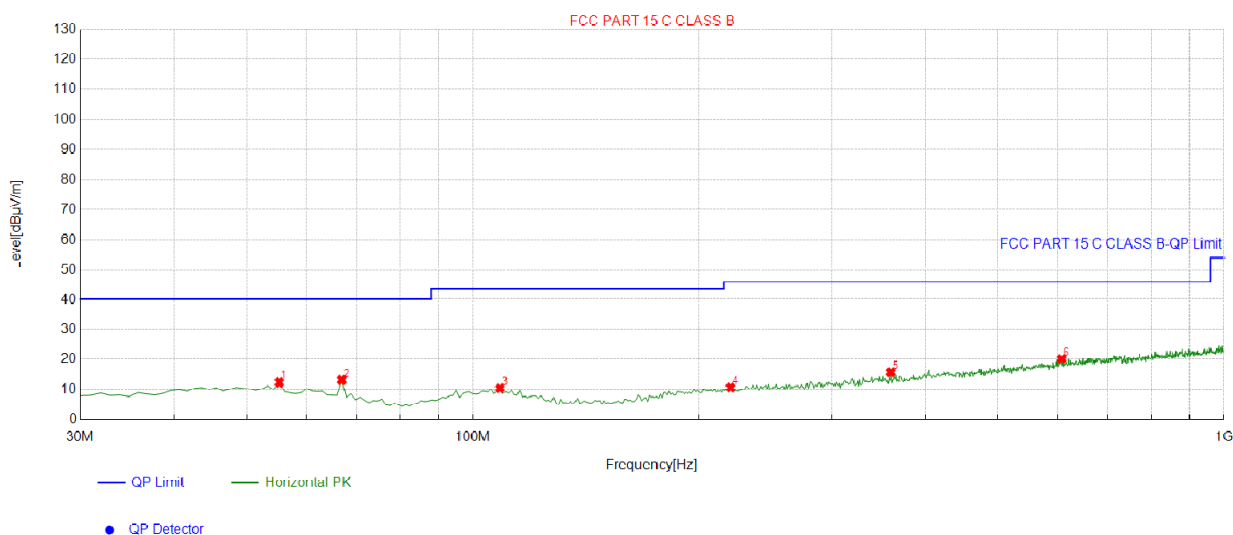
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



All the test modes completed for test. Only the worst mode of GFSK low channel TX is reflected.

Below 1GHz Test Results:

Antenna polarity: Horizontal



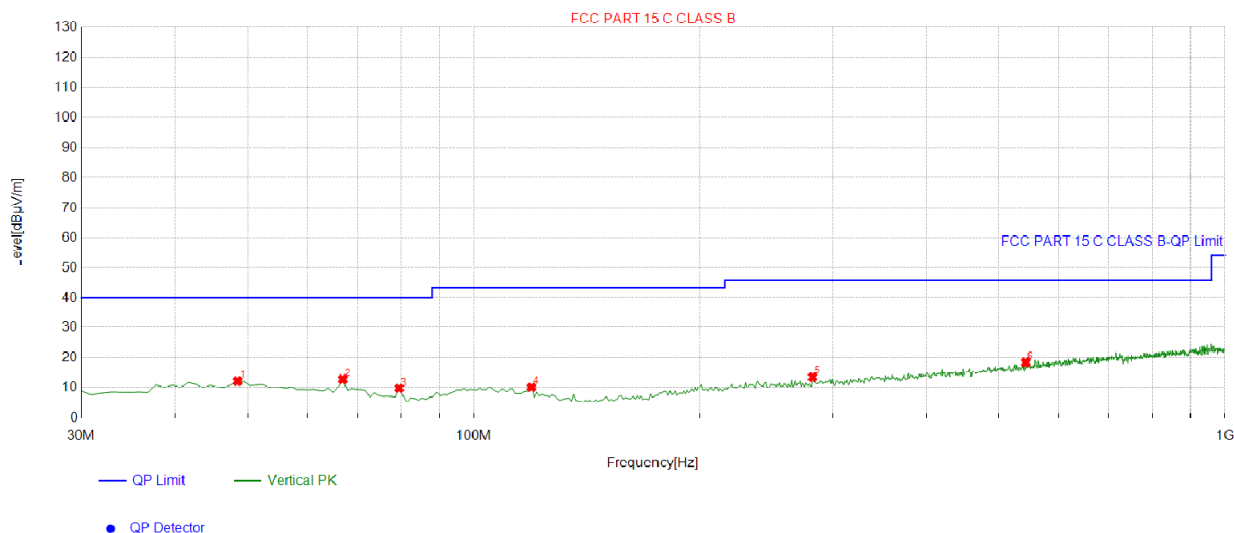
Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	55.245	-13.35	25.87	12.52	40.00	27.48	100	0	Horizontal
2	66.897	-15.75	29.01	13.26	40.00	26.74	100	230	Horizontal
3	108.649	-14.58	25.15	10.57	43.50	32.93	100	32	Horizontal
4	220.310	-14.27	25.11	10.84	46.00	35.16	100	189	Horizontal
5	360.130	-10.47	26.20	15.73	46.00	30.27	100	291	Horizontal
6	607.728	-5.44	25.70	20.26	46.00	25.74	100	138	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	48.448	-12.71	25.05	12.34	40.00	27.66	100	13	Vertical
2	66.897	-15.75	28.68	12.93	40.00	27.07	100	20	Vertical
3	79.520	-18.65	28.53	9.88	40.00	30.12	100	49	Vertical
4	119.329	-16.17	26.42	10.25	43.50	33.25	100	301	Vertical
5	282.452	-12.56	26.20	13.64	46.00	32.36	100	3	Vertical
6	542.673	-6.87	25.44	18.57	46.00	27.43	100	31	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Limit@3m (dBμV/m)
--	--	--
--	--	--
--	--	--
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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.

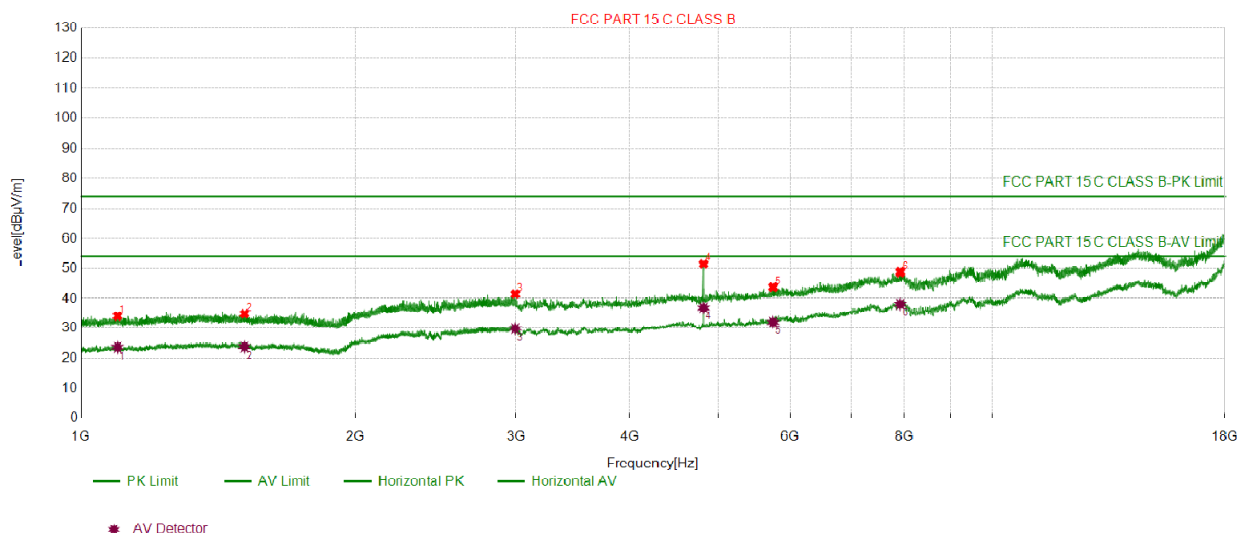


Above 1GHz Test Results

All the test modes completed for test. Only the worst mode of GFSK low channel TX is reflected.

For 1GHz to 18GHz

Antenna polarity: Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1096.610	54.08	34.18	-19.90	74.00	39.82	150	2	Horizontal
2	1511.051	53.48	34.94	-18.54	74.00	39.06	150	83	Horizontal
3	2995.200	54.27	41.61	-12.66	74.00	32.39	150	0	Horizontal
4	4819.682	61.35	51.41	-9.94	74.00	22.59	150	93	Horizontal
5	5745.275	52.17	43.90	-8.27	74.00	30.10	150	343	Horizontal
6	7921.992	51.48	48.77	-2.71	74.00	25.23	150	271	Horizontal

AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1096.610	-19.90	23.75	54.00	30.25	150	2	Horizontal
2	1511.051	-18.54	23.90	54.00	30.10	150	83	Horizontal
3	2995.200	-12.66	30.01	54.00	23.99	150	0	Horizontal
4	4819.682	-9.94	36.92	54.00	17.08	150	93	Horizontal
5	5745.275	-8.27	32.08	54.00	21.92	150	343	Horizontal
6	7921.992	-2.71	38.16	54.00	15.84	150	271	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



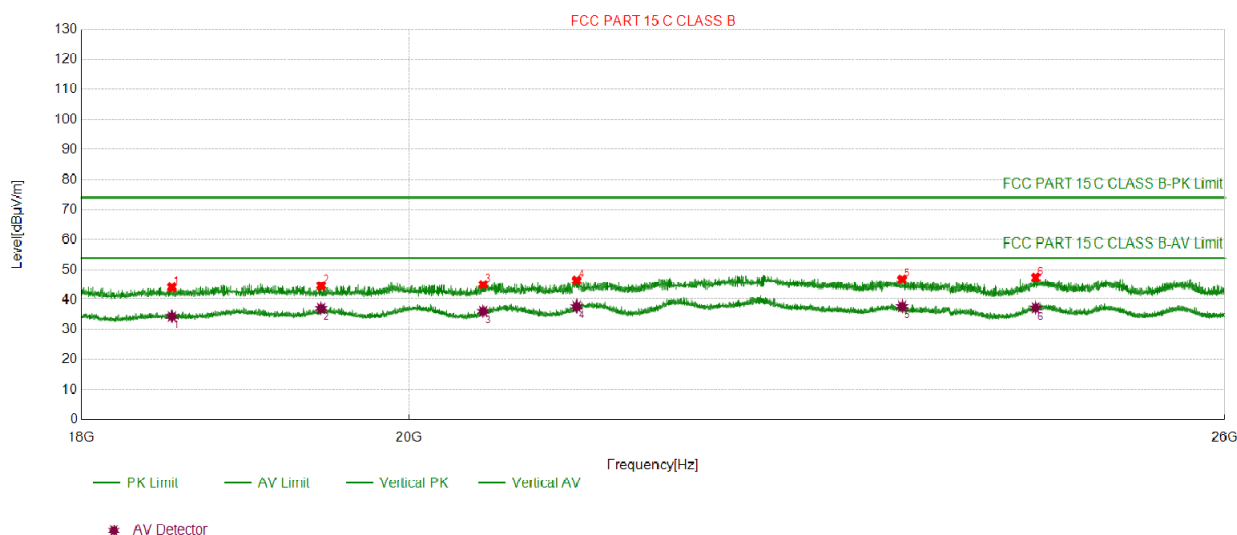
AV Final Data List								
NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1407.841	-18.55	25.13	54.00	28.87	150	103	Vertical
2	2278.928	-14.52	28.72	54.00	25.28	150	355	Vertical
3	2979.798	-12.71	30.43	54.00	23.57	150	223	Vertical
4	4819.682	-9.94	35.41	54.00	18.59	150	360	Vertical
5	7417.942	-3.47	37.10	54.00	16.90	150	303	Vertical
6	9318.632	-0.74	39.64	54.00	14.36	150	360	Vertical

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For 18GHz to 26GHz

Antenna polarity: Horizontal

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18533.653	38.75	44.10	5.35	74.00	29.90	150	240	Vertical
2	19444.144	38.54	44.61	6.07	74.00	29.39	150	100	Vertical
3	20483.448	39.08	45.06	5.98	74.00	28.94	150	140	Vertical
4	21108.311	41.07	46.39	5.32	74.00	27.61	150	80	Vertical
5	23436.544	41.02	46.70	5.68	74.00	27.30	150	150	Vertical
6	24463.846	41.67	47.36	5.69	74.00	26.64	150	40	Vertical

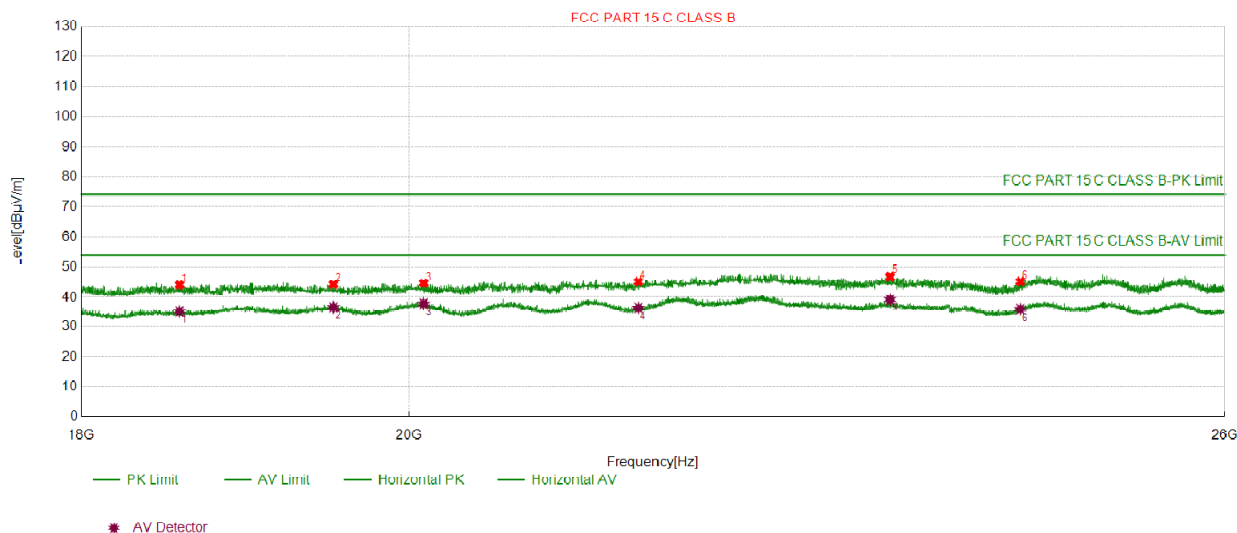
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18533.653	5.35	34.54	54.00	19.46	150	240	Vertical
2	19444.144	6.07	37.24	54.00	16.76	150	100	Vertical
3	20483.448	5.98	36.28	54.00	17.72	150	140	Vertical
4	21108.311	5.32	37.80	54.00	16.20	150	80	Vertical
5	23436.544	5.68	37.85	54.00	16.15	150	150	Vertical
6	24463.846	5.69	37.40	54.00	16.60	150	40	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18578.458	38.79	44.17	5.38	74.00	29.83	150	130	Horizontal
2	19520.952	38.27	44.36	6.09	74.00	29.64	150	350	Horizontal
3	20094.609	38.63	44.78	6.15	74.00	29.22	150	160	Horizontal
4	21531.553	39.91	45.24	5.33	74.00	28.76	150	90	Horizontal
5	23345.335	41.16	46.83	5.67	74.00	27.17	150	310	Horizontal
6	24343.834	39.72	45.29	5.57	74.00	28.71	150	180	Horizontal

AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18578.458	5.38	35.27	54.00	18.73	150	130	Horizontal
2	19520.952	6.09	36.64	54.00	17.36	150	350	Horizontal
3	20094.609	6.15	37.79	54.00	16.21	150	160	Horizontal
4	21531.553	5.33	36.46	54.00	17.54	150	90	Horizontal
5	23345.335	5.67	39.23	54.00	14.77	150	310	Horizontal
6	24343.834	5.57	36.04	54.00	17.96	150	180	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



5. Band Edge

5.1 Limits

FCC PART 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.

5.2 Test Procedure

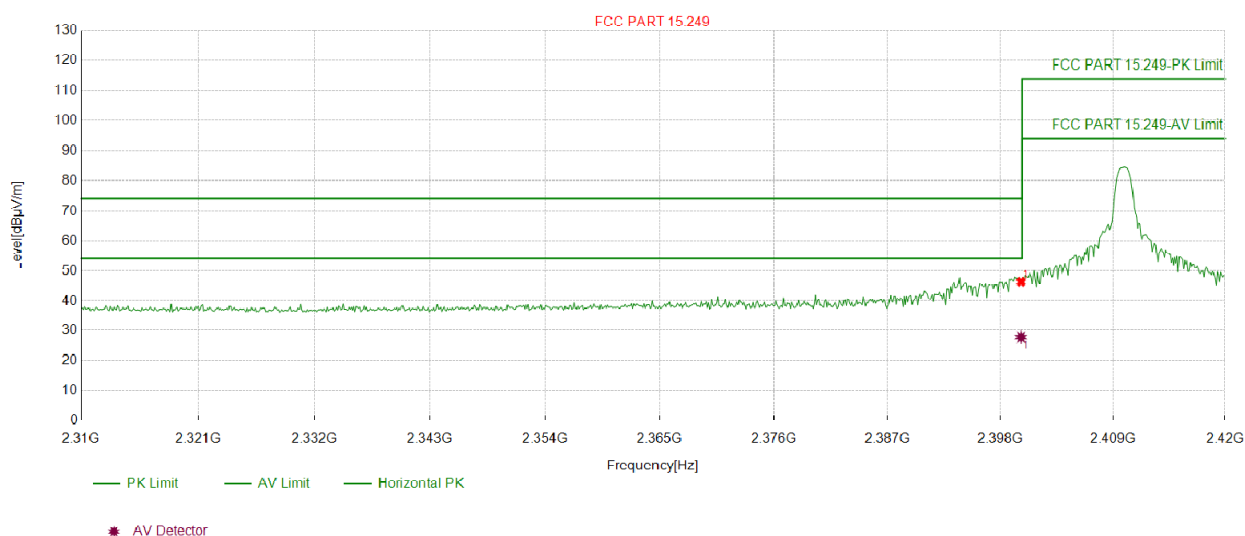
The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc.



5.3 Test Result

Operation Mode: TX CH Low (2410MHz)

Antenna polarity: Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2400.000	60.75	46.42	-14.33	74.00	27.58	150	34	Horizontal

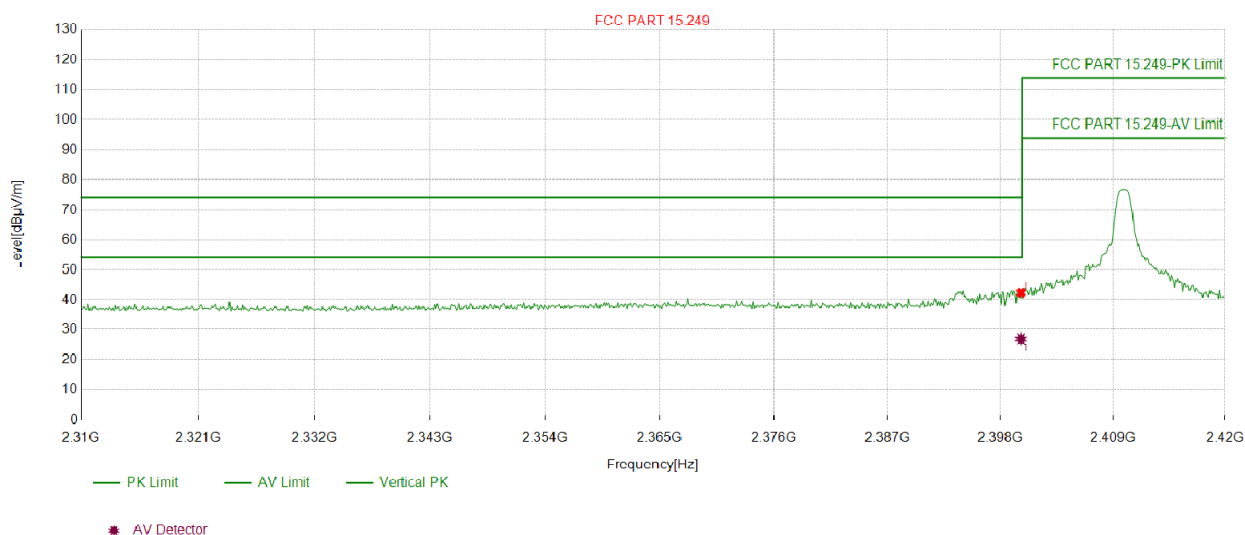
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2400.000	-14.33	27.81	54.00	26.19	150	34	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2400.000	56.81	42.48	-14.33	74.00	31.52	150	322	Vertical

AV Final Data List

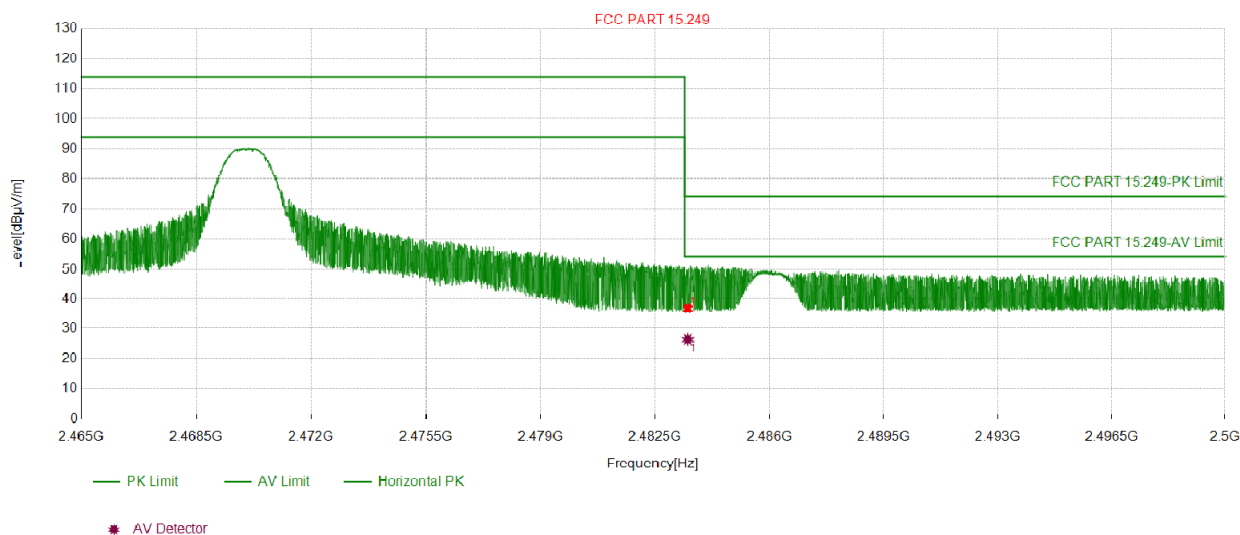
NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2400.000	-14.33	27.09	54.00	26.91	150	322	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Operation Mode: TX CH High (2470MHz)

Antenna polarity: Horizontal

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.500	51.55	36.83	-14.72	74.00	37.17	150	113	Horizontal

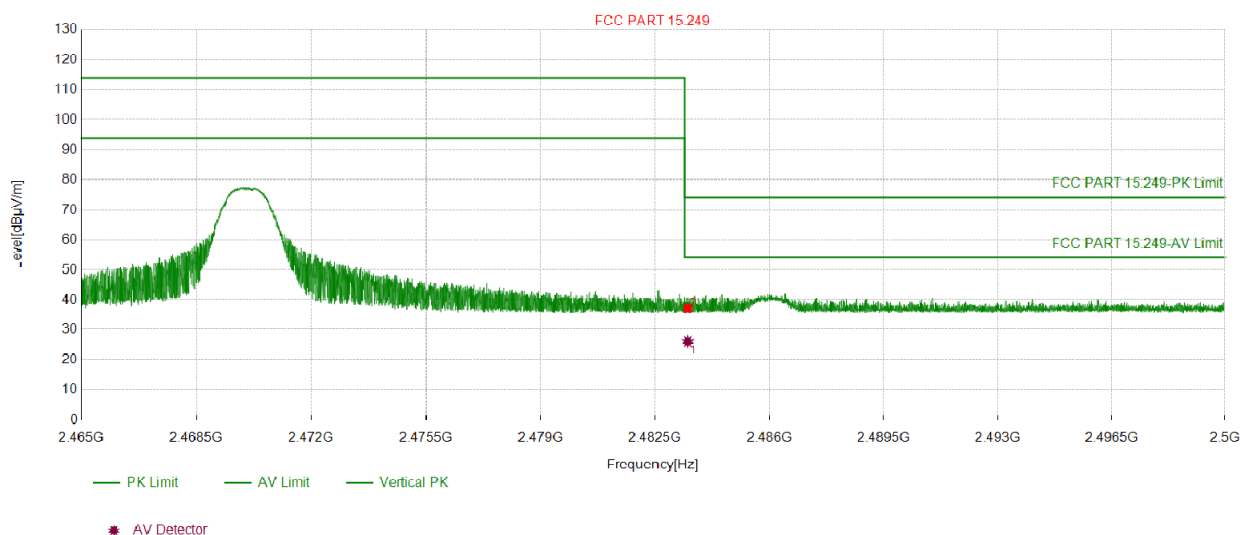
AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.500	-14.72	26.61	54.00	27.39	150	113	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBuV/m]	PK Level [dBuV/m]	Factor [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.500	51.89	37.17	-14.72	74.00	36.83	150	190	Vertical

AV Final Data List

NO	Freq. [MHz]	Factor [dB]	AV Value [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.500	-14.72	26.25	54.00	27.75	150	190	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit – Level

Note: When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



6. Occupied Bandwidth Measurement

6.1 Test Setup



6.2 Test Procedure

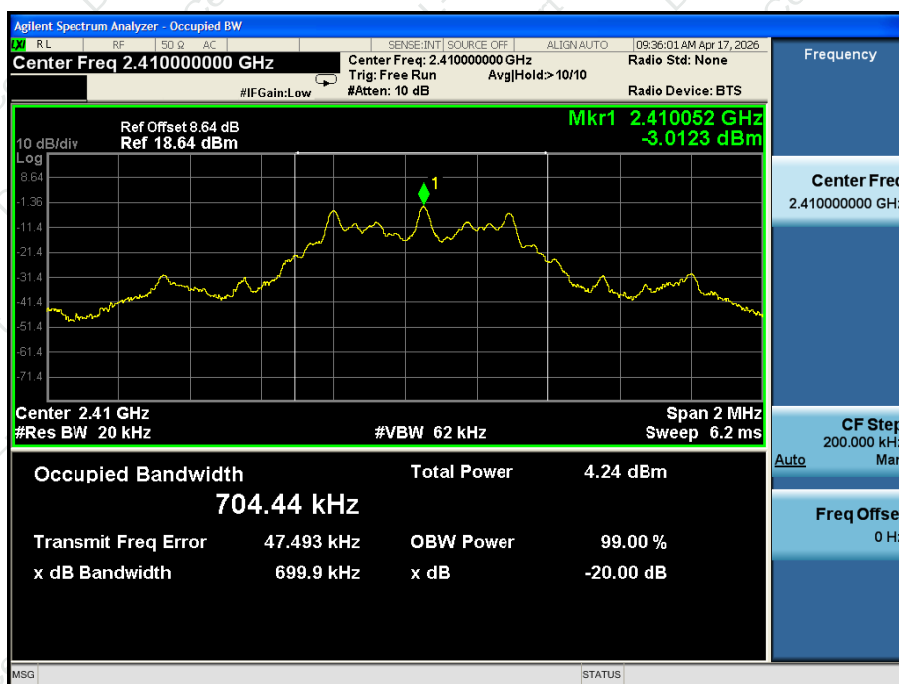
1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement.
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a Transmitting channel;
RBW = 1% to 5% of the Occupied Bandwidth; VBW = 3RBW; Sweep = auto; Detector function = peak;
Trace = max hold.
4. Measure and record the results in the test report.

6.3 Test Result

PASS

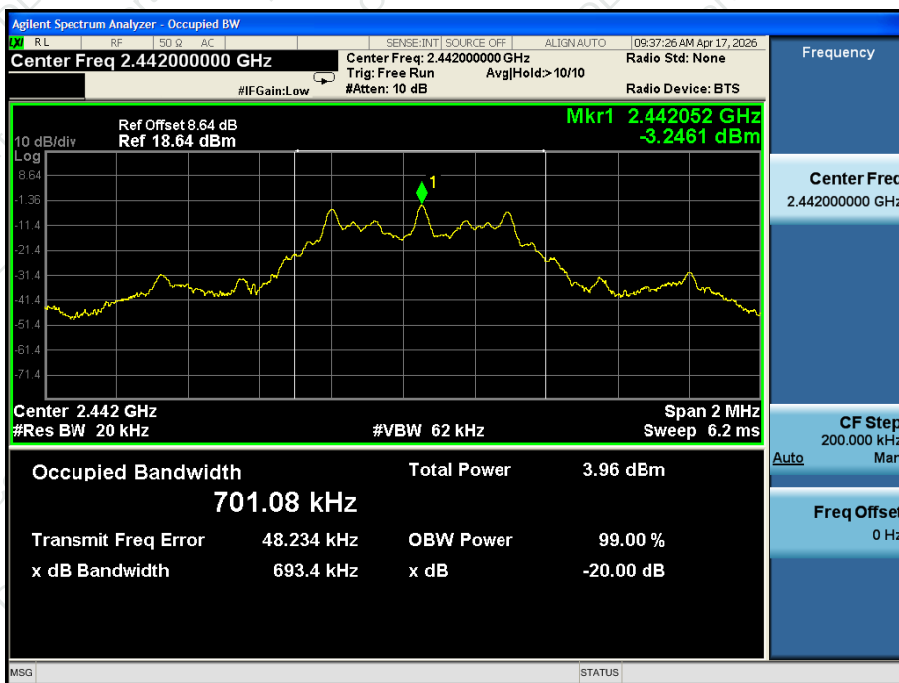
Frequency	20dB Bandwidth (MHz)	Result
2410 MHz	0.6999	PASS
2442 MHz	0.6934	PASS
2470 MHz	0.6712	PASS

CH01: 2410MHz





CH20: 2442MHz



CH40: 2470MHz





7. Antenna Requirement

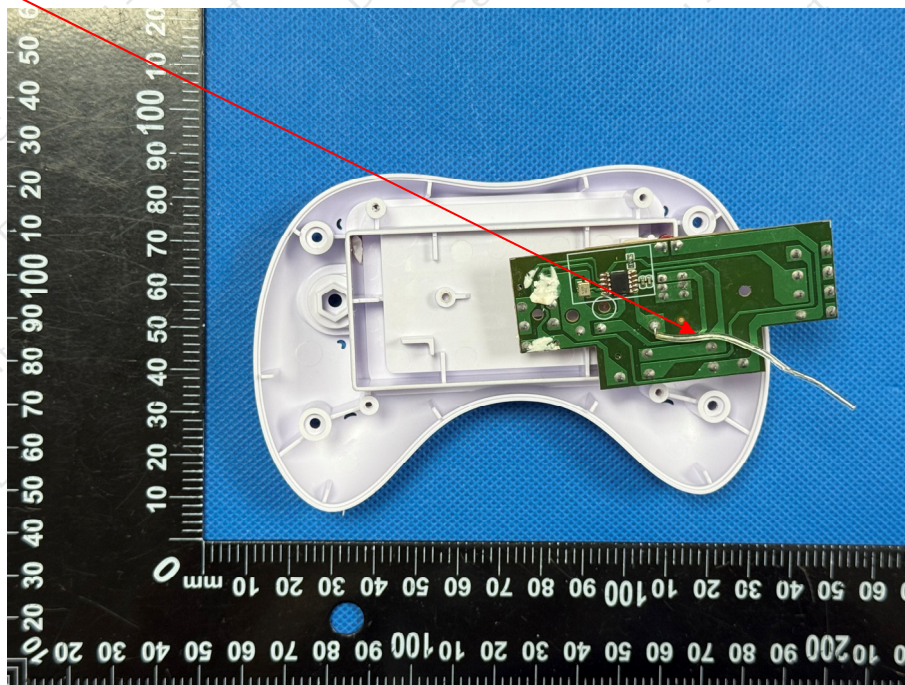
Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

Antenna Connected Construction

The antenna used in this product is an Internal antenna, need professional installation, not easy to remove. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 0.17dBi.

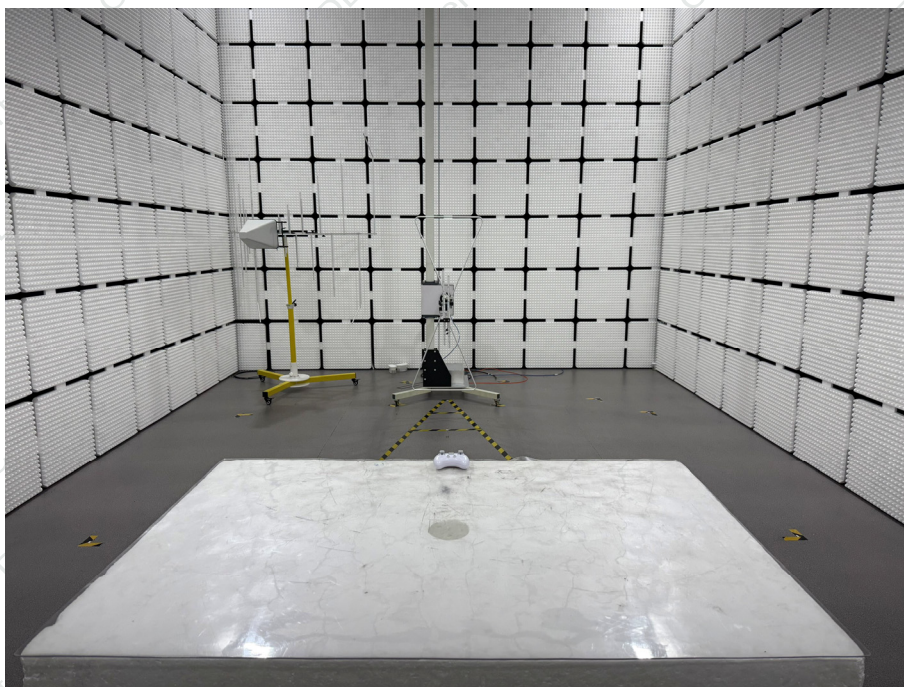
Antenna





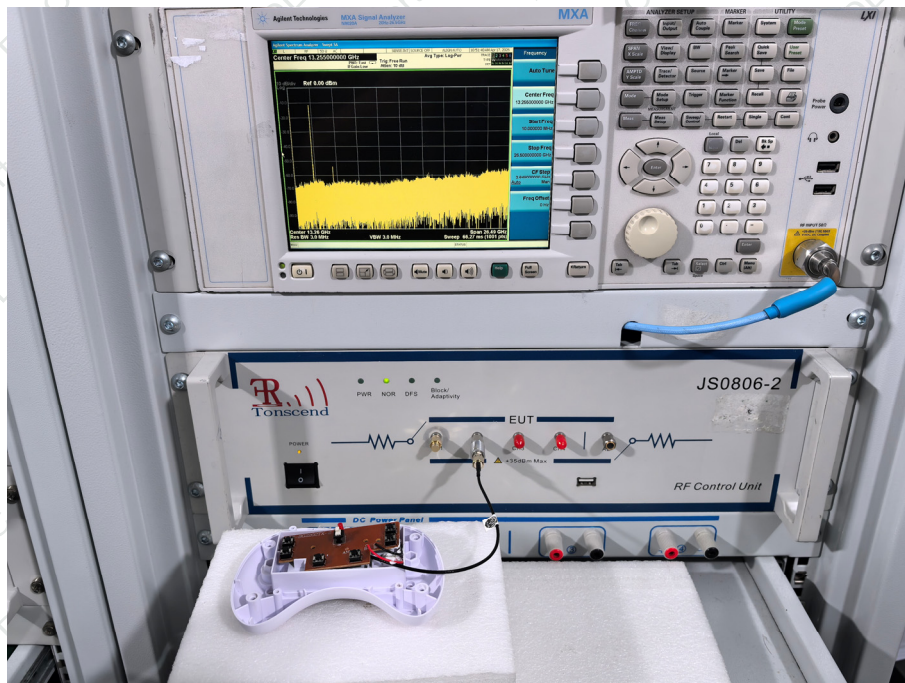
8. Test Setup Photos of the EUT

Radiated Emission





RF Conducted Emission





9. Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

-----End of test report-----