

FCC RADIO TEST REPORT

FCC ID: 2BD8Q-JH75-5D

Sample : TOY CAR

Trade Mark : N/A

Main Model : JH75-5D

Additional Model : QH204-3D, QH204-1D, QH844A-2D,
JH74-1D, JH74-5D, H74-9D, QH200-1D,
QH200-11D, QH200-12D, JH75-1D,
QH25-01D, QH2901-4D, QH2801-4D,
QH9008D, HJ8007D, QH26-02D

Report No. : UNIA23121820ER-61

Prepared for

Shenzhen Tongxinyue Technology Co., LTD

Building B20, Shankeng 3rd Road, Pinghu Street, Longgang District,
Shenzhen, China

Prepared by

Shenzhen United Testing Technology Co., Ltd.

D101&D401, No. 107, Kaicheng High-Tech Park, Taoyuan Community,
Dalang Sub-District, Longhua District, Shenzhen, Guangdong, China

TEST RESULT CERTIFICATION

Applicant : Shenzhen Tongxinyue Technology Co., LTD
Address : Building B20, Shankeng 3rd Road, Pinghu Street, Longgang District, Shenzhen, China

Manufacturer : Shantou Landy toy Co., LTD
Address : South Industrial Zone of Beiwan Village Road, Lianxia Town, Chenghai District, Shantou City, Guangdong Province, China

Product description

Product : TOY CAR
Trade Mark : N/A
Model Name : JH75-5D, QH204-3D, QH204-1D, QH844A-2D, JH74-1D, JH74-5D, H74-9D, QH200-1D, QH200-11D, QH200-12D, JH75-1D, QH25-01D, QH2901-4D, QH2801-4D, QH9008D, HJ8007D, QH26-02D

Test Methods : FCC Rules and Regulations Part 15 Subpart C Section 15.227, ANSI C63.10: 2013

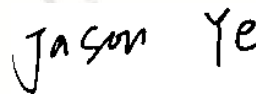
This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests : Dec. 18, 2023 ~ Dec. 21, 2023
Date of Issue : Dec. 23, 2023
Test Result : Pass

Prepared by:



Jason Ye/Editor

Reviewer:



Kelly Cheng/Supervisor

Approved & Authorized Signer:



Liuze/Manager

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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

Item	FCC Rules	Description Of Test	Result
1	§15.227&15.209	Radiated Emission	Compliant
2	§15.215	20dB bandwidth	Compliant
3	§15.207	Conducted Emission	N/A
4	FCC Part 15.203	Antenna Requirement	Pass

Note:

“N/A” denotes test is not applicable in this Test Report.

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.
Address : D101&D401, No. 107, Kaicheng High-Tech Park, Taoyuan Community,
Dalang Sub-District, Longhua District, Shenzhen, Guangdong, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 31584

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 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 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9kHz ~ 150kHz	2.96	
		150kHz ~ 30MHz	2.44	

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9kHz ~ 30MHz	2.50	
		30MHz ~ 1000MHz	4.80	
		Above 1000MHz	4.13	

C. RF Conducted Method:

Item	Measurement Uncertainty
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_c = \pm 2 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$

1.4 ENVIRONMENTAL CONDITIONS

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

	NORMAL CONDITIONS	EXTREME CONDITIONS
Temperature range (°C)	15 - 35	-20 - 50
Relative humidity range	20 % - 75 %	20 % - 75 %
Pressure range (kPa)	86 - 106	86 - 106

Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product:	TOY CAR
Trade Mark:	N/A
Main Model:	JH75-5D
Additional Model:	QH204-3D, QH204-1D, QH844A-2D, JH74-1D, JH74-5D, H74-9D, QH200-1D, QH200-11D, QH200-12D, JH75-1D, QH25-01D, QH2901-4D, QH2801-4D, QH9008D, HJ8007D, QH26-02D
Model Difference:	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: JH75-5D.
FCC ID:	2BD8Q-JH75-5D
Operation Frequency:	27.145MHz
Number of Channels:	1CH
Modulation Type:	ASK
Antenna Type:	External antenna
Antenna Gain:	0.17dBi
Battery:	DC 3V
Adapter:	N/A
Power Source:	DC 3V from battery

2.2 DESCRIPTION OF TEST MODES

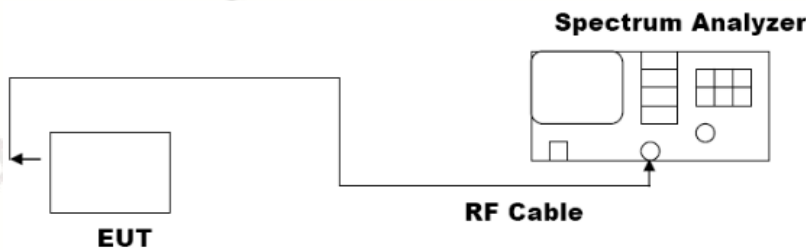
No.	Test Mode Description
1	Transmitting mode
Note: 1. All the test modes can be supply by new battery, and only the data of the worst case recorded in the test report. 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.	

2.3 TEST SETUP

Operation of EUT during Radiation testing:



Operation of EUT during RF Conducted testing:



2.4 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	Cable Length(cm)	Remark
1	TOY CAR	JH75-5D	--	EUT

Note:1. The support equipment was authorized by Declaration of Confirmation.

2. All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2025.07.14
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2025.07.28
4	PREAMP	HP	8449B	3008A00160	2024.06.11
5	PREAMP	HP	8447D	2944A07999	2024.06.11
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2024.06.11
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2024.06.11
8	Signal Generator	Agilent	E4421B	MY4335105	2024.06.11
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2024.06.11
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2024.06.11
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2024.06.11
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2024.06.11
13	RF power divider	Anritsu	K241B	992289	2024.06.11
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2024.06.11
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2024.06.11
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2024.09.22
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2025.07.14
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2024.07.14
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2024.09.22
20	Signal Generator	Agilent	N5183A	MY47420153	2024.09.22
21	Spectrum Analyzer	Rohde&Schwarz	FSP 40	100501	2024.09.22
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2024.09.22
23	Frequency Meter	VICTOR	VC2000	997406086	2024.09.22
24	DC Power Source	HYELEC	HY5020E	055161818	2024.09.22

3 CONDUCTED EMISSION

3.1 TEST LIMIT

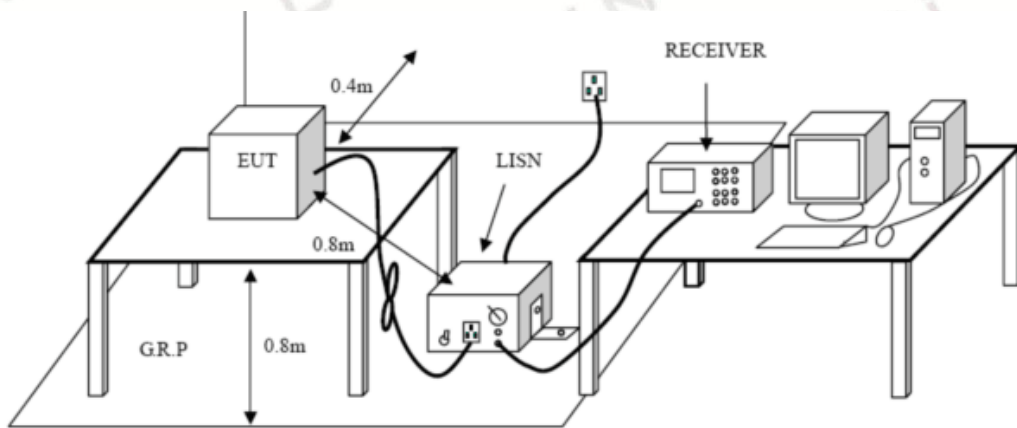
For unintentional device, according to § 15.207(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dB μ V)			
	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



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 placed on 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

N/A

Remark:

The EUT is powered by battery.

4 RADIATED EMISSION

4.1 TEST LIMIT

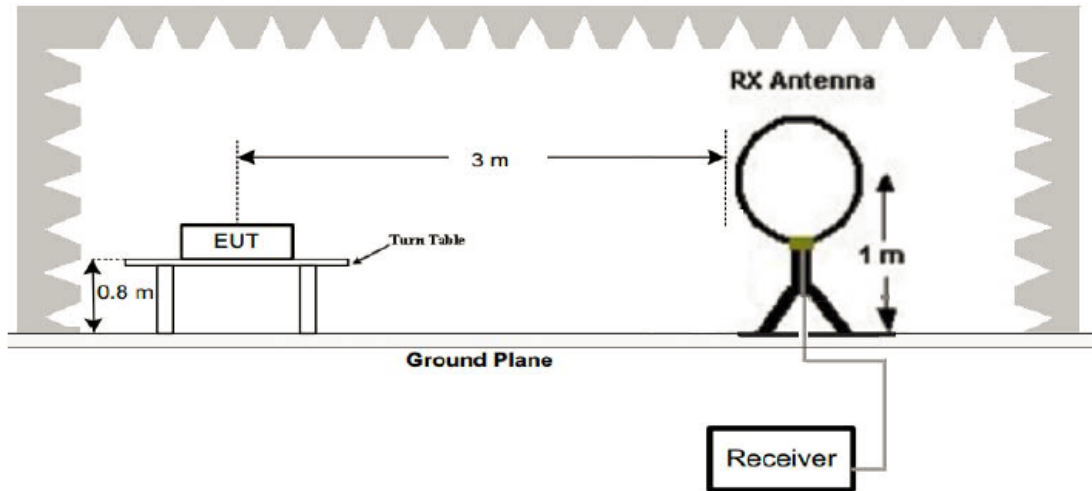
For unintentional device, according to § 15.209(a), except for Class B digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	Quasi-peak	300
0.490MHz-1.705MHz	24000/F (kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3
		74.0	Peak	3

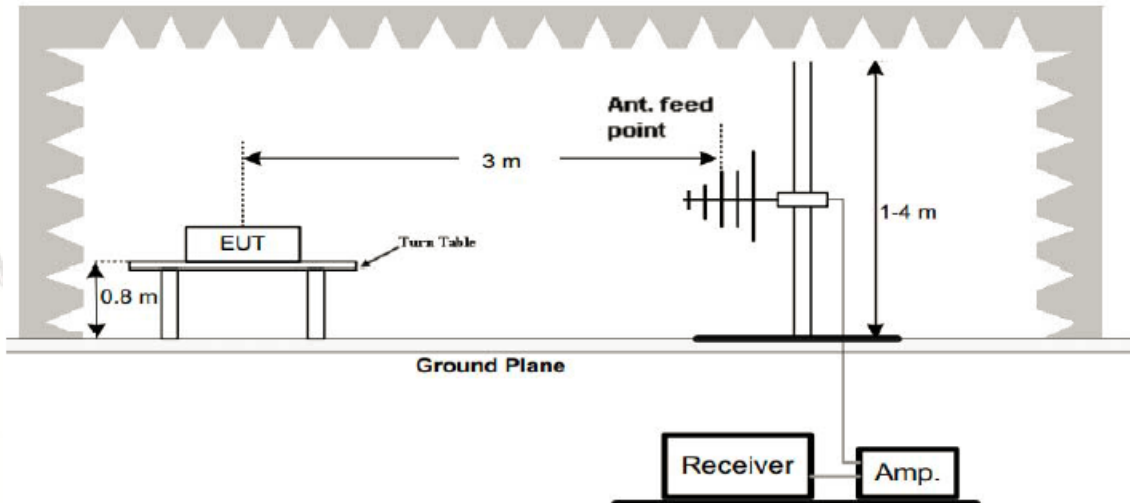
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 TEST SETUP

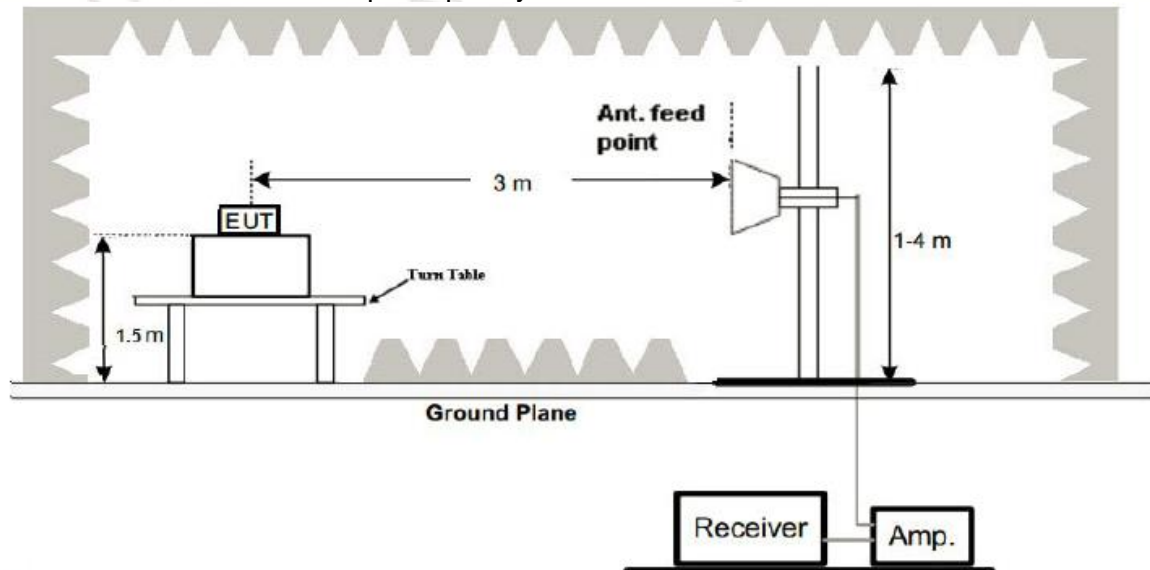
1. Radiated Emission Test-Up Frequency Below 30MHz



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 25GHz 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

Remark:

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, and test data recorded in this report.

RADIATED EMISSION BELOW 30MHZ

Temperature:	24°C	Relative Humidity:	48%
Test Date:	Dec. 19, 2023	Pressure:	1010hPa
Test Voltage:	DC 3V	Phase:	Horizontal
Test Mode:	Transmitting mode of 27.145MHz		

Frequency MHz	Polarization	Reading dB(uV) PK	Factor dB (1/m)	Level dB(uV/m) PK	Limit dB(uV/m) PK	Margin dB	Pass/Fail
27.145	Face	85.10	-29.90	55.20	80	-24.80	Pass
29.036	Face	33.14	-29.90	3.24	69.54	-66.30	Pass
27.145	Side	83.25	-29.90	53.35	80	-26.65	Pass
29.036	Side	30.03	-29.90	0.13	69.54	-69.41	Pass

Note: 1. The field strength of any emission within this band shall not exceed 10,000 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

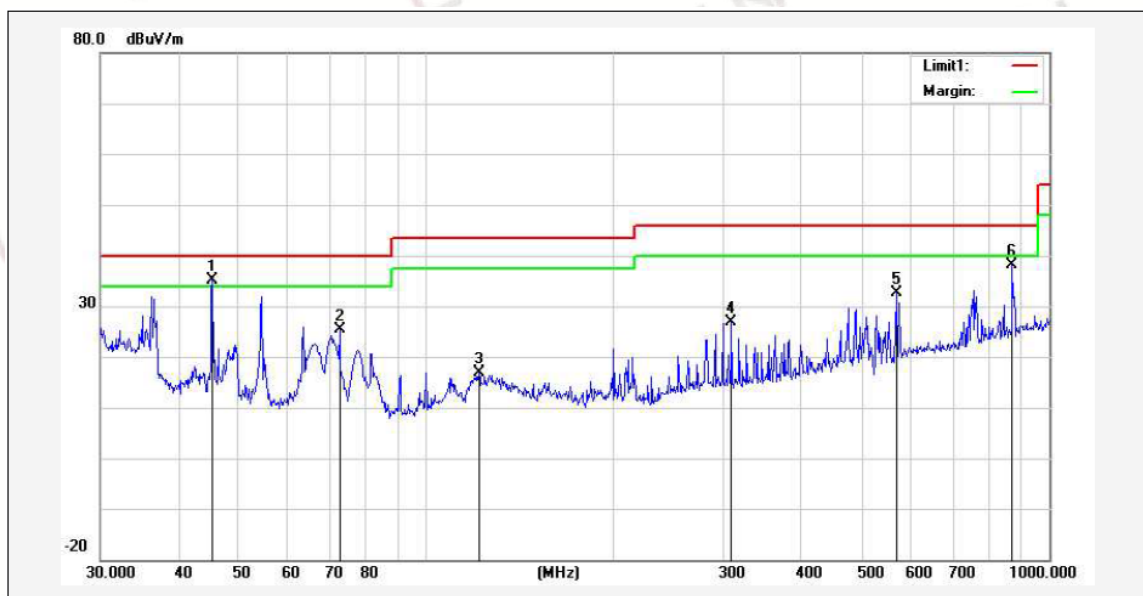
2. $\text{Level(dBuV/m)} = \text{Reading(dBuV)} + \text{Factor(dB/m)}$

$\text{Factor(dB/m)} = \text{Antenna Factor(dB/m)} + \text{Cable loss(dB)} + \text{Attenuation(dB) for Attenuator}$

$\text{Margin} = \text{Level} - \text{Limit}$

30MHz-1GHz Test Results:

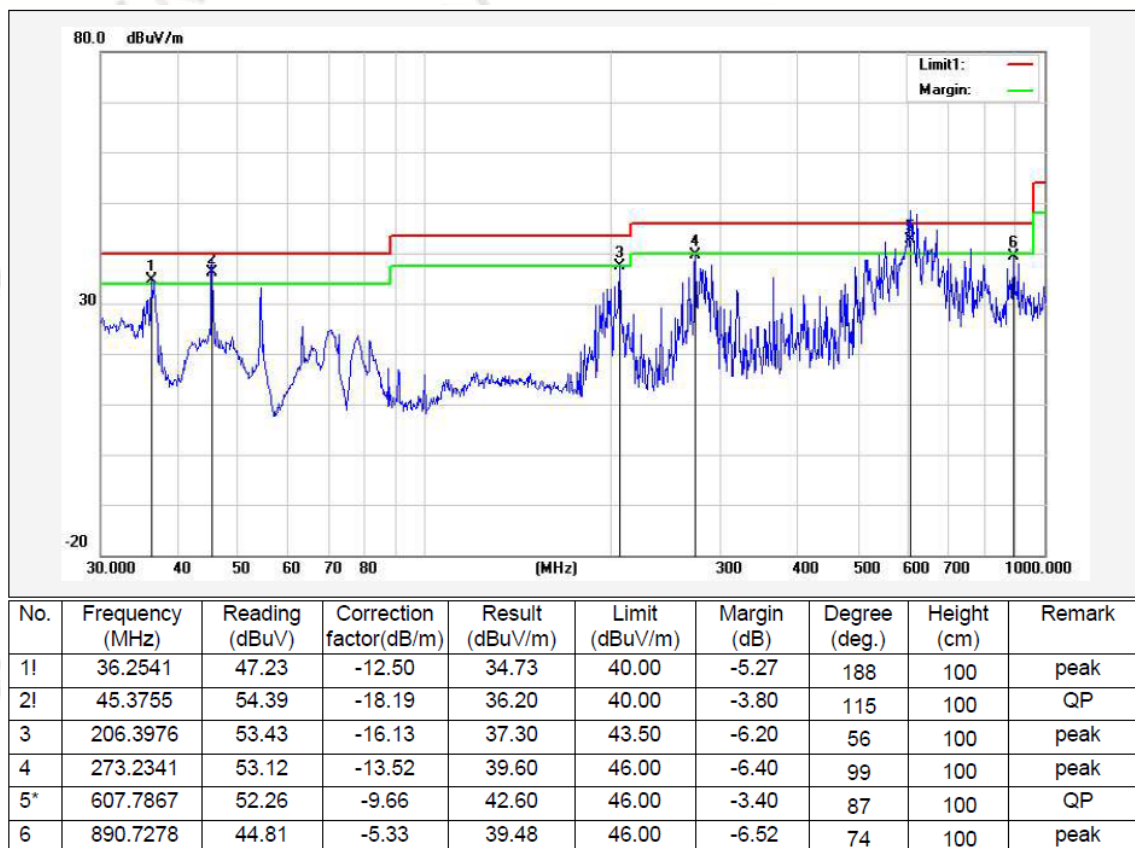
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Dec. 19, 2023	Pressure:	1010hPa
Test Voltage:	DC 3V	Phase:	Horizontal
Test Mode:	Transmitting mode of 27.145MHz		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	45.3755	53.38	-18.35	35.03	40.00	-4.97	59	100	peak
2	72.5916	46.18	-20.85	25.33	40.00	-14.67	167	100	peak
3	121.5486	32.99	-16.10	16.89	43.50	-26.61	32	100	peak
4	308.9126	41.36	-14.38	26.98	46.00	-19.02	41	100	peak
5	568.6127	43.08	-10.55	32.53	46.00	-13.47	114	100	peak
6	872.1832	44.62	-6.39	38.23	46.00	-7.77	178	100	peak

Remark: Result = Reading Level + Factor, Margin = Result – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Temperature:	24°C	Relative Humidity:	48%
Test Date:	Dec. 19, 2023	Pressure:	1010hPa
Test Voltage:	DC 3V	Phase:	Vertical
Test Mode:	Transmitting mode of 27.145MHz		



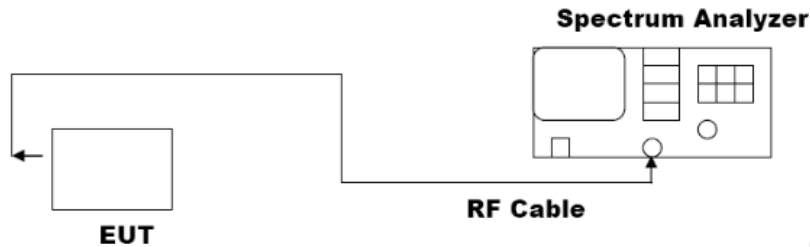
Remark: Result = Reading Level + Factor, Margin = Result – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

1. Measuring frequencies from 9 kHz to the 1 GHz, Radiated emission test from 9kHz to 30MHz was verified, and no any emission was found except system noise floor.
2. * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
3. The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120kHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10kHz.

5 20DB BANDWIDTH

5.1 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)



5.2 MEASUREMENT EQUIPMENT USED

Refer to Section 3.3.

5.3 TEST PROCEDURE

1. Set the parameters of SPA as below:
Centre frequency = Operation Frequency
RBW=30kHz
VBW=100KHz
Span: 3MHz
Sweep time: Auto
2. Set the EUT to continue transmitting mode. Allow the trace to stabilize. Use the “N dB down” function of SPA to define the bandwidth.
3. Record the plots and Reported.

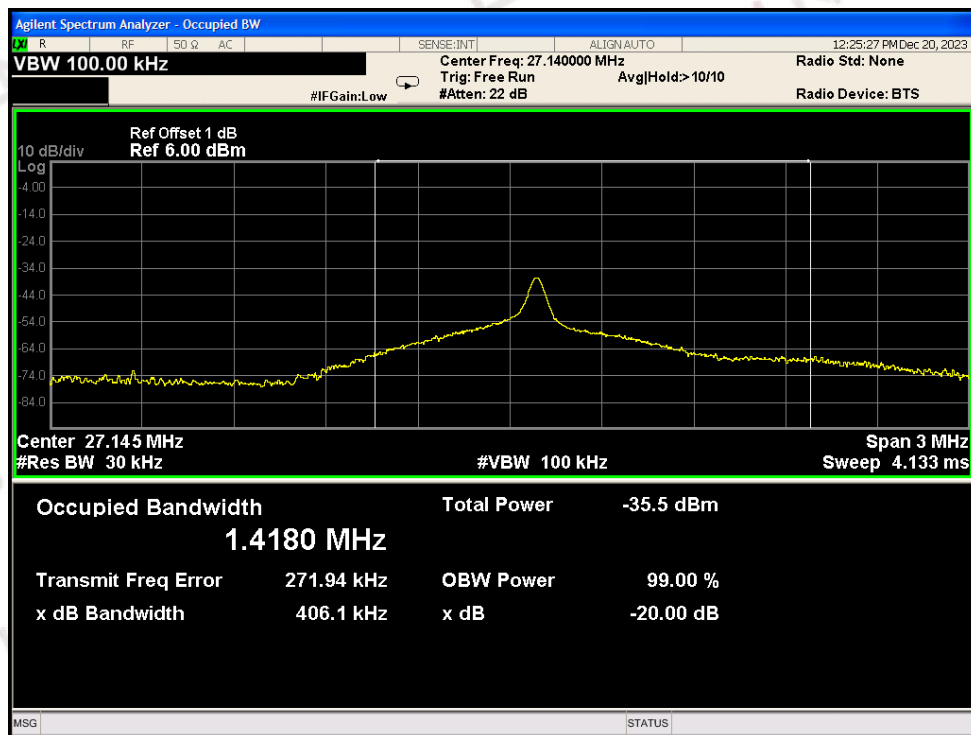
7.45.1 TEST RESULT

PASS

TEST ITEM	20DB BANDWIDTH
TEST MODULATION	ASK

Test Data (kHz)		Result
Operate Channel	406.1	PASS

TEST PLOT OF BANDWIDTH



6 ANTENNA REQUIREMENT

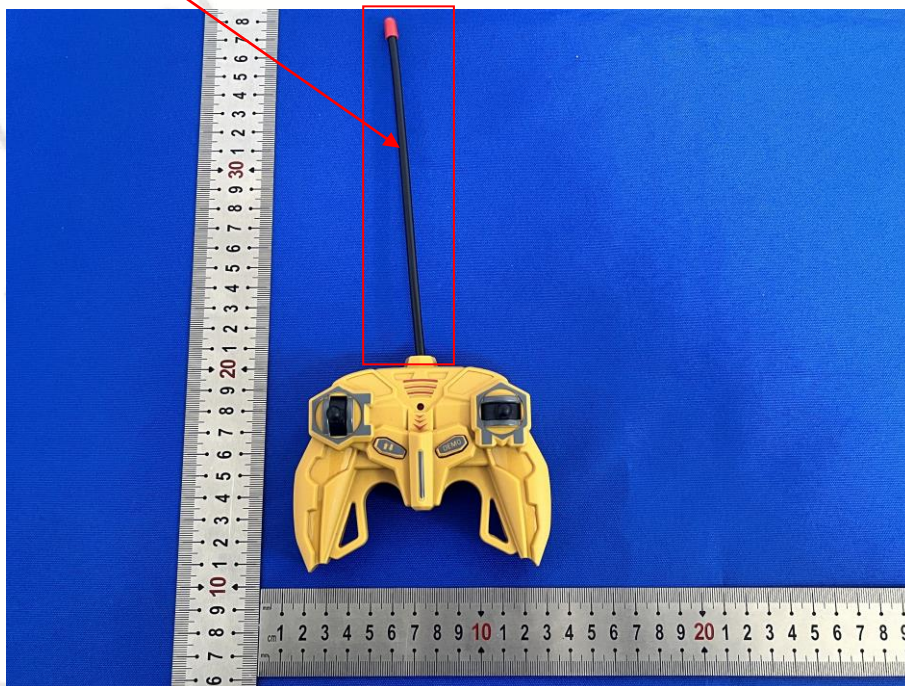
Standard Applicable:

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

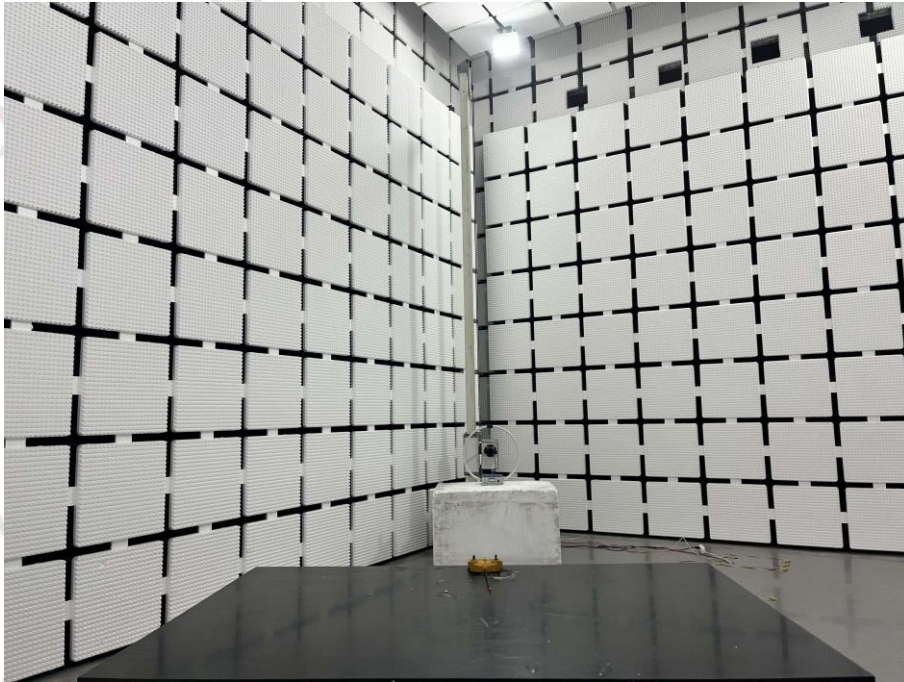
The antenna used in this product is an External Antenna, The directional gains of antenna used for transmitting is 0.17dBi.

ANTENNA:

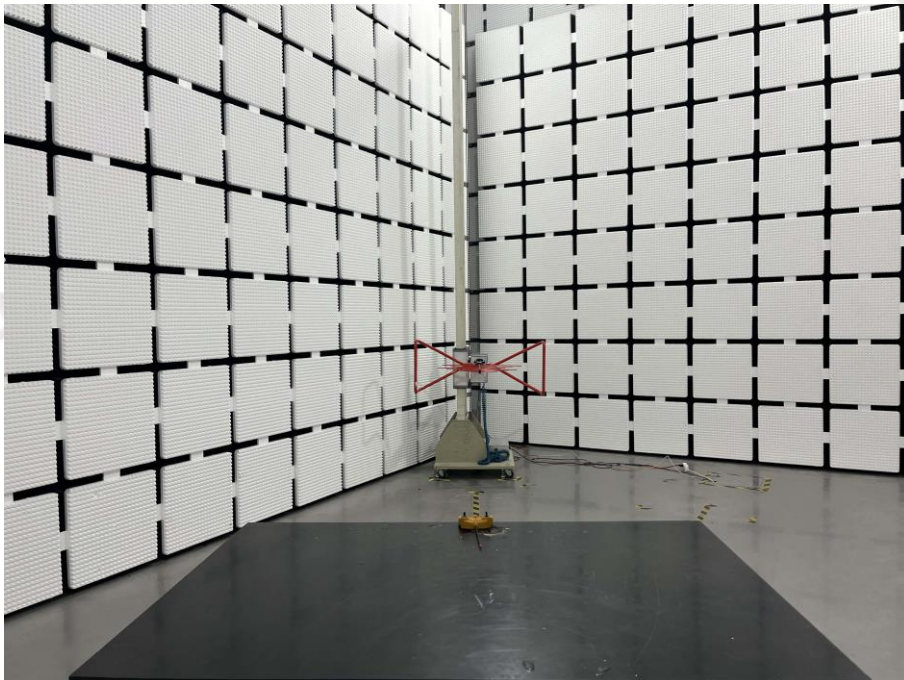


7 PHOTO OF TEST

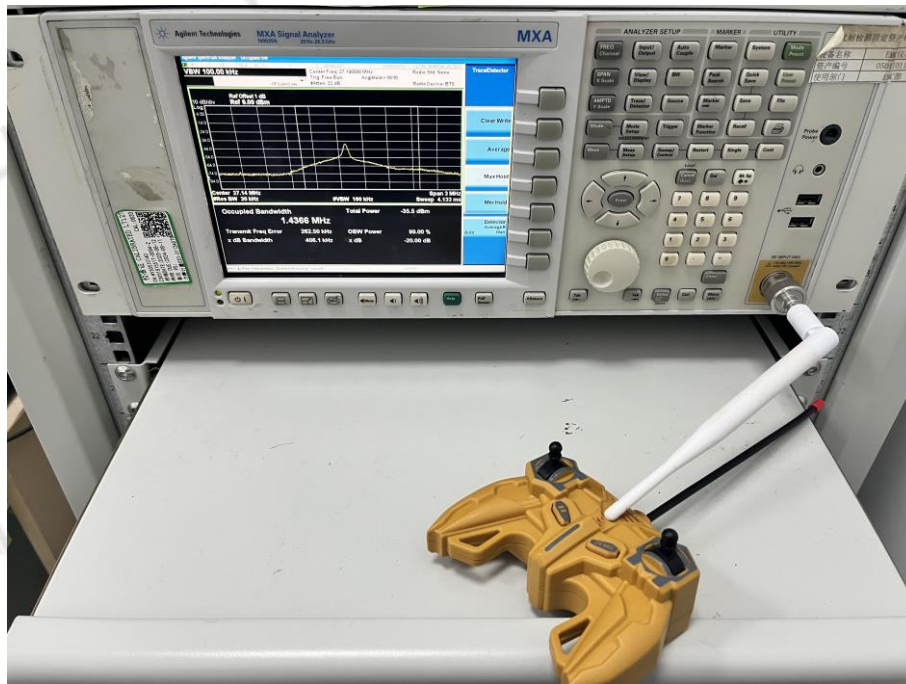
Radiated Emission



Below 30MHz



30MHz-1000MHz



*****End of Report*****