TEST REPORT

Product Name:	Toy series
FCC ID:	2BGAU-SL8882
Trademark:	N/A
Model Number:	SL888-1, SL888-2,SL888-3,SL888-4,SL888-5,SL888-6,SL888-7,SL888-8, SL888-9,SL888-10
Prepared For:	Chengyi Technology (Shenzhen) Co., LTD
Address:	202, East, Building 613, Bagualing Industrial Zone, No. 99 Baguaer Road, Futian, Shenzhen, Guangdong, China
Manufacturer:	Chengyi Technology (Shenzhen) Co., LTD
Address:	202, East, Building 613, Bagualing Industrial Zone, No. 99 Baguaer Road, Futian, Shenzhen, Guangdong, China
Prepared By:	Shenzhen CTB Testing Technology Co., Ltd.
Address:	1&2/F., Building A, No.26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	May. 23, 2024
Sample tested Date:	May. 23, 2024 to Jun. 19, 2024
Issue Date:	Jun. 19, 2024
Report No.:	CTB240619028RFX
Test Standards	FCC CFR Title 47 Part 15 Subpart C Section 15.235 ANSI C63.10:2013
Test Results	PASS
Remark:	This is 49MHz radio test report.

Compiled by:	Reviewed by:	Approved by:
ZhouKui	Arron Liu	Bin Mei / Director

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "*" indicates the testing items were fulfilled by subcontracted lab. "#" indicates the items are not in CNAS accreditation scope.

TABLE OF CONTENT

TestReportDeclaration Page

(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
CTB240619028RFX	Jun. 19, 2024	Original	Valid

2. TESTSUMMARY

The Product has been tested according to the following specifications:

Test Item	Test Requirement	Test method	Result
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	N/A
Radiated Emissions	47 CFR Part 15 Subpart C Section 15.209; 15.235(a)(b)	ANSI C63.10-2013	PASS
20 dB Bandwidth	47 CFR Part 15 Subpart C Section 15.215	ANSI C63.10-2013	PASS
Antenna requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10-2013	PASS

3. MEASUREMENTUNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertaintyrepresents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Item	Uncertainty
Occupancy bandwidth	U=±54.3Hz
Conducted output power Above 1G	U=±1.0dB
Conducted output power below 1G	U=±0.9dB
Power Spectral Density , Conduction	U=±1.0dB
Conduction spurious emissions	U=±2.8dB
Out of band emission	U=±54Hz
3m camber Radiated spurious emission(30MHz-1GHz)	U=±4.3dB
3m chamber Radiated spurious emission(1GHz-18GHz)	U=±4.5dB
humidity uncertainty	U=±5.3%
Temperature uncertainty	U=±0.59℃
Supply voltages	U=±3%
Time	U=±5%

4. PRODUCT INFORMATION AND TESTSETUP

4.1 ProductInformation

Model(s):	SL888-1, SL888-2,SL888-3,SL888-4,SL888-5,SL888-6,SL888-7,SL888-8, SL888-9,SL888-10
Model Description:	All the model are the same circuit and RF module, only different for model name. Test sample model: SL888-1
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	49.86MHz
Type of Modulation:	AM
Antenna installation:	Internal antenna
Antenna Gain:	1.0dBi
Ratings:	DC 3V by battery

4.2 Test SetupConfiguration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 SupportEquipment

No.	Device Type	Brand	Model	Series No.	Note

Notes:

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

4.4 TestMode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

5. TEST FACILITY AND TEST INSTRUMENTUSED

5.1 TestFacility

All measurement facilities used to collect the measurement data are located at 1&2F., Building A, No. 26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

5.2 Test InstrumentUsed

No.	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	A.14.16	2024.07.05
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2024.07.05
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2024.07.05
4	Communication test set	R&S	CMW500	108058	V3.5.80	2024.07.05
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2024.07.05
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2024.07.05
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2024.07.05
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07（E1962B ）	2024.07.06
9	2.4 GHz Filter	Shenxiang	MSF2400-2483.5MS-1154	20181015001	/	2024.07.05
10	5 GHz Filter	Shenxiang	MSF5150-5850MS-1155	20181015001	/	2024.07.06
11	Filter	Xingbo	XBLBQ-DZA120	190821-1-1	/	2024.07.06
12	BT&WI-FI Automatic test software	Micowave	MTS8000	Ver. 2.0.0.0	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2024.10.30
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2024.07.05
15	234G Automatic test software	Micowave	MTS8200	Ver. 2.0.0.0	/	/
16	966 chamber	C.R.T.	966	/	/	2024.08.11
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7（104489/003）	2024.07.05
18	Amplifier	HP	8447E	2945A02747	/	2024.07.05
19	Amplifier	Agilent	8449B	3008A01838	/	2024.07.05
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2024.07.08
21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2024.07.08
22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/

23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2024.07.08
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2024.10.30
26	Amplifier	AEROFLEX	Aeroflex	097	/	2024.07.05

Continuous disturbance

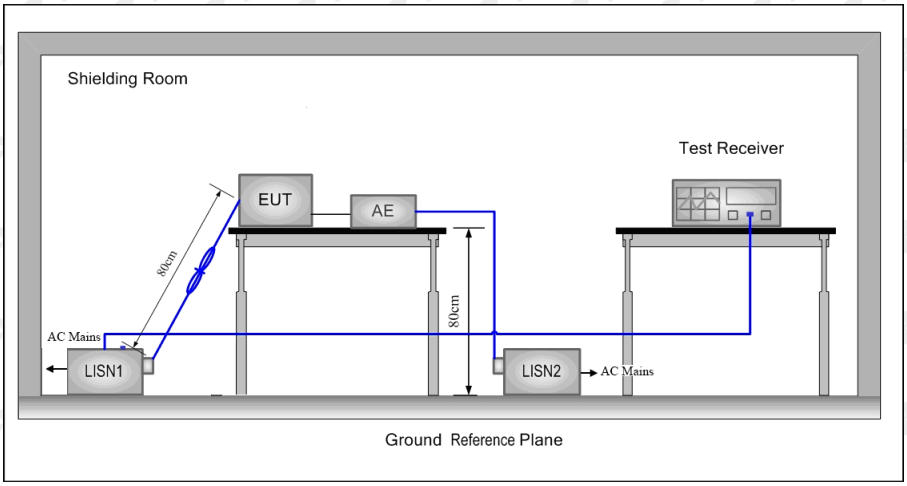
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Calibrated until
1	LISN	ROHDE&SCHWARZ	ESH3-Z5	100318	/	2024.07.05
2	Pulse limiter	ROHDE&SCHWARZ	ESH3Z2	357881052	/	2024.07.05
3	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428/003	V4.42.SP3	2024.07.05
4	Coaxial cable	ZDECL	Z302S-NJ-SMAJ-12M	18091905	/	2024.07.05
5	ISN	Schwarzbeck	NTFM8158	183	/	2024.07.05
6	Communication test set	Agilent	E5515C	MY50102567	B.19.07（E1962B ）	2024.07.05
7	Communication test set	R&S	CMW500	108058	V3.5.80	2024.07.05
8	EZ-EMC	Frad	EMC-con3A1.1	/	/	/

Radiated emission

No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Calibrated until
1	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	01911	/	2024.07.08
2	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2024.07.08
3	Amplifier	Agilent	8449B	3008A01838	/	2024.07.05
4	Amplifier	HP	8447E	2945A02747	/	2024.07.05
5	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428/003	V4.42.SP3	2024.07.05
6	Coaxial cable	ETS	RFC-SNS-100-NMS-80 NI	/	/	2024.07.05
7	Coaxial cable	ETS	RFC-SNS-100-NMS-20 NI	/	/	2024.07.05
8	Coaxial cable	ETS	RFC-SNS-100-SMS-20 NI	/	/	2024.07.05
9	Coaxial cable	ETS	RFC-NNS-100-NMS-300 NI	/	/	2024.07.05
10	Communication test set	Agilent	E5515C	MY50102567	B.19.07（E1962B）	2024.07.05
11	Communication test set	R&S	CMW500	108058	V3.5.80	2024.07.05
12	EZ-EMC	Frad	EMC-con3A1.1	/	/	/

6. AC POWER LINE CONDUCTEDEMISSION

6.1 Block Diagram OfTestSetup



6.2 Limit

* Decreasing linearly with the logarithm of the frequency

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

6.3 Testprocedure

1) The mains terminal disturbance voltage test was conducted in a shieldedroom.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. Thepower cables of all other units of the EUT were connected to a second LISN 2, which was bondedtothegroundreferenceplaneinthesamewayastheLISN1fortheunitbeing measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was notexceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground referenceplane,

4) ThetestwasperformedwithaverticalgroundreferenceplaneTherearoftheEUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from theboundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distancewasbetweentheclosest pintsoftheLISN1andtheEUT.Allotherunitsof the EUT and associated equipment was at least 0,8 m from the LISN2.

5) 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 on conducted measurement**.**

6.4 TestResult

N/A

NOTE: This EUT is powered by DC power only, this test item is not applicable.

7. RADIATEDEMISSION AND BAND EDGE

7.1 Block Diagram OfTestSetup

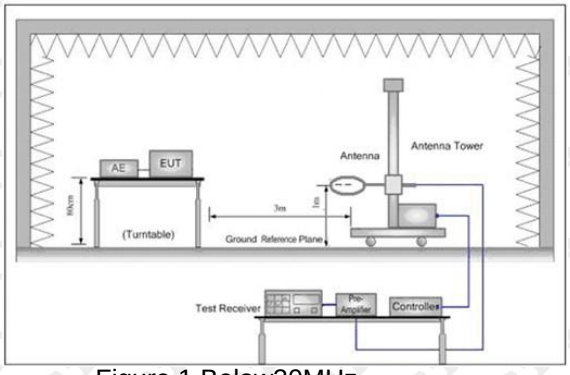


Figure 1.Below30MHz

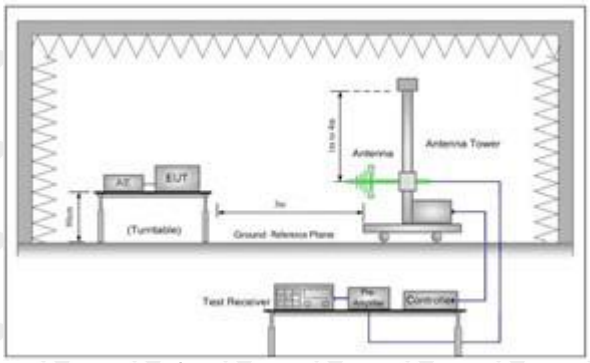


Figure2. 30MHz to 1GHz

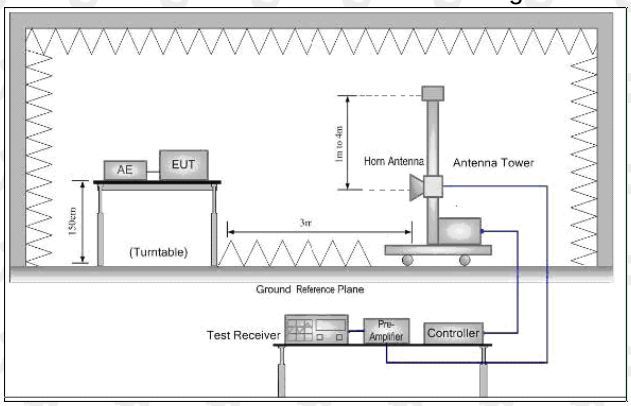


Figure 3. Above 1GHz

7.2 Limit

SpuriousEmissions:

Frequency	Field strength (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	20log 2400/F (kHz) + 80	Quasi-peak	3
0.490MHz-1.705MHz	20log 24000/F (kHz) + 40	Quasi-peak	3
1.705MHz-30MHz	20log 30 + 40	Quasi-peak	3
30MHz-88MHz	40.0	Quasi-peak	3
88MHz-216MHz	43.5	Quasi-peak	3
216MHz-960MHz	46.0	Quasi-peak	3
960MHz-1GHz	54.0	Quasi-peak	3
Above 1GHz	54.0	Average	3

FCC 15.235(a)

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. The provisions in §15.35 for limiting peak emissions apply.

FCC 15.235(b)

The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in §15.209, whichever permits the higher emission levels. The field strength of any emissions removed by more than 10 kHz from the band edges shall not exceed the general radiated emission limits in §15.209. All signals exceeding 20 microvolts/meter at 3 meters shall be reported in the application for certification.

7.3 Testprocedure

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highestradiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antennatower.

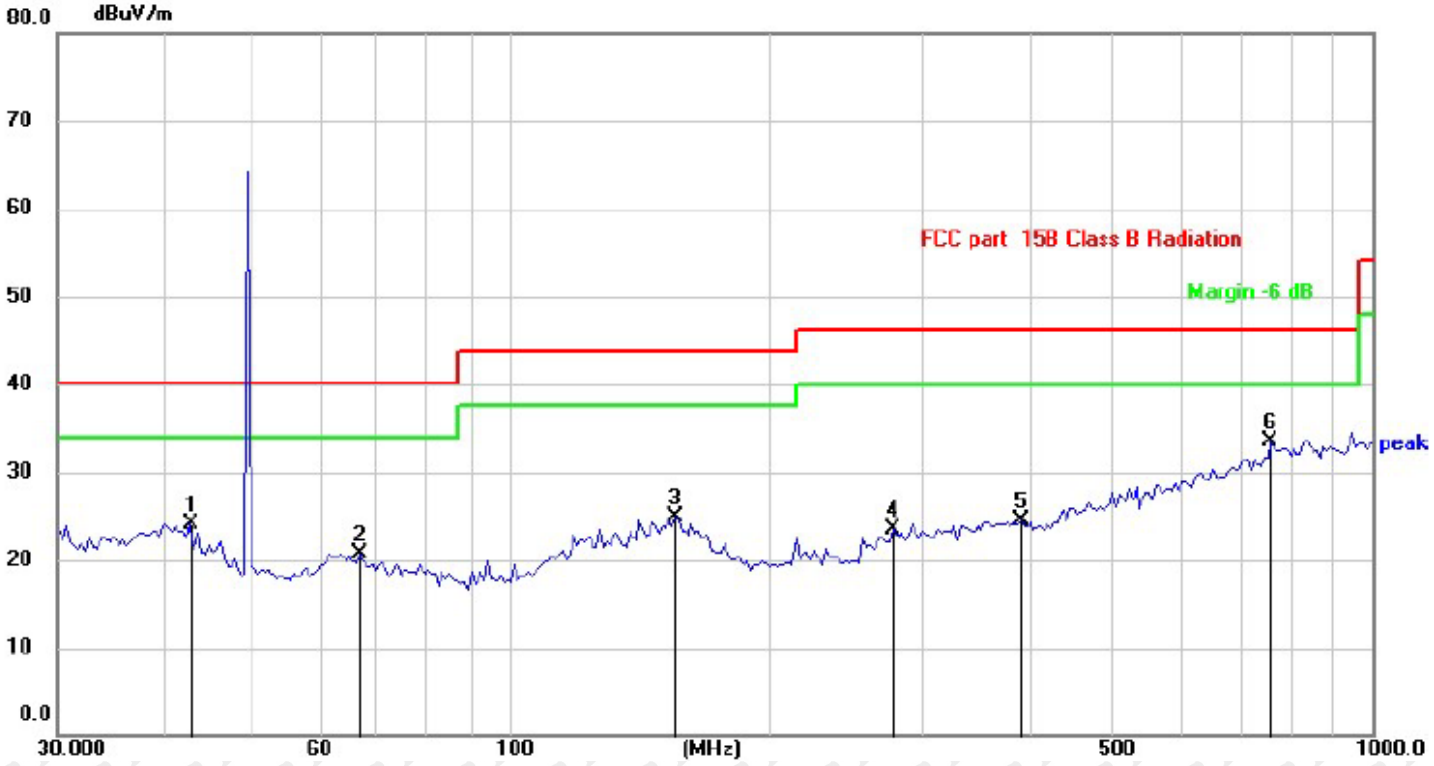
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. 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 datasheet.

7.4 TestResult

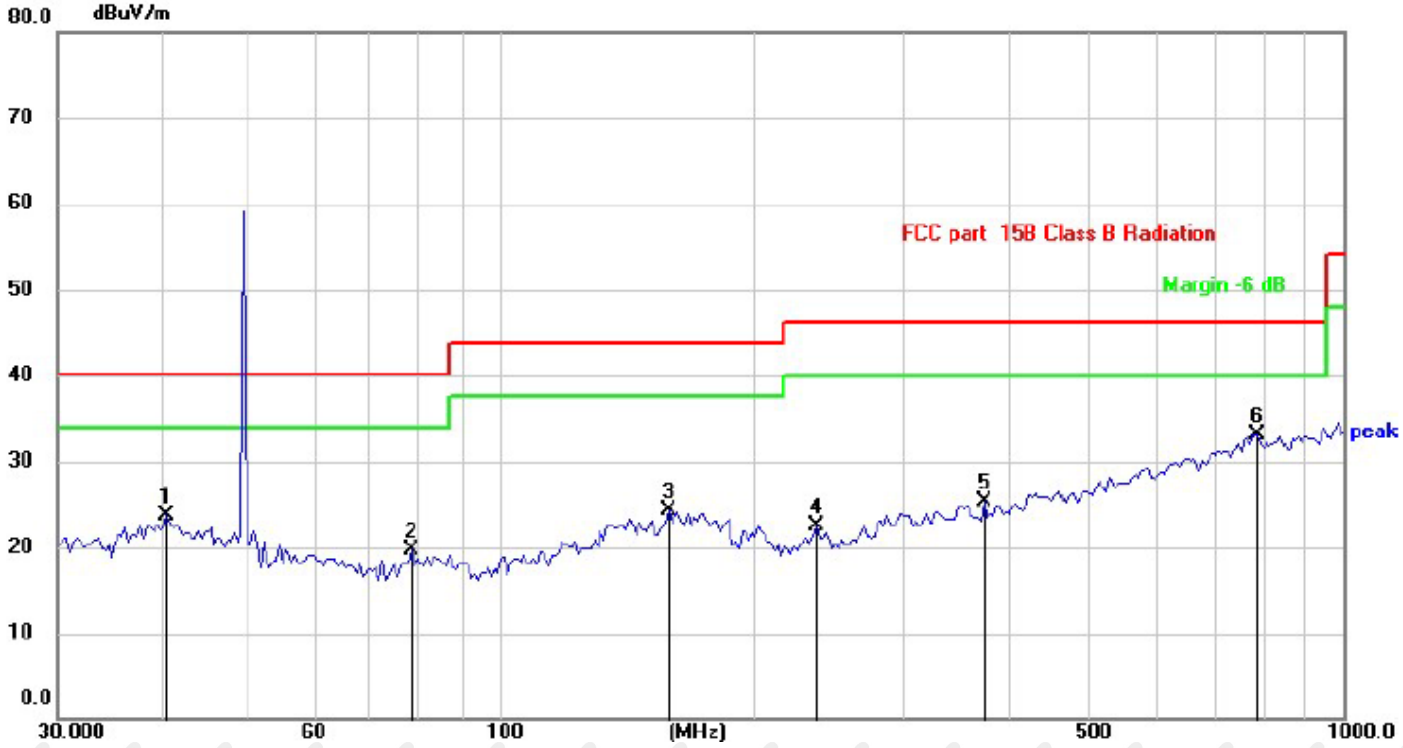
About 30MHz-1GHz Test Results:

Antenna polarity: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		42.6000	29.43	-5.26	24.17	40.00	-15.83	QP
2		67.2021	28.45	-7.68	20.77	40.00	-19.23	QP
3		155.9100	28.20	-3.38	24.82	43.50	-18.68	QP
4		278.0668	29.22	-5.69	23.53	46.00	-22.47	QP
5		391.4082	26.88	-2.37	24.51	46.00	-21.49	QP
6	*	762.0384	27.82	5.71	33.53	46.00	-12.47	QP

Antenna polarity: V



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		40.4170	28.46	-4.85	23.61	40.00	-16.39	QP
2		78.6885	28.60	-8.94	19.66	40.00	-20.34	QP
3		158.6673	27.79	-3.48	24.31	43.50	-19.19	QP
4		237.4755	29.52	-7.04	22.48	46.00	-23.52	QP
5		374.6225	28.08	-2.81	25.27	46.00	-20.73	QP
6	*	789.2335	26.90	6.22	33.12	46.00	-12.88	QP

Fundamental: 49.86MHz

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
49.86	69.04	PK	H	-7.30	61.74	100.00	-38.26
49.86	69.44	PK	V	-7.30	62.14	100.00	-37.86
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
49.86	55.32	AV	H	-7.30	48.02	80.00	-31.98
49.86	56.20	AV	V	-7.30	48.9	80.00	-31.1

Remark: 1. Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level
2. This EUT was tested in 3 axis and the worst case position data was reported.

Horizontal:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	47.47	29.40	-4.34	25.06	35.74	-10.68	peak
2	46.38	28.91	-4.29	24.62	35.74	-11.12	peak
3	48.47	31.30	-4.46	26.84	35.74	-8.90	peak
4	47.97	26.24	-4.92	21.32	35.74	-14.42	peak
5	47.36	28.58	-3.97	24.61	35.74	-11.13	peak

Vertical:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	47.15	26.80	-4.29	22.51	36.14	-13.63	peak
2	46.13	27.52	-4.30	23.23	36.14	-12.91	peak
3	48.47	27.97	-4.42	23.55	36.14	-12.59	peak
4	47.51	30.05	-4.95	25.10	36.14	-11.04	peak
5	47.50	25.96	-3.97	21.99	36.14	-14.15	peak

Horizontal:

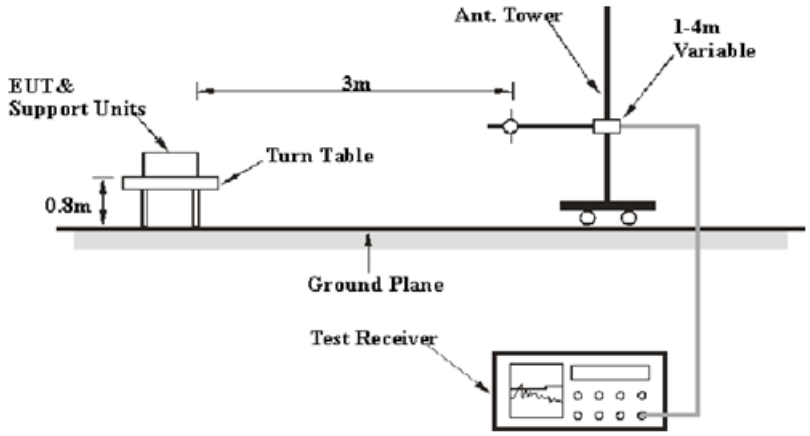
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	50.46	29.58	-4.30	25.28	35.74	-10.46	peak
2	51.09	29.33	-4.28	25.06	35.74	-10.68	peak
3	50.00	28.89	-4.50	24.39	35.74	-11.35	peak
4	50.64	27.75	-4.89	22.86	35.74	-12.88	peak
5	52.00	28.15	-3.94	24.21	35.74	-11.53	peak

Vertical:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	50.17	27.11	-4.32	22.79	36.14	-13.35	peak
2	51.46	28.73	-4.31	24.42	36.14	-11.72	peak
3	50.18	28.22	-4.47	23.75	36.14	-12.39	peak
4	50.57	27.86	-4.90	22.96	36.14	-13.18	peak
5	52.00	28.26	-3.95	24.31	36.14	-11.83	peak

8. 20 dB Emission Bandwidth

8.1 Block Diagram OfTestSetup



8.2 Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

8.3 Testprocedure

According to ANSI C63.10-2013 Section 6.9.2

a)The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, unless otherwise specified by the applicable requirement.

b) Set the video bandwidth (VBW) ≥3×RBW.

c) Detector = Peak.

d) Trace mode = max hold.

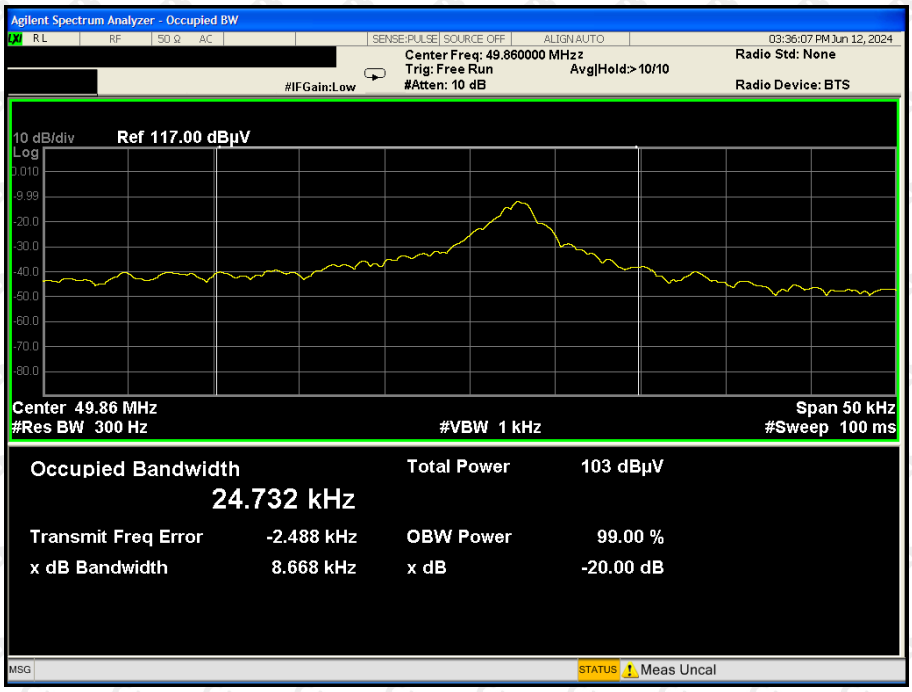
e) Sweep = auto couple.

f) Allow the trace to stabilize.

g)Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

8.4 TestResult

Test Channel (MHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
49.86	8.668	N/A	PASS



9. ANTENNAREQUIREMENT

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.

EUT Antenna:

The antenna is internalantenna and no consideration of replacement. The best case gain of the antenna is 1.0dBi.

10. EUTPHOTOGRAPHS

EUT Photo1

EUT Photo 2

EUT Photo 3

EUT Photo 4

EUT Photo 3

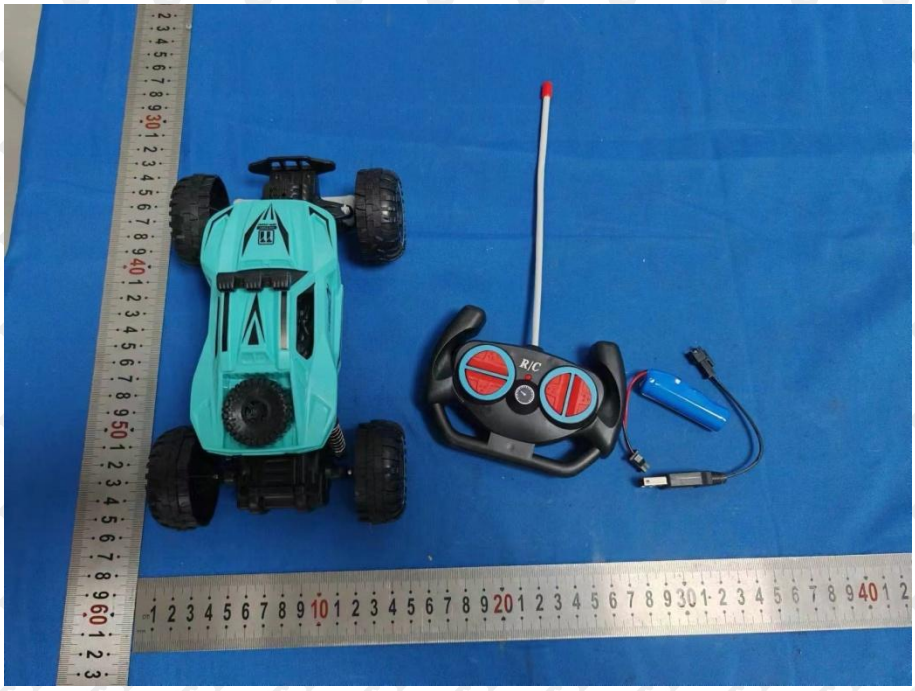
EUT Photo 4

EUT Photo 5

EUT Photo 6

EUT Photo 7

EUT Photo 8



EUT Photo 9

EUT Photo 10

11. EUT TEST SETUPPHOTOGRAPHS

Radiated Emission

30M-1GHz

※※※※※ END OF REPORT ※※※※※