TECHNICAL REPORT

BSL

TEST REPORT

Report No:	BSL23050501-P01R01
FCC ID:	2AZ4E-666
Report Date:	May. 29, 2023
Applicant:	YIXUAN TOYS FACTORY
Product:	RC CAR
Brand Name:	N/A
Model No:	666-6
Listed Models:	KM660-1,KM660-2,KM660-3, KM660-6,690,691,681, 682,991,992,666,666-1,666-2,666-5,550,551,552,993
Test Standards:	FCC Part 15.229
Test result:	PASS
Approved By	BSL Testing Co., Ltd.

Vivian Jiang
EMC Manager

Dated: May 29, 2023

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

BSL Testing Co., Ltd.
1/F, Building B, Xinshidai GR Park,Shiyan Street, Bao'an District, Shenzhen,Guangdong, 518052, People's Republic of China
Tel:+86-755- 26649703

T E S T R E P O R T

Equipment under Test	:	RC CAR
Model /Type	:	666-6
Listed Models	:	KM660-1,KM660-2,KM660-3, KM660-6,690,691,681,682,991,992, 666,666-1,666-2,666-5,550,551,552,993
Model Declaration	:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Applicant	:	**YIXUAN TOYS FACTORY**
Address	:	No.3,Heng 6,Shunfa Road,Guangyi Street,Chenghai District,Shantou City
Manufacturer	:	**YIXUAN TOYS FACTORY**
Address	:	No.3,Heng 6,Shunfa Road,Guangyi Street,Chenghai District,Shantou City

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.229:Operation within the band 40.66 – 40.70 MHz.
ANSI C63.10:2013 : American National Standard for Testing Unlicensed Wireless Devices

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	May. 05, 2023
Testing commenced on	:	May. 05, 2023
Testing concluded on	:	May. 29, 2023

2.2 Product Description

Product Name:	RC CAR
Model/Type reference:	666-6
Listed Models:	KM660-1,KM660-2,KM660-3, KM660-6,690,691,681,682,991,992, 666,666-1,666-2,666-5,550,551,552,993
Testing sample ID:	BSL23050501#(Normal sample)
Power supply:	DC 3.0V From Battery
Modulation:	FSK
Operation frequency:	40.685MHz
Channel number:	1
Antenna type:	Metal Antenna
Antenna gain:	0 dBi

2.3 Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

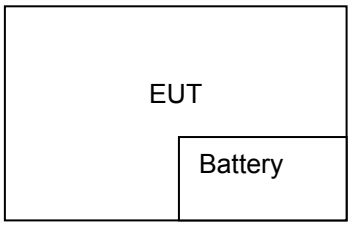
DC 3.0V From Battery

2.4 Short description of the Equipment under Test (EUT)

This is a RC CAR.

For more details, refer to the user's manual of the EUT.

2.5 Block Diagram of Test Setup



2.6 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
/	/	/	/	/	/

2.7 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for the device filing to comply with Section 15.203, 15.205, 15.207, 15.209, 15.229 of the FCC Part 15, Subpart C Rules.

2.8 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

BSL Testing Co., Ltd.
1/F, Building B, Xinshidai GR Park,Shiyan Street, Bao'an District, Shenzhen,Guangdong, 518052, People's Republic of China

3.2 Test Facility

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

FCC-Registration No.: 562200 Designation Number: CN1338
BSL Testing Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 11093A CAB identifier: CN0019
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

A2LA-Lab Cert. No.: 4707.01
BSL Testing Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Environmental conditions

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

Radiated Emission:

Temperature:	25 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

Conducted testing：

Temperature:	25 ° C
Humidity:	44 %
Atmospheric pressure:	950-1050mbar

3.4 Summary of measurement results

FCC Requirements		
FCC Part 15.203	Antenna requirement	PASS
FCC Part 15.207	Conducted Emission	N/A
FCC Part 15.229 (a)/ 15.209/ 15.205	Fundamental &Radiated Spurious Emission Measurement	PASS
FCC Part 15.215(c)	20dB Channel Bandwidth	PASS
FCC Part 15.229(d)	Frequency Tolerance	PASS

Remark: The measurement uncertainty is not included in the test result.

3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the BSL Testing Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for BSL Testing Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.20 dB	(1)
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.9KHz~30MHz	3.12 dB	(1)
Occupied Channel Bandwidth	/	5%	(1)
RF Frequency	/	$0.082*10^{-7}$	(1)
RF output power, conducted	/	0. 73 dB	(1)
Unwanted Emission, conducted	/	1 .6dB	(1)
AC Power Lines Conducted Emissions|	/	2. 72dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6 Equipments Used during the Test

Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2022-10-28	2023-10-27
Absorbing Clamp	ROHDE&SCHWARZ	MDS-21	100126	2022-10-28	2023-10-27
Electrostatic analog generator	LIONCEL	ESD-203B	0210502	2022-10-28	2023-10-27
Signal Generator	HP	8648A	3633A02081	2022-10-28	2023-10-27
Amplifier	A&R	500A100	17034	2022-10-28	2023-10-27
Amplifier	A&R	100W/1000M1	17028	2022-10-28	2023-10-27
Isotropic Field Monitor	A&R	FM2000	16829	2022-10-28	2023-10-27
Isotropic Field Probe	A&R	FLW220100	16755	2022-10-28	2023-10-27
Biconic Antenna	EMCO	EVOD PROTANK8	9507-2534	2022-10-28	2023-10-27
Log-periodic Antenna	A&R	AT1080	16812	2022-10-28	2023-10-27
Injection Clamp	EMTEST	F-2031-23MM	368	2022-10-28	2023-10-27
Attenuator	EMTEST	ATT6	0010222a	2022-10-28	2023-10-27
Computer	IBM	8434	1S8434KCE99BLX LO*	-	-
Oscillator	KENWOOD	AG-203D	3070002	2022-10-28	2023-10-27
Spectrum Analyzer	HAMEG	HM5012	-	-	-
Power Supply	LW	APS1502	-	-	-
5K VA AC Power Source	California Instruments	5001iX	56060	2022-10-28	2023-10-27
CDN	EM TEST	CDN M2/M3	-	2022-10-28	2023-10-27
Attenuation	EM TEST	ATT6/75	-	2022-10-28	2023-10-27
Resistance	EM TEST	R100	-	2022-10-28	2023-10-27
Electromagnetic Injection Clamp	LITTHI	EM101	35708	2022-10-28	2023-10-27
Inductive Components	EM TEST	MC2630	-	2022-10-28	2023-10-27
Antenna	EM TEST	MS100	-	2022-10-28	2023-10-27
Signal Generator	ROHDE&SCHWARZ	SMT03	100029	2022-10-28	2023-10-27
Power DJ MIXER	AR	150W1000	300999	2022-10-28	2023-10-27
Field probe	Holaday	HI-6005	105152	2022-10-28	2023-10-27
Bilog Antenna	Chase	CBL6111C	2576	2022-10-28	2023-10-27
Loop Antenna	EMCO	6502	00042960	2022-10-28	2023-10-27
ESPI Test Receiver	ROHDE&SCHWARZ	ESI7	838786/013	2022-10-28	2023-10-27
3m OATS	--	--	N/A	2022-10-28	2023-10-27
Horn Antenna	SCHWARZBECK	VULB9168	N/A	2022-10-28	2023-10-27
Horn Antenna	SCHWARZBECK	BBHA9120D	N/A	2022-10-28	2023-10-27
Power meter	Anritsu	ML2487A	6K00003613	2022-10-28	2023-10-27
Power sensor	Anritsu	MA2491A	32263	2022-10-28	2023-10-27
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-10-28	2023-10-27
9*6*6 Anechoic	--	--	N/A	2021-08-21	2024-8-20
Test Receiver	Rohde&Schwarz	ESC17(9kHz-7GHz)	100336	2022-10-28	2023-10-27
Broadband antenna	Schwarzbeck	VULB9168	01222	2022-10-28	2023-10-27
Horn antenna	Schwarzbeck	BBHA9120D	02476	2022-10-28	2023-10-27
Preamplifier	Schwarzbeck	BBV9745	00250	2022-10-28	2023-10-27
Preamplifier	N/A	TRLA-01018G440B	21081001	2022-10-28	2023-10-27

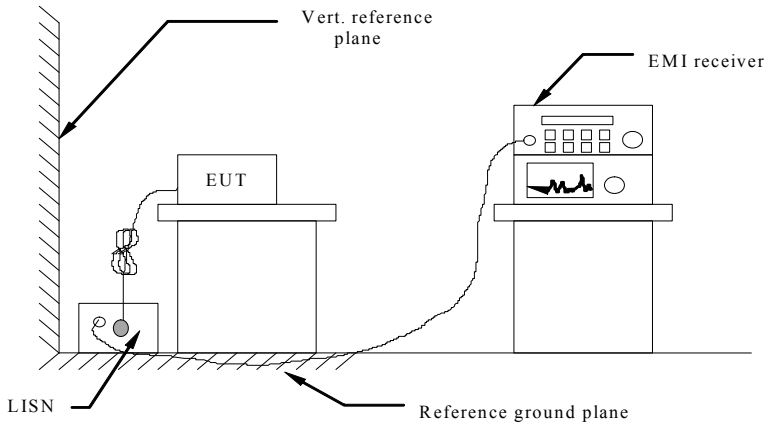
3M method semi anechoic chamber	SKET	9m*6m*6m	2021082304	2022-10-28	2023-10-27
Pointer hygrometer	M&G	ARC92570	N/A	2022-10-28	2023-10-27
Spectrometer	ROHDE&SCHWARZ	FSP 9kHz-40GHz	N/A	2022-10-28	2023-10-27
Synthesizer	ROHDE&SCHWARZ	CMW500	N/A	2022-10-28	2023-10-27

Note: The Cal.Interval was one year.

4 TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

According to § 15.207 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

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
* Decreases with the logarithm of the frequency.		

Measuring Instruments and Setting:
Please refer to equipment list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Detector	Peak
Attenuation	Auto
RB / VB (Emission in restricted band)	100KHz/300KHz

Test Procedures
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz
The spectrum from 9 kHz to 26.5GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS
The EUT is powered by the Battery,So this test item is not applicable for the EUT.

4.2 20dB Bandwidth

Standard requirement:

FCC Part15 C Section part 15.215(c):

Per 15.215 (C), Intentional radiators operating under the alternative provisions to the general emissionimits, 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 thespecific rule section under which the equipment operates, is contaned within the frequency banddesignated in the rule section under which the equipment is operated. In the case of intentional radiatorsoperating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

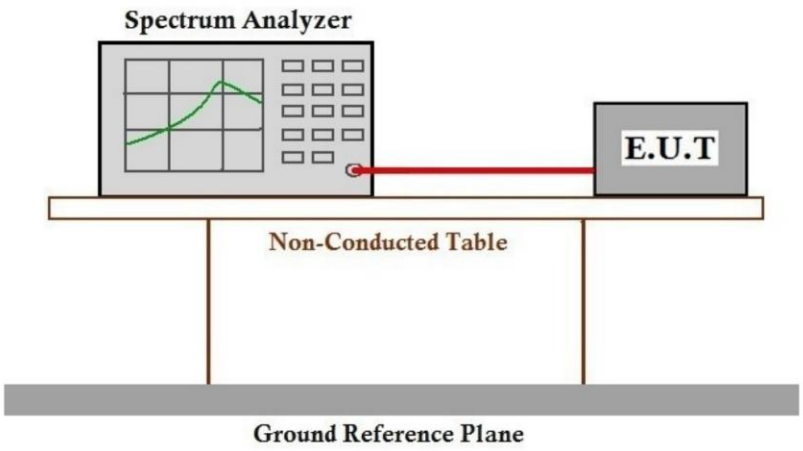
Measuring Instruments:

Please refer to equipment's list in this report.

Test Procedures

1. Set resolution bandwidth (RBW) = 1-5% BW
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

Test Setup Layout



EUT Operation during Test

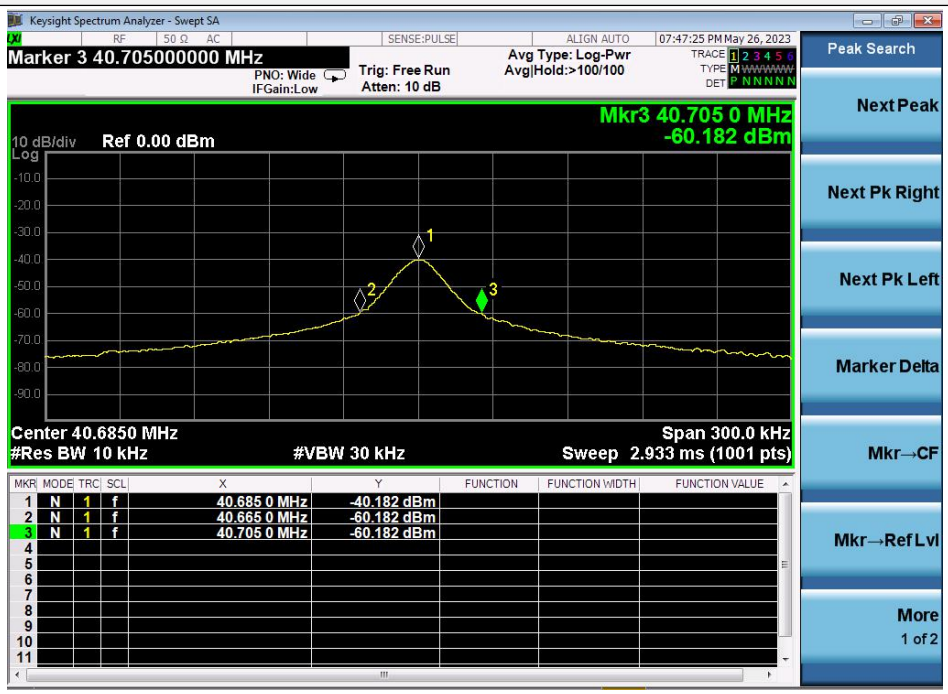
The EUT was programmed to be in continuously transmitting mode.

Test Results

Mode	Frequency (MHz)	-20dB bandwidth (KHz)	Limit (kHz)	Result
TX	40.685	40	N/A	Pass

Test plot as follows:

40.685MHz



Remark:

1). Measured 20dB Bandwidth at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

4.3 Radiated Emission Measurement

Limit

FCC Part15 C Section 15.229 :

Unless operating pursuant to the provisions in § 15.231, the field strength of any emissions within this band shall not exceed 1,0000 microvolts/meter at 3 meters.

(b) As an alternative to the limit in paragraph (a) of this section, perimeter protection systems may demonstrate compliance with the following: the field strength of any emissions within this band shall not exceed 500 microvolts/meter at 3 meters, as determined using measurement instrumentations employing an average detector. The provisions in § 15.35 for limiting peak emissions apply where compliance of these devices is demonstrated under this alternative emission limit.

(c) The field strength of any emissions appearing outside of this band shall not exceed the general radiated emission limits in § 15.209.

FCC Part15 C Section 15.209 :

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

In

Measuring Instruments and Setting:

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

Test Procedures

1) Sequence of testing 9 kHz to 30 MHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions.

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna height is 1.0 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

Sequence of testing 30 MHz to 1 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 3 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

Sequence of testing 1 GHz to 18 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height scan range is 1 meter to 2.5 meter.

--- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.

--- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

Sequence of testing above 18 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 1 meter.

--- The EUT was set into operation.

Premeasurement:

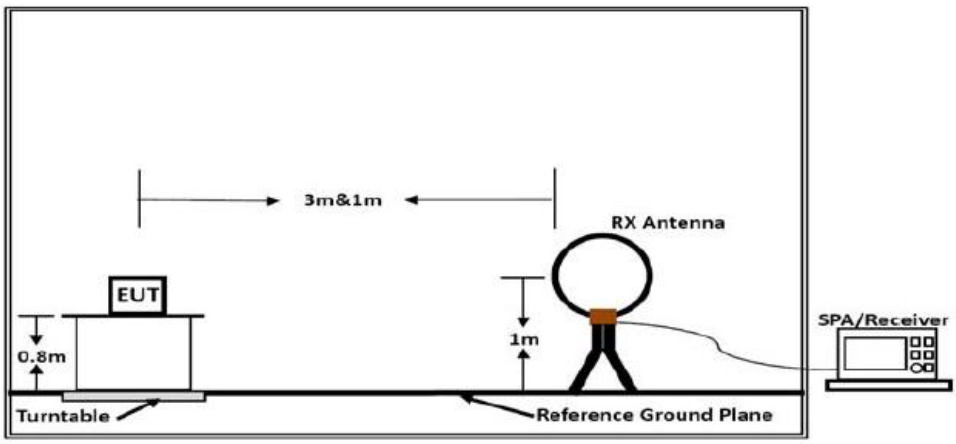
--- The antenna is moved spherical over the EUT in different polarisations of the antenna.

Final measurement:

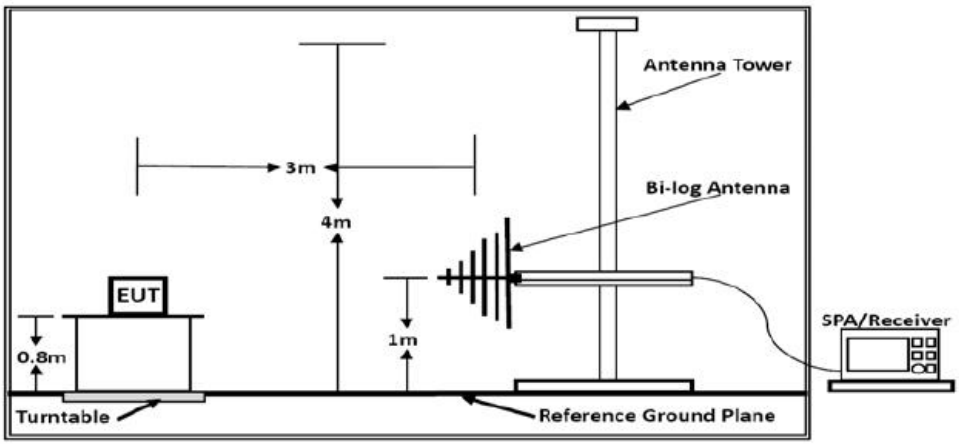
--- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

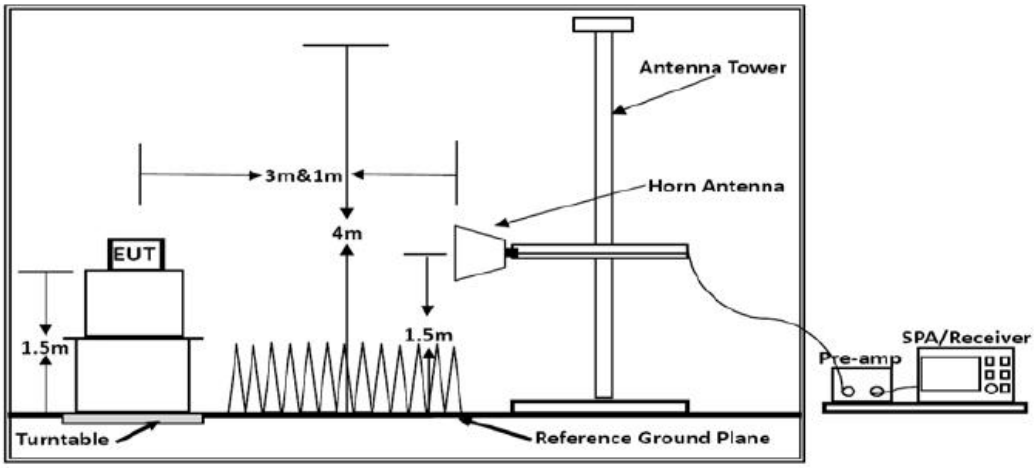
Test Setup Layout



Below 30MHz



Below 1GHz



Above 1GHz

Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

Test result

Temperature	23.7℃	Humidity	52.1%
Test Engineer	/	Configurations	TX

Remarks:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Frequency (MHz)	Read Level (dBuV)	Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Detector	Remark
40.685	72.16	-8.57	63.59	80.00	-16.41	Vertical	PK	Fundamental
40.685	59.16	-8.57	50.59	60.00	-9.41	Vertical	AVG	
40.685	68.47	-6.41	62.06	80.00	-17.94	Horizontal	PK	
40.685	55.15	-6.41	48.74	60.00	-11.26	Horizontal	AVG	
40.660	31.14	-8.57	22.57	40.00	-17.43	Vertical	PK	Band edge
40.700	30.55	-6.38	24.17	40.00	-15.83	Vertical	PK	
40.660	29.36	-8.57	20.79	40.00	-19.21	Horizontal	PK	
40.700	28.64	-6.38	22.26	40.00	-17.74	Horizontal	PK	

Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

4.4 Spurious emissions

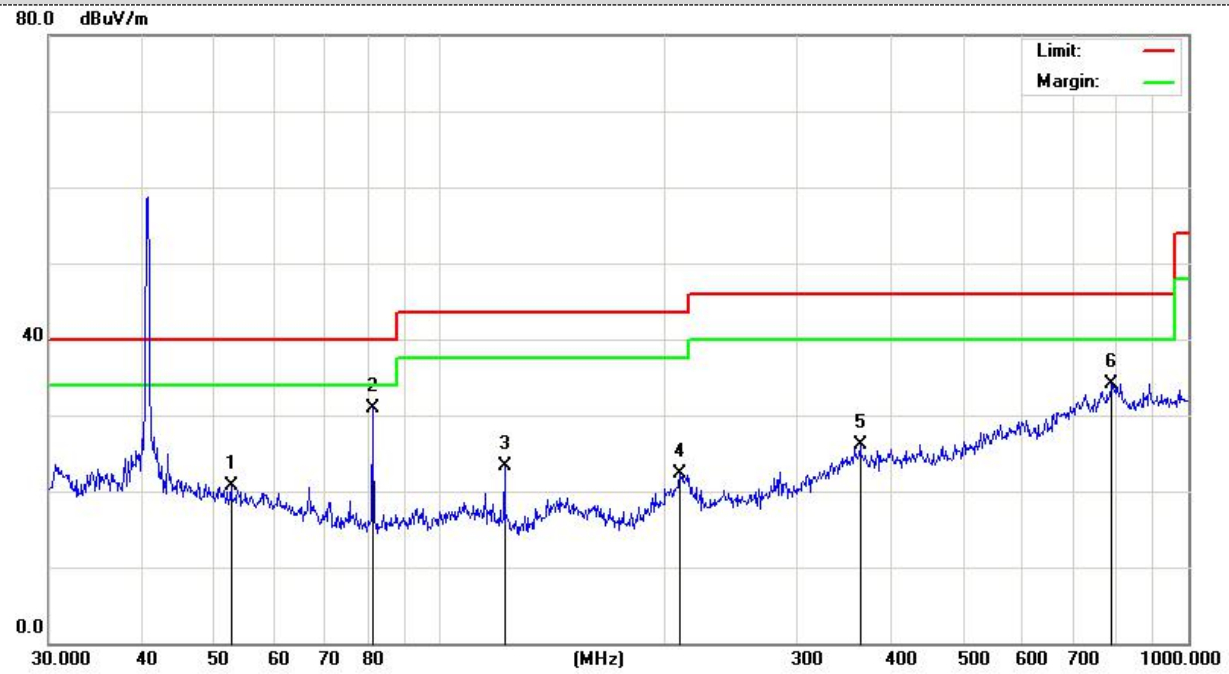
Results of Radiated Emissions (9 KHz~30MHz)

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
--	--	--	--	See Note

Note:
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

Results of Radiated Emissions (30MHz~1GHz)

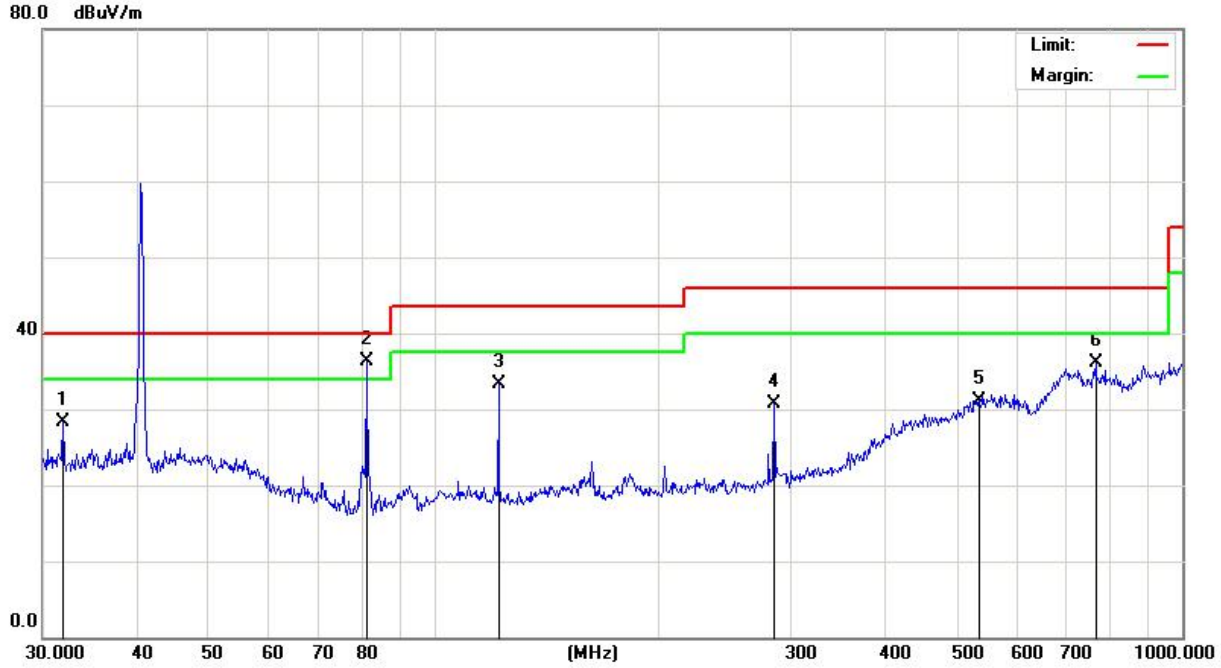
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		52.5752	27.11	-6.38	20.73	40.00	-19.27	peak
2	*	81.2117	42.07	-11.18	30.89	40.00	-9.11	peak
3		121.9755	32.81	-9.42	23.39	43.50	-20.11	peak
4		209.3129	26.36	-4.14	22.22	43.50	-21.28	peak
5		364.2595	26.68	-0.54	26.14	46.00	-19.86	peak
6		790.6188	27.31	6.82	34.13	46.00	-11.87	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Measurement Result=Reading Level +Correct Factor;
Over Limit= Measurement Result- Limit;

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		31.9543	32.31	-3.94	28.37	40.00	-11.63	peak
2	*	81.2116	47.51	-11.13	36.38	40.00	-3.62	peak
3		121.9755	41.14	-7.88	33.26	43.50	-10.24	peak
4		284.9767	36.18	-5.48	30.70	46.00	-15.30	peak
5		535.7073	27.46	3.73	31.19	46.00	-14.81	peak
6		766.0571	29.68	6.35	36.03	46.00	-9.97	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Measurement Result=Reading Level +Correct Factor;
Over Limit= Measurement Result- Limit;

Remarks:
1). Measuring frequencies from 9 KHz - 10th harmonic, No emission found between lowest internal used/generated frequency to 30MHz.
2). Radiated emissions measured in frequency range from 9 KHz~10th harmonic were made with an instrument using Peak detector mode.
3). Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4). Margin= Final Level – Limit
5).Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
6). All the modes have been tested and the only shows the worst case mode

4.5 Frequency Stability Measurement

Standard Applicable

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Result

Temperature vs. Frequency Stability

Temperature (°C)	Power	Measurement Frequency (MHz)	Frequency Error (%)	Limit (%)
-20	New battery 3Vdc	40.680025	0.00006	±0.01
-10		40.680022	0.00005	±0.01
0		40.680016	0.00004	±0.01
10		40.680020	0.00005	±0.01
20		40.680018	0.00004	±0.01
30		40.680021	0.00005	±0.01
40		40.680022	0.00005	±0.01
50		40.680025	0.00006	±0.01
20	2.55Vdc	40.679845	-0.00038	±0.01
20	3.45Vdc	40.679981	-0.00005	±0.01

4.6 Antenna Requirement

Standard Applicable

According to FCC Part 15C 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.

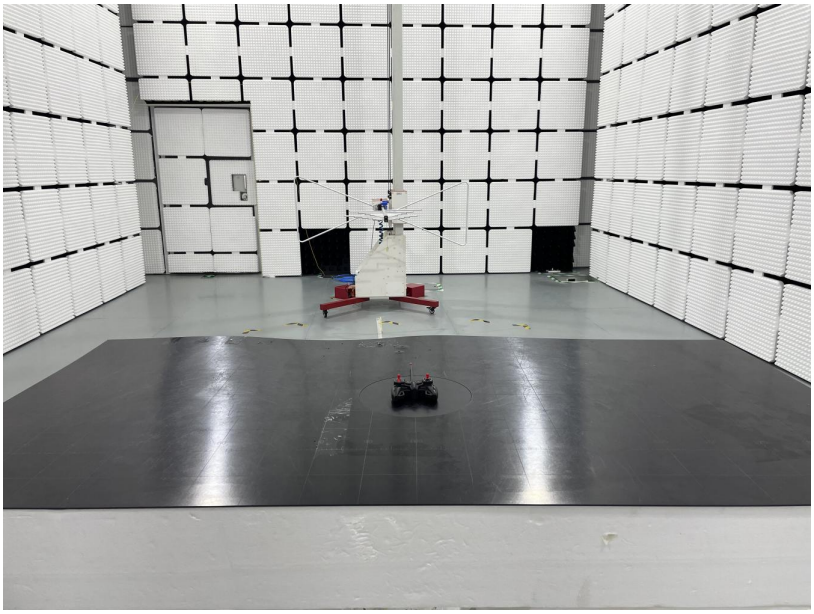
Refer to statement below for compliance.
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

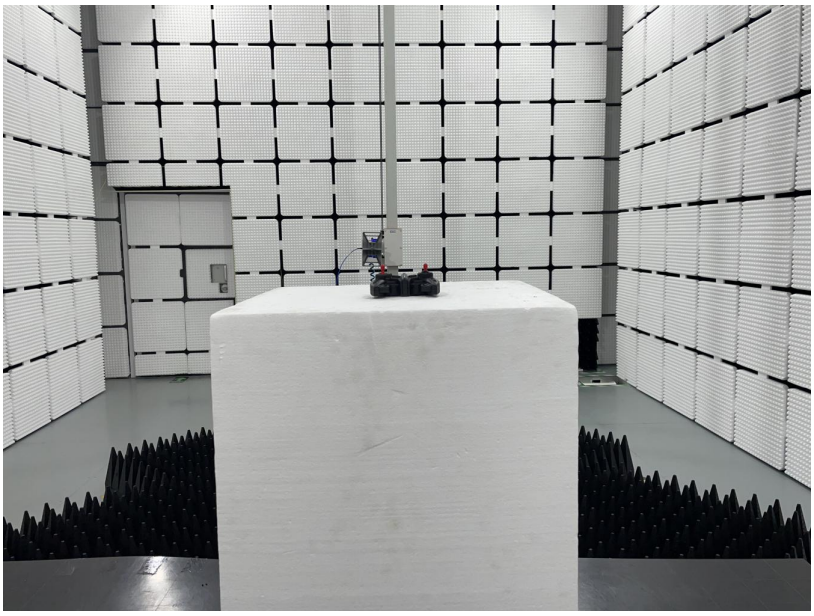
Antenna Connected Construction

The antenna used in this product is a Metal Antenna, The directional gains of antenna used for transmitting is 0 dBi.

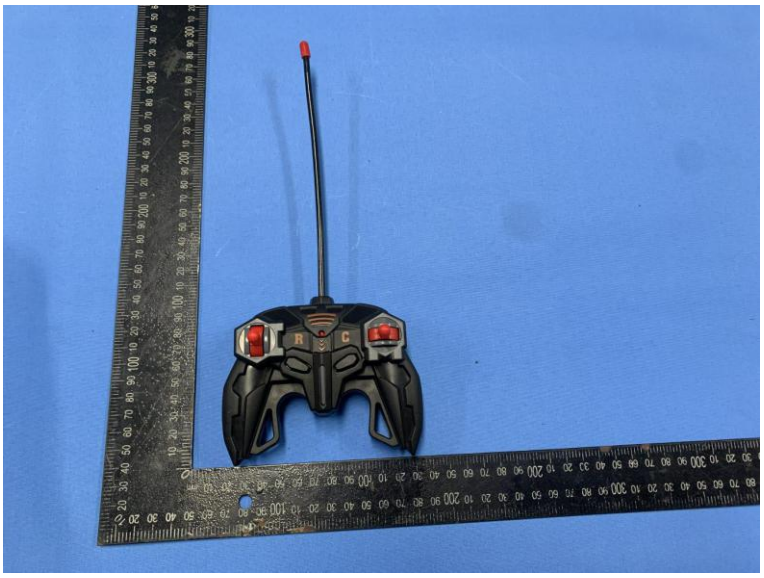
Remark:The antenna gain is provided by the customer , if the data provided by the customer is not accurate, BSL Testing Co., Ltd. does not assume any responsibility.

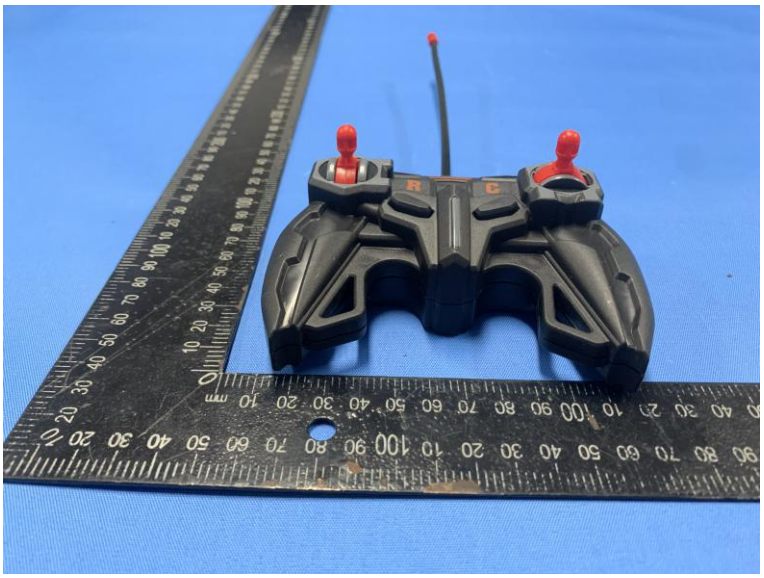
5 Test Setup Photos of the EUT

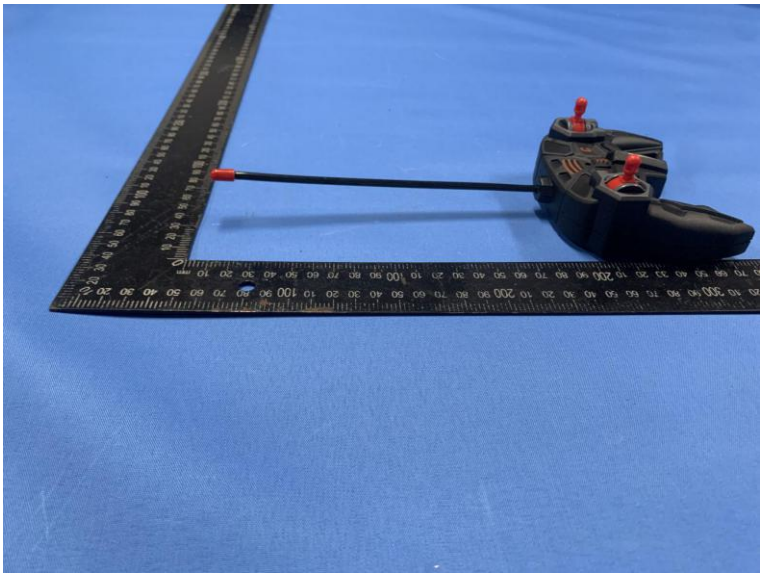


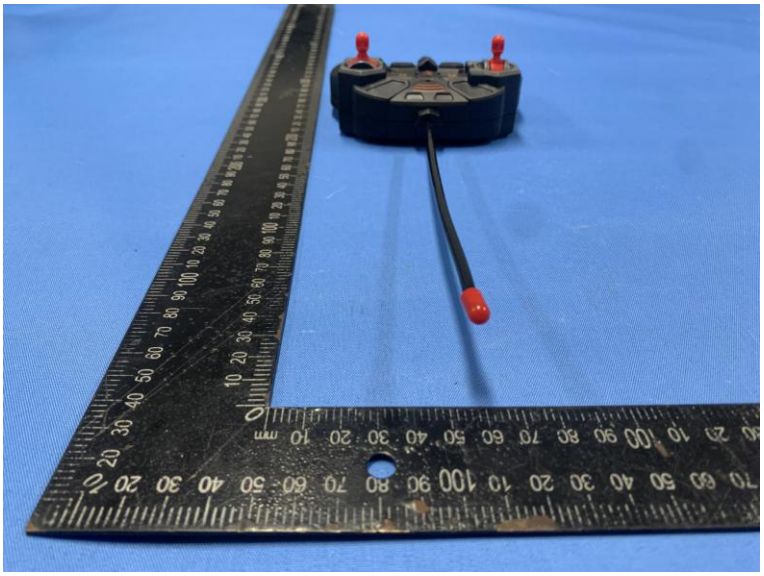


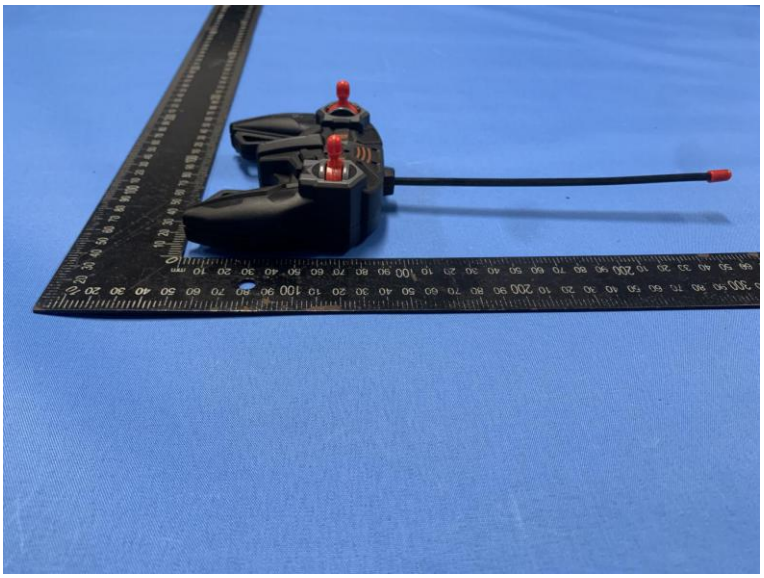
6 Photos of the EUT



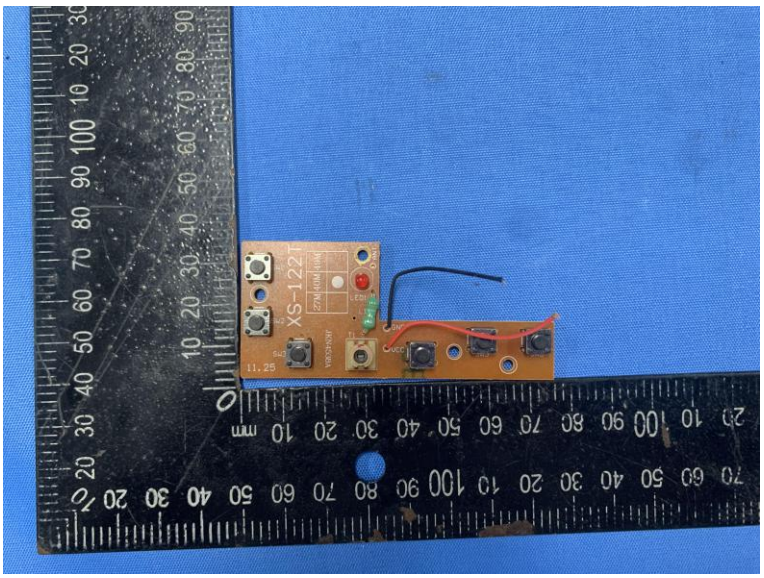


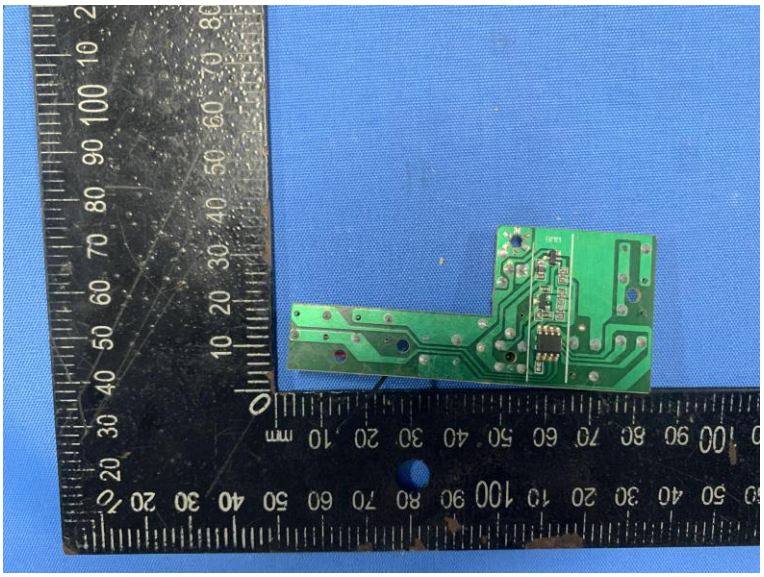


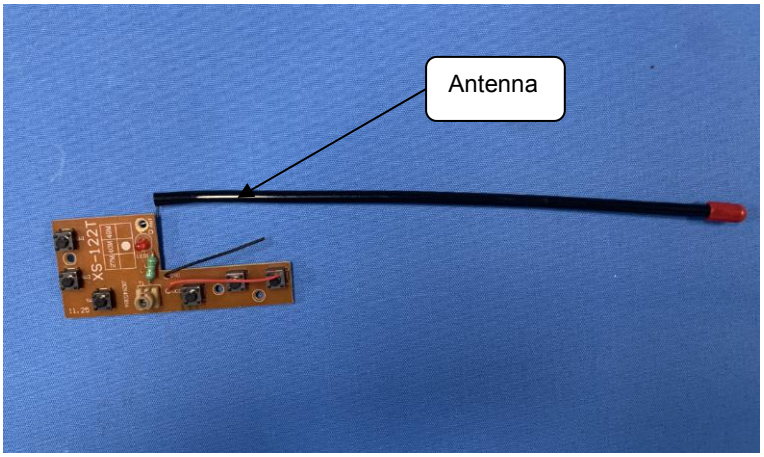




XS-122T


XS-122T





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