Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

TEST REPORT

47 CFR FCC Part 15 Subpart B (Class B)
Radio Frequency Devices – Unintentional Radiators – Limits and methods of measurement
ANSI C63.4: 2014
American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

Report Reference No.....:	**CTA25080700201**
FCC ID..... **:**	**2AYZG-MHP3010**
Compiled by (position+printed name+signature) .:	File administrators Zoey Cao
Supervised by (position+printed name+signature) .:	Project Engineer Ace Chai
Approved by (position+printed name+signature) .:	RF Manager Eric Wang
Date of issue.....:	Aug. 16, 2025

Testing Laboratory Name .....:	**Shenzhen CTA Testing Technology Co., Ltd.**
Address .....:	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name.....:	**ShenZhen litian technology Co.,Ltd**
Address .....:	Rm609,#2 Zonghe Bldg,Bao yun da center, Xixiang St,Bao an District,Shenzhen,China

Test specification:	
Standard .....:	**47 CFR FCC Part 15 Subpart B (Class B)** **ANSI C63.4: 2014**

Test item description .....:	**Walkie Talkies**
Trade Mark .....::	N/A
Manufacturer .....:	ShenZhen litian technology Co.,Ltd
Model/Type reference.....:	MHP3010
Listed Models .....:	MHP3011
Ratings .....:	DC 6.0V From Battery
Result.....:	**Pass**

TEST REPORT

Equipment under Test	:	Walkie Talkies
Model /Type	:	MHP3010
Listed Models	:	MHP3011
Model difference	:	The PCB board, circuit, structure and internal of these models are the same, Only model number and colour is different for these model.
Applicant	:	**ShenZhen litian technology Co.,Ltd**
Address	:	Rm609,#2 Zonghe Bldg,Bao yun da center, Xixiang St,Bao an District,Shenzhen,China
Manufacturer	:	**ShenZhen litian technology Co.,Ltd**
Address	:	Rm609,#2 Zonghe Bldg,Bao yun da center, Xixiang St,Bao an District,Shenzhen,China

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.

Contents

1. TEST STANDARDS 4

2. SUMMARY 5

2.1. General Remarks 5
2.2. Product Description 5
2.3. Equipment Under Test 5
2.4. Description of Test Modes and Test Frequency 5
2.5. EUT operation mode 6
2.6. Block Diagram of Test Setup 6
2.7. EUT configuration 6

3. TEST ENVIRONMENT 7

3.1. Address of the test laboratory 7
3.2. Test Facility 7
3.3. Environmental conditions 7
3.4. Test Description 7
3.5. Statement of the measurement uncertainty 8
3.6. Equipments Used during the Test 9

4. TEST CONDITIONS AND RESULTS 10

4.1. Radiated Emission 10
4.2. Conducted disturbance 14
4.3. Radiation Spurious Emissions FOR RECEIVERS 15
4.4. Sanning receivers and frequency converters used with sanning receivers. 19

5. THE TEST PHOTOS OF THE EUT 20

6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT 21

1. TEST STANDARDS

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart B (Class B) Radio Frequency Devices – Unintentional Radiators – Limits and methods of measurement
ANSI C63.4: 2014 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

2 . SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Aug. 07, 2025
Testing commenced on	:	Aug. 07, 2025
Testing concluded on	:	Aug. 16, 2025

2.2. Product Description

Name of EUT	Walkie Talkies
Model Number	MHP3010
Power Supply	DC 6.0V from battery
Frequency Range	FRS:462.5500MHz~462.7250MHz; FRS:462.5625MHz~462.7125MHz; FRS:467.5625MHz~467.7125MHz
Rate Power	0.5W (It was fixed by the manufacturer, any individual can't arbitrarily change it.)
Modulation Type	FM
Emission Type	F3E
Channel Separation	12.5KHz
Antenna Type	Spring Antenna
Antennal Gain	2.00dBi
Sample ID:	CTA250807002-1#(Engineer sample) CTA250807002 -2#(Normal sample)

2.3. Equipment Under Test

Power supply system utilised

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

DC 6.0V from battery

2.4. Description of Test Modes and Test Frequency

The EUT has been tested under typical operating condition. As, test modes selected as below by the technical parameters of the EUT:

Operation Mode No.	Modulation	Channel Separation	Condition	
	FM	12.5KHz	TX	RX
1	☒	☒	☒	
2	☒	☒		☒

Frequency list

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

Note1: In section 15.31(m), regards to the operating frequency range less than 1MHz, only one point centered in the frequency range of operation selected to measure.
Note2: The line display in grey was the channel selected for test.

2.5. EUT operation mode

Operation mode	
Mode 1	Scanning mode
Mode 2	Scanning stopped/Receiving at CH4
Mode 3	Scanning stopped/Receiving at CH11
Mode 4	Scanning stopped/Receiving at CH19

1. ■ is operation mode.
2. Pre-scan above all test mode, found below test mode which it was worse case mode.

Test item	Test mode (Worse case mode)
Conducted emission	N/A
Radiated emission	Mode 1
Radioation Spurious Emissions for receivers	Mode 2
Scanning receivers and frequency converters used with scanning receivers	Mode 2, Mode3, Mode4

2.6. Block Diagram of Test Setup

2.7. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

○ - supplied by the manufacturer
● - Supplied by the lab

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen GUOREN Certification Technology Service Co., Ltd.
101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

3.2. Test Facility

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

FCC-Registration No.: 517856 Designation Number: CN1318
Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01
Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

ISED#: 27890 CAB identifier: CN0127
Shenzhen CTA Testing Technology Co., Ltd. has been listed by Innovation, Science and Economic Development Canada 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

3.4. Test Description

Test item	FCC Rules	Result
Radiated Emission	47 CFR FCC Part 15.107	PASS
Conducted Disturbance	47 CFR FCC Part 15.109	N/A
Antenna Conducted Power for receivers	47 CFR FCC Part 15.111	PASS
Scanning receivers and frequency converters used with scanning receivers	47 CFR FCC Part 15.121(b)	PASS

Remark: N/A means “not applicable”.
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 Shenzhen CTA Testing Technology 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 Shenzhen CTA Testing Technology Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)
Time	/	±2%	(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

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2025/08/04	2026/08/03
LISN	R&S	ENV216	CTA-314	2025/07/30	2026/07/29
EMI Test Receiver	R&S	ESPI	CTA-307	2025/07/30	2026/07/29
EMI Test Receiver	R&S	ESCI	CTA-306	2025/07/30	2026/07/29
Spectrum Analyzer	Agilent	N9020A	CTA-301	2025/07/30	2026/07/29
Vector Signal generator	Agilent	N5182A	CTA-305	2025/07/30	2026/07/29
Analog Signal Generator	R&S	E4421B	CTA-304	2025/07/30	2026/07/29
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2025/07/30	2026/07/29
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2025/07/31	2026/07/30
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2026/10/16
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2026/10/12
Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2026/10/16
Horn Antenna	Schwarzbeck	BBHA 9170	CTA-346	2025/05/18	2028/05/17
Amplifier	Schwarzbeck	BBV9745	CTA-312	2025/07/30	2026/07/29
Amplifier	Tonscend	TAP-011840	CTA-313	2025/07/30	2026/07/29
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2025/07/30	2026/07/29
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2025/07/30	2026/07/29
Automatic control unit	Tonscend	JS0806-2	CTA-404	2025/07/30	2026/07/29
Power Sensor	Agilent	U2021XA	CTA-405	2025/07/30	2026/07/29
Amplifier	SKET	LNPA 1840G-50	CTA-345	2025/05/17	2026/05/16
Spectrum analyzer	R&S	FSV40-N	CTA-344	2025/05/17	2026/05/16
Power Meter	R&S	NRVS	CTA-354	2025/07/30	2026/07/29
Attenuator	XINQY	10dB	N/A	N/A	N/A
Programmable Constant Temperature And Humidity Test Chamber	DONGGUAN JINGYU	HT-H-408	CTA-053	2025/07/30	2026/07/29
EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
EMI Test Software	Tonscend	TS®JS32-CE	5.0.0.1	N/A	N/A
RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A

4. TEST CONDITIONS AND RESULTS

4.1. Radiated Emission

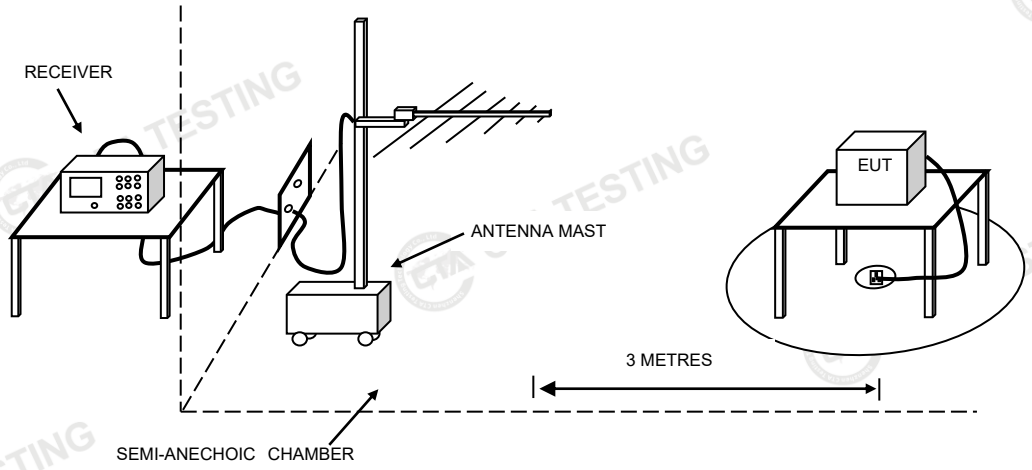
4.1.1. LIMITS OF DISTURBANCE (Class B)

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dBμV/m)
30 ~ 88	3	40
88~216	3	43.5
216 ~ 960	3	46
960 ~1000	3	54

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

4.1.2. TEST CONFIGURATION



4.1.3. TEST PROCEDURE

EUT is tested in Semi-Anechoic Chamber. EUT is placed on a nonmetal table which is 0.8 meter above a grounded turntable. The turntable can rotate 360 degrees to determine the azimuth of the maximum emission level. EUT is set 3 meters away from the center of receiving antenna. The antenna can move up and down from 1 to 4 meter to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set on the test.

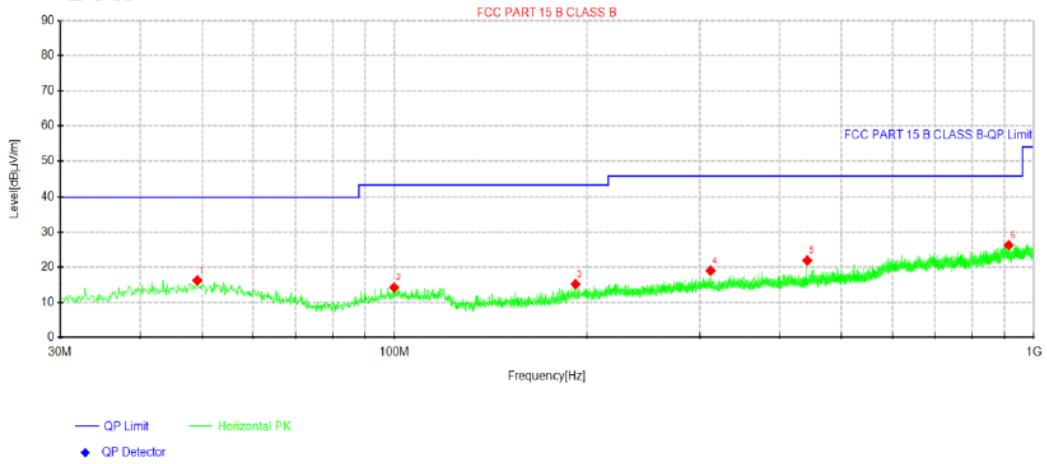
4.1.4. CLIMATIC CONDITIONS

- ambient temperature : 24 ℃
- relative humidity: 48%
- atmospheric pressure: 960 mbar

4.1.5. TEST RESULTS

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

Test mode:	Mode 1	Polarization	Horizontal



Suspected Data List

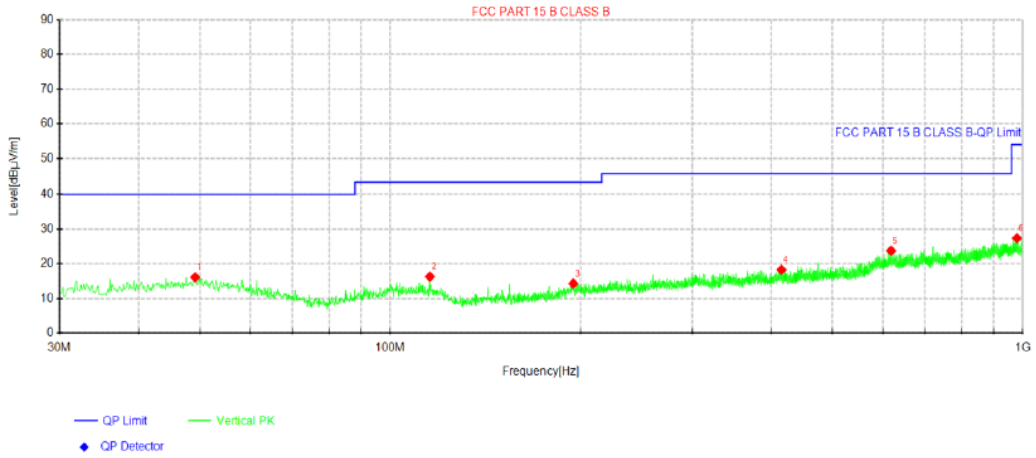
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.1575	27.47	16.28	-11.19	40.00	23.72	100	176	Horizontal
2	99.84	27.23	14.26	-12.97	43.50	29.24	100	279	Horizontal
3	191.868	28.60	15.19	-13.41	43.50	28.31	100	133	Horizontal
4	312.027	29.94	19.04	-10.90	46.00	26.96	100	217	Horizontal
5	442.007	31.76	21.96	-9.80	46.00	24.04	100	192	Horizontal
6	912.821	28.93	26.34	-2.59	46.00	19.66	100	133	Horizontal

Note:1).Level (dBµV/m)= Reading (dBµV)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

Test mode:	Mode 1	Polarization	Vertical



Suspected Data List

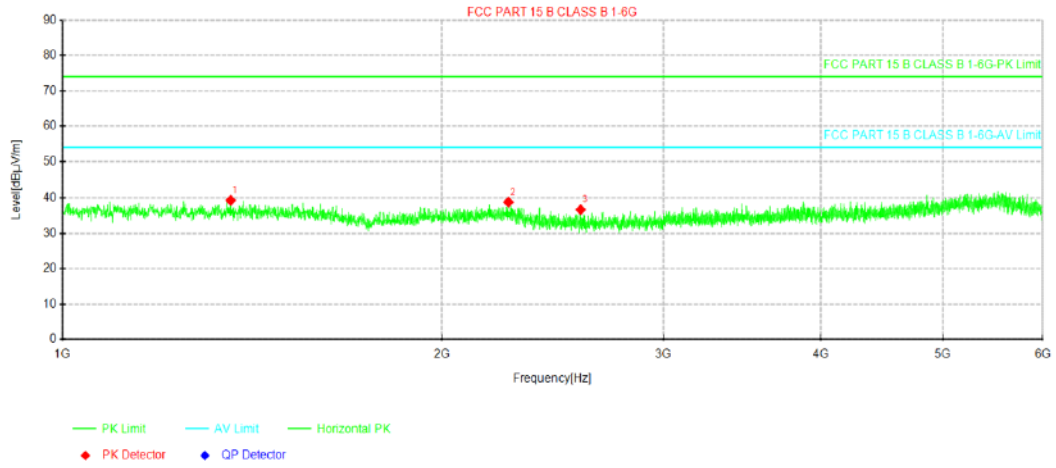
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.1575	27.30	16.11	-11.19	40.00	23.89	100	236	Vertical
2	115.481	29.97	16.30	-13.67	43.50	27.20	100	323	Vertical
3	194.657	27.51	14.28	-13.23	43.50	29.22	100	262	Vertical
4	415.211	28.30	18.27	-10.03	46.00	27.73	100	340	Vertical
5	619.032	29.50	23.78	-5.72	46.00	22.22	100	323	Vertical
6	978.781	29.24	27.38	-1.86	54.00	26.62	100	245	Vertical

Note:1).Level (dBµV/m)= Reading (dBµV)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

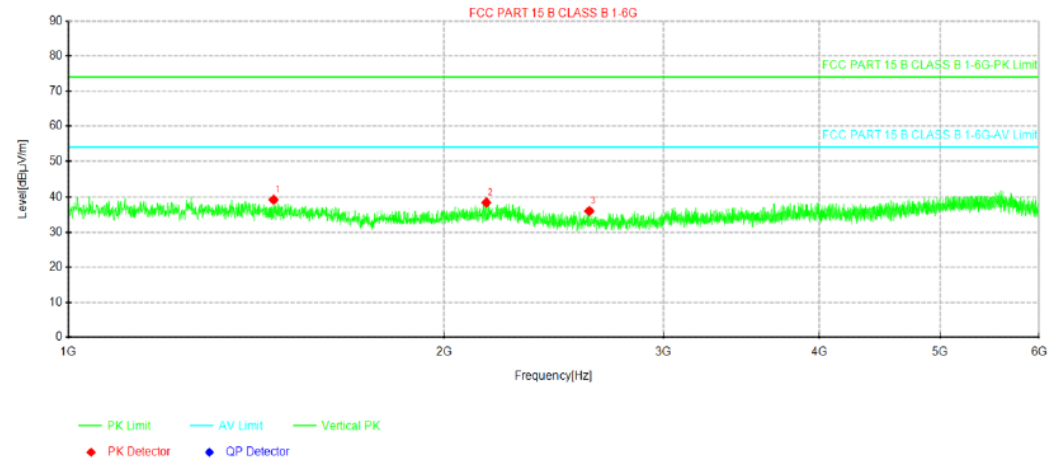
Test mode:	Mode 1	Polarization	Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1360	53.03	39.37	-13.66	74.00	34.63	100	20	Horizontal
2	2259.37	51.71	38.87	-12.84	74.00	35.13	100	50	Horizontal
3	2578.12	49.31	36.73	-12.58	74.00	37.27	100	60	Horizontal

Test mode:	Mode 1	Polarization	Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1460.62	52.98	39.32	-13.66	74.00	34.68	100	20	Vertical
2	2163.12	51.43	38.52	-12.91	74.00	35.48	100	50	Vertical
3	2615.62	48.60	36.08	-12.52	74.00	37.92	100	60	Vertical

Notes:

1). Measuring frequencies from 9 KHz~5th harmonic

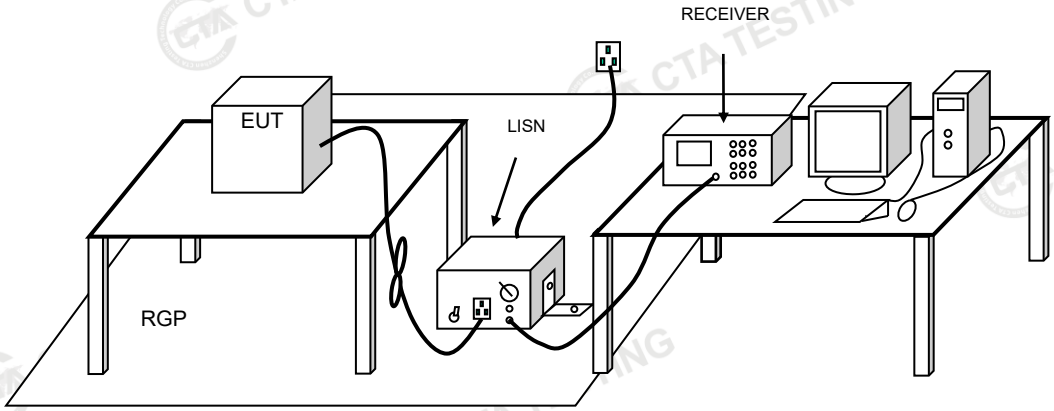
4.2. Conducted disturbance

4.2.1. LIMITS OF DISTURBANCE (Class B)

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.150～0.500	66~56	56~46
0.500～5.000	56	46
5.000~30.000	60	50

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

4.2.2. TEST CONFIGURATION



4.2.3. TEST PROCEDURE

EUT is placed on a nonmetal table which is 0.8 meter (or 0.1 meter for floor-stood equipments) above the grounded reference plane. Connect the power line of the EUT to the LISN. Voltage of the power supply is varied over a range of 0.9 to 1.1 times of the rated voltage in order to check whether the level of disturbance varies considerably with the supply voltage at the selected frequency about 160KHz. Perform an initial measurement on each line with peak detector to identify the frequencies where the maximum disturbances may occur. Then measure and record the maximum disturbances with quasi-peak and average detector.

4.2.4. CLIMATIC CONDITIONS

- ambient temperature : 25 ℃
- relative humidity: 52%
- atmospheric pressure: 960 mbar

4.2.5. TEST RESULTS

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

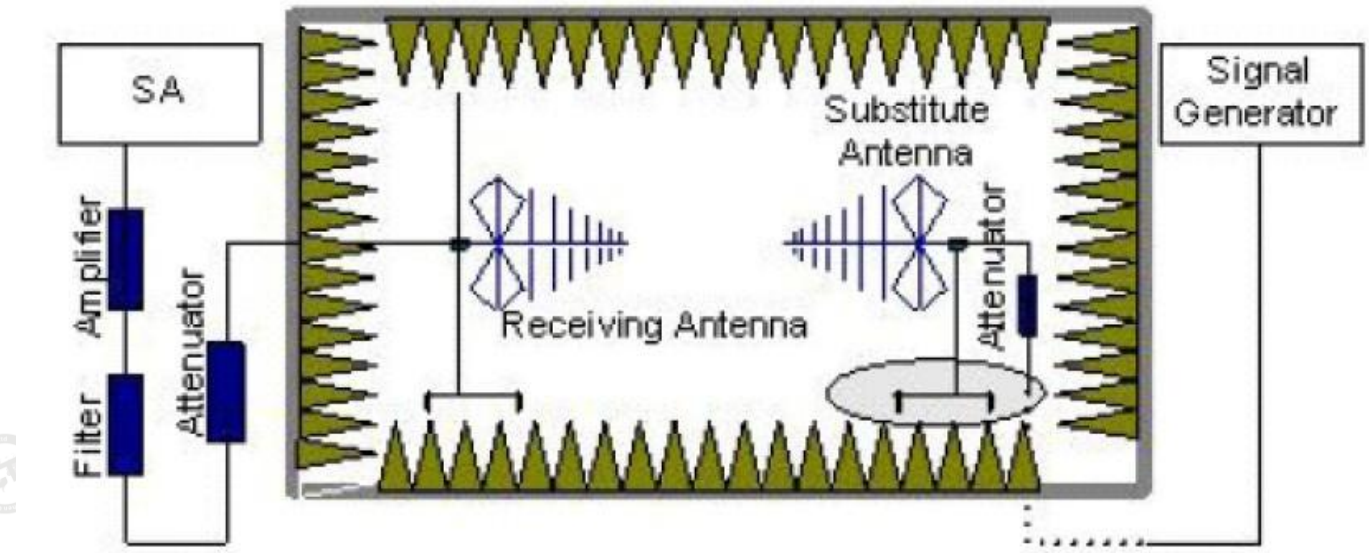
4.3. Radiation Spurious Emissions FOR RECEIVERS

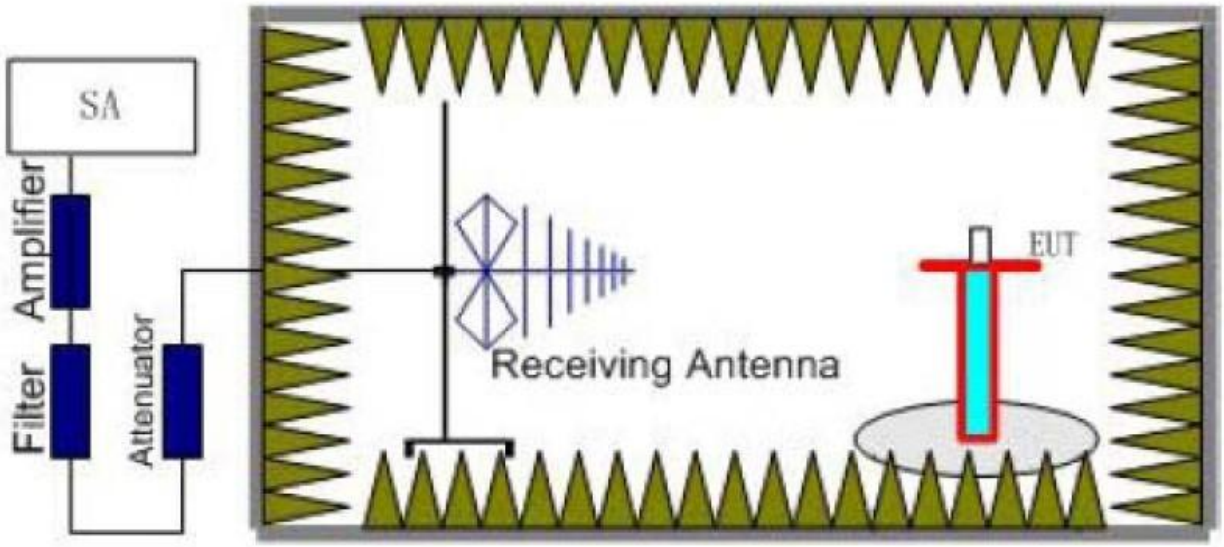
4.3.1. LIMITS

The antenna power of the receiver as defined in §15.111 shall not exceed the values given in the following tables

Frequency Range	9 KHz to 2GHz
Limit	2.0 nW (-57 dBm)

4.3.2. TEST CONFIGURATION





4.3.3. TEST PROCEDURE

a. EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all test transmit frequencies were measured with peak detector.

b. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
c. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum 100 kHz below 1GHz and 1MHz above 1GHz, Sweep from 30MHz to the 10th harmonic of the fundamental frequency; and recorded the level of the concerned spurious emission point as (P_r).
d. The EUT then replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
The measurement results are obtained as described below:

$$Power_{(EIRP)} = P_{Mea} - P_{cl} + G_a$$

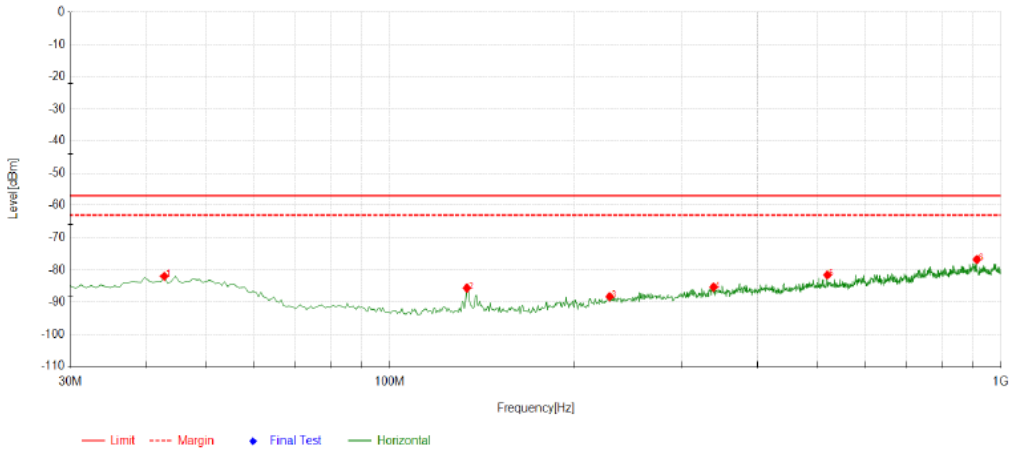
Where;
P_{Mea} is the recorded signal generator level
P_{cl} is the cable loss connect between instruments
G_a Substitution Antenna Gain
e. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
f. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.
g. Test site anechoic chamber refer to ANSI C63.

4.3.4. CLIMATIC CONDITIONS

- ambient temperature : 25 ℃
- relative humidity: 52%
- atmospheric pressure: 960 mbar

4.3.5. TEST RESULTS

Mode 2	Horizontal/ Vertical



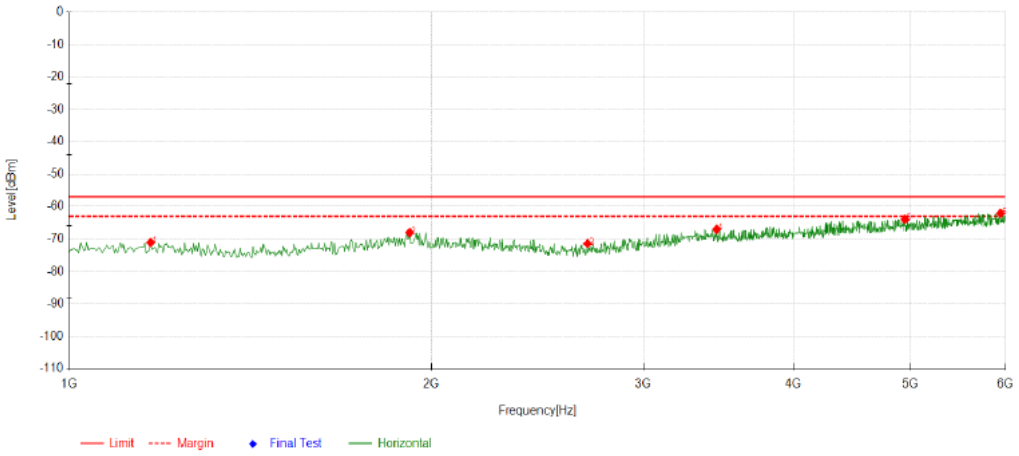
Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Path [dB]	Polarity
1	42.7312	-78.97	-81.97	-57.00	24.97	-3.00	-30.62	Horizontal
2	133.6688	-73.58	-85.69	-57.00	28.69	-12.11	-30.37	Horizontal
3	228.85	-78.65	-88.35	-57.00	31.35	-9.70	-30.35	Horizontal
4	338.5812	-78.11	-85.41	-57.00	28.41	-7.30	-30.48	Horizontal
5	519.85	-76.24	-81.59	-57.00	24.59	-5.35	-30.69	Horizontal
6	913.9125	-76.01	-76.80	-57.00	19.80	-0.79	-30.30	Horizontal

Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

30MHz-1GHz

Mode 2	Horizontal/ Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Path [dB]	Polarity
1	1168.75	-111.46	-71.08	-57.00	14.08	40.38	3.95	Horizontal
2	1918.75	-113.28	-68.04	-57.00	11.04	45.24	5.12	Horizontal
3	2696.875	-114.72	-71.42	-57.00	14.42	43.30	6.09	Horizontal
4	3453.125	-111.51	-67.04	-57.00	10.04	44.47	6.82	Horizontal
5	4950	-111.84	-63.94	-57.00	6.94	47.90	8.62	Horizontal
6	5943.75	-112.63	-62.08	-57.00	5.08	50.55	9.20	Horizontal

Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

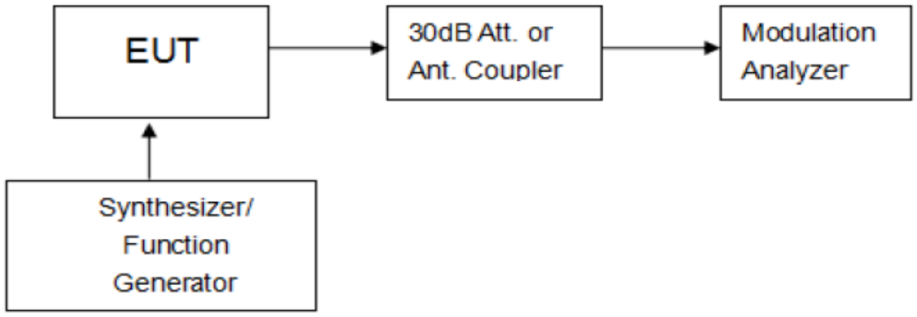
1GHz -6GHz

4.4. Sanning receivers and frequency converters used with sanning receivers.

4.4.1. LIMITS

Except as provided in paragraph (c) of this section, scanning receivers shall reject any signals from the Cellular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

4.4.2. TEST CONFIGURATION



4.4.3. TEST PROCEDURE

Please review the FCC Part 15.121 b section requirements to meet the testing process

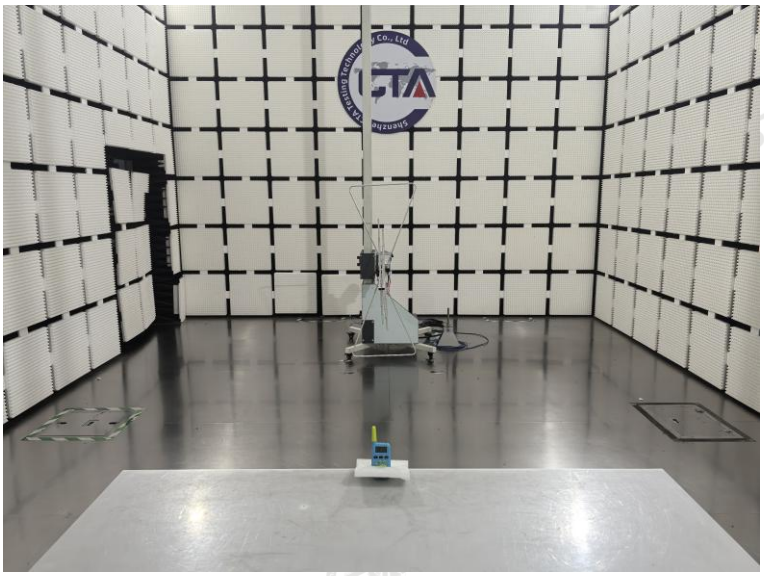
4.4.4. CLIMATIC CONDITIONS

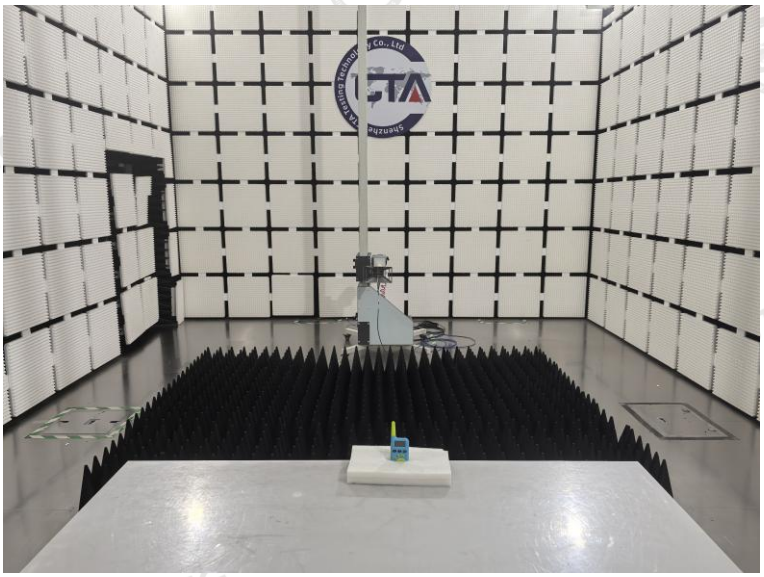
- ambient temperature : 25 ℃
- relative humidity: 52%
- atmospheric pressure: 960 mbar

4.4.5. TEST RESULTS

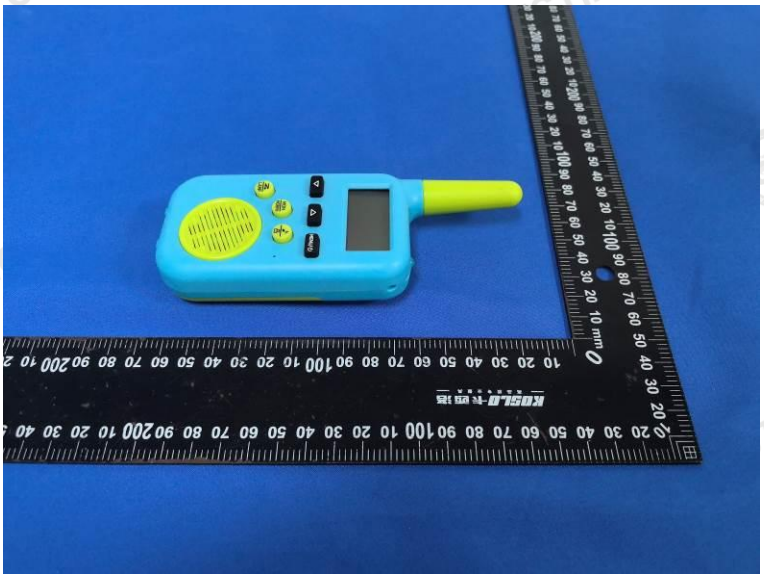
Modulation	Channel	Measurement Result (dB)	Limit(dB)	Result
FM	CH4	43	>38	Pass
	CH11	44	>38	Pass
	CH19	41	>38	Pass

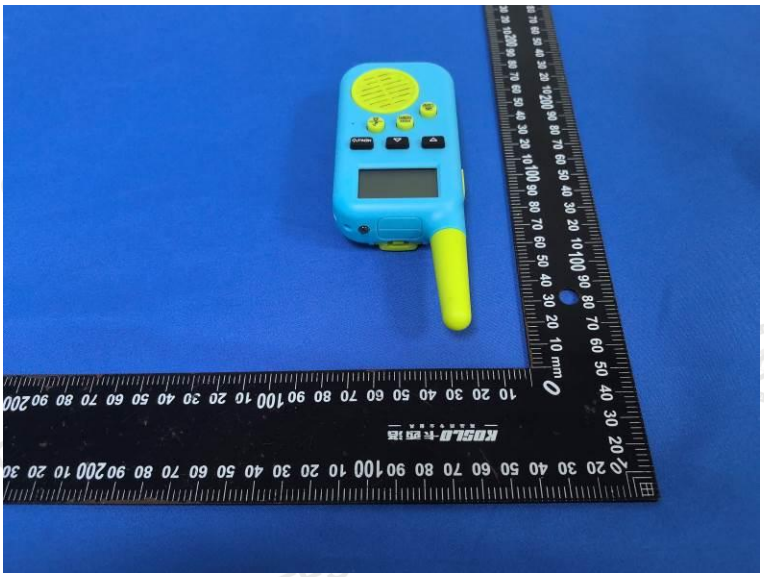
5. The Test Photos of the EUT

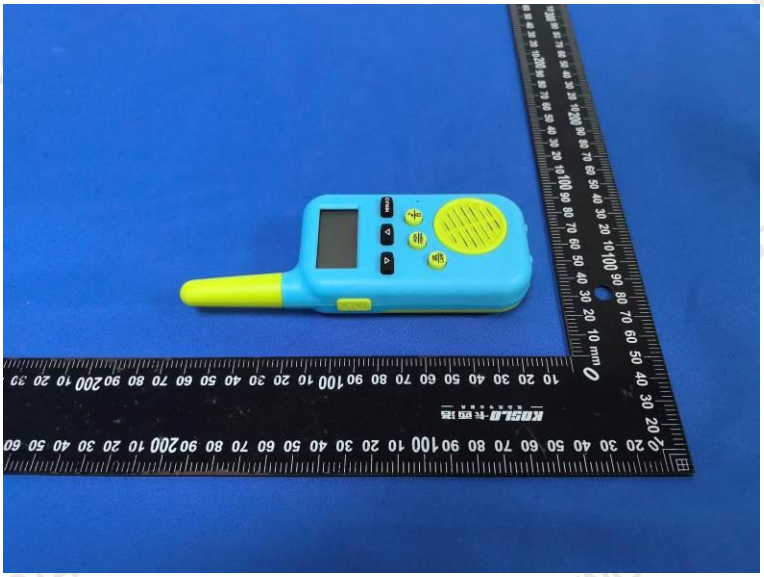


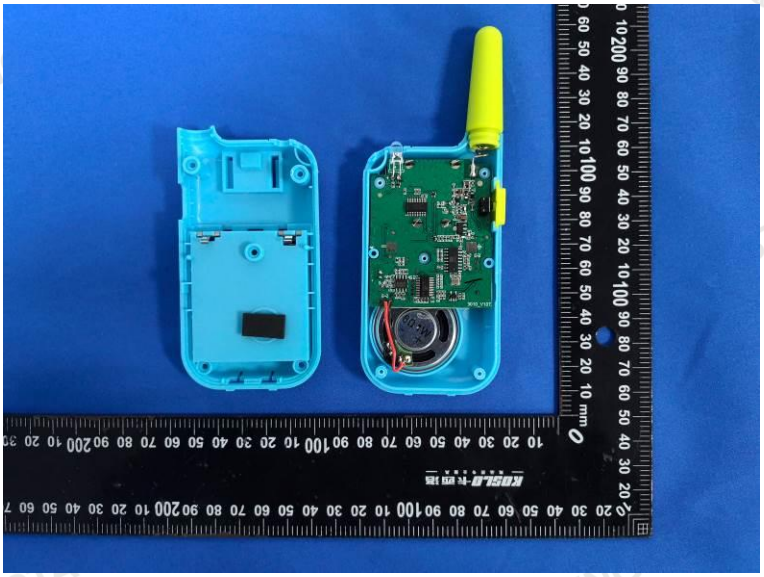


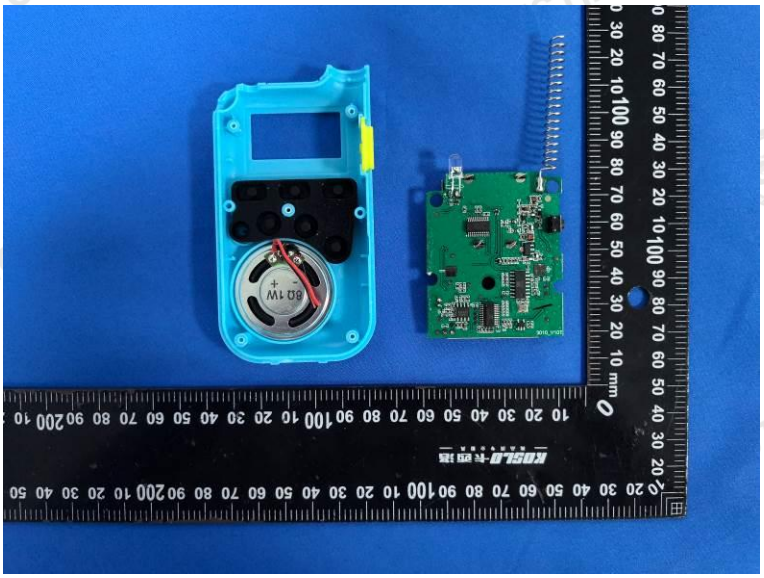
6. External and Internal Photos of the EUT

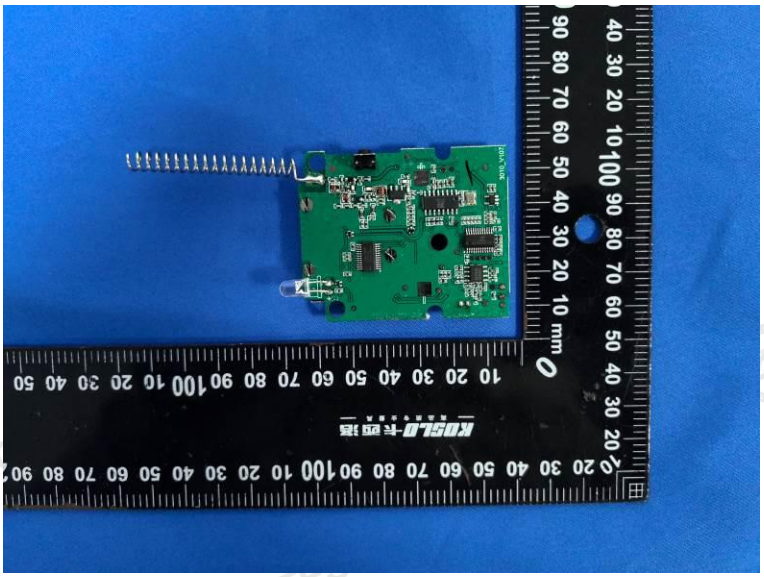


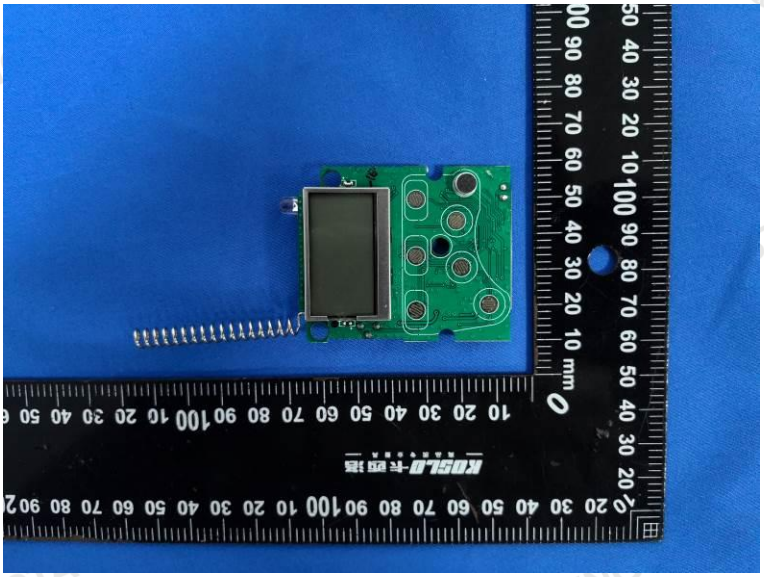


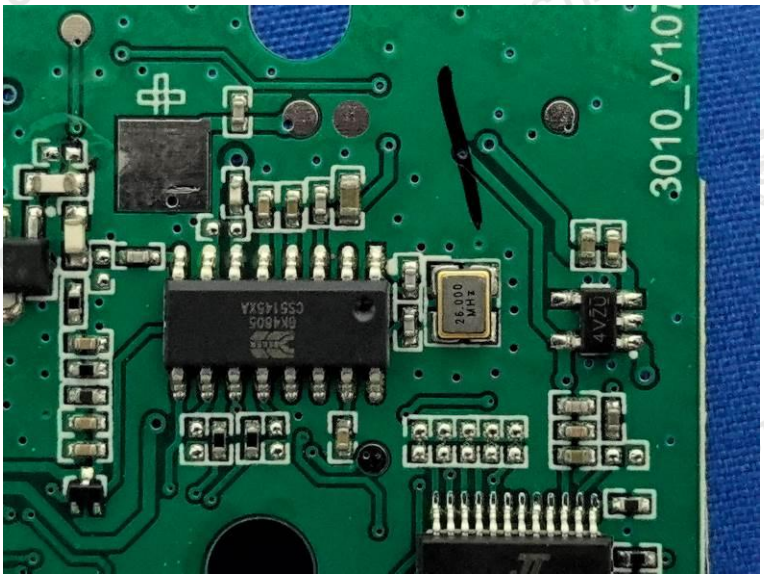












.....End of Report.....