

TEST REPORT

On Behalf of

GREAT-ONE ELECTRONIC TECHNOLOGY CO., LTD.

Product Name: Multi-functional solar crank charging emergency radio

Trademark: GREATONE

Model Number: HY-068

Prepared For: GREAT-ONE ELECTRONIC TECHNOLOGY CO., LTD.

Address: 5/F, NO11, PINGDONG FOURTH RD, Building A., NANPING HI-TECH INDUSTRIAL ZONE, ZHUHAI, GUANGDONG

Prepared By: Shenzhen BKC Testing Co., Ltd.

Address: 103, 1/F, Huaya Science Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China

Test Date: May 09, 2022 - Sep. 08, 2022

Date of Report : Sep. 08, 2022

Report Number: BKC22041176DR

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Shenzhen BKC Testing Co., Ltd.

Applicant : GREAT-ONE ELECTRONIC TECHNOLOGY CO., LTD.

Address : 5/F,NO11,PINGDONG FOURTH RD, Building A.,NANPING HI-TECH INDUSTRIAL ZONE,ZHUHAI,GUANGDONG

Manufacturer : GREAT-ONE ELECTRONIC TECHNOLOGY CO., LTD.

Address : 5/F,NO11,PINGDONG FOURTH RD, Building A.,NANPING HI-TECH INDUSTRIAL ZONE,ZHUHAI,GUANGDONG

Product Name : Multi-functional solar crank charging emergency radio

Model Number : HY-068

Trademark : GREATONE

Test Date : May 09, 2022 - Sep. 08, 2022

Date of Report : Sep. 08, 2022

Test Result : The equipment under test was found to be compliance with the requirements of the standards applied.

Test Procedure Used:
FCC Part 15 Subpart B
ANSI C63.4:2014

Prepared by(Test Engineer):
Zoro Huang

Zoro Huang

Corbin Wang

Reviewer(Supervisor):
Corbin Wang

Approved(Manager):
Levi Xiao



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Multi-functional solar crank charging emergency radio
Trademark : GREATONE
Model Number : HY-068
Model Difference : N/A
Power Supply : DC5V from USB port or DC3.7V from battery or DC4.5V from battery (3*1.5V AAA)
Work Frequency : -

Note:

1) EUT: Equipment under test

2) HY-068 was selected as the test model and the datas have been recorded in this report.

1.2. Tested System Details

Personal Computer	: DELL	Monitor	: SONY
M/N	: INSPIRON	M/N	: MNT1
Printer	: EPSON STYLUS	Keyboard (USB)	: Genuine
M/N	: P320A	M/N	: N/A
Modem	: ACEEX	Mouse	: DETROIS
M/N	: DM-1414	M/N	: CM309

1.3. Test Uncertainty

Conducted Emission Uncertainty : $\pm 2.48\text{dB}$

Radiated Emission Uncertainty : $\pm 4.14\text{dB}$

1.4. Test Facility

Site Description

Name of Firm : Shenzhen BKC Testing Co., Ltd.

Site Location : 103, 1/F, Huaya Science Park, Longhua Community,
Longhua District, Shenzhen, Guangdong, China



2. TEST INSTRUMENT USED

2.1 CONDUCTED TEST SITE

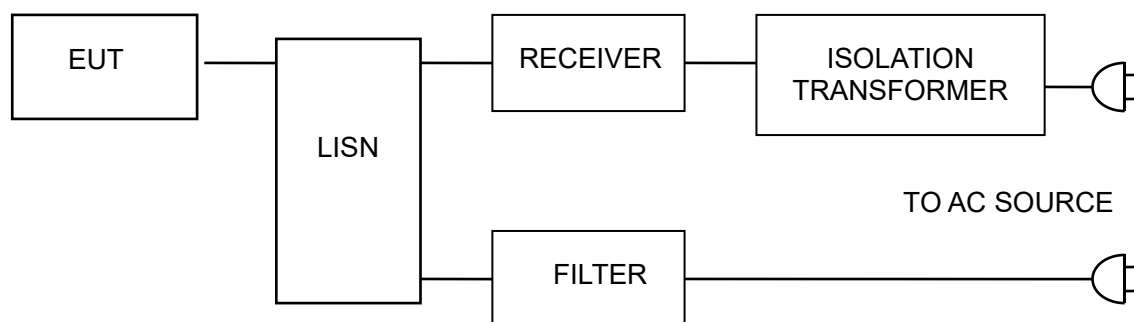
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101313	Nov. 07, 2022
2	LISN	EMCO	3816/2	00042990	Nov. 07, 2022
3	50Ω Switch	ANRITSU CORP	MP59B	6200983704	Nov. 07, 2022
4	EMI Test Receiver	R&S	ESCI	101160	Nov. 07, 2022
5	Passive Voltage Probe	ESH2-Z3	R&S	100196	Nov. 07, 2022
6	Triple-Loop Antenna	EVERFINE	LIA-2	11020003	Nov. 07, 2022
7	Absorbing Clamp	R&S	MDS-21	100423	Nov. 07, 2022
8	Coupling/ Decoupling Network	PH	ISN T800	S1509001	Nov. 07, 2022

2.2 RADIATED TEST SITE

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Bilog Antenna	TESEQ	CBL6111D	31216	Nov. 07, 2022
2	EMI Test Receiver	R&S	ESCI-7	101318	Nov. 07, 2022
3	Antenna Mast	EM	SC100_1	N/A	Nov. 07, 2022
4	50Ω Switch	Anritsu Corp	MP59B	6200983705	Nov. 07, 2022
5	Spectrum Analyzer	Aglient	E4407B	MY45108040	Nov. 07, 2022
6	Horn Antenna	EM	EM-AH-1018 0	2011071402	Nov. 07, 2022
7	Amplifier	EM	EM-30180	060538	Nov. 07, 2022

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 Subpart B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 Subpart B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.

3.6. Test Procedure

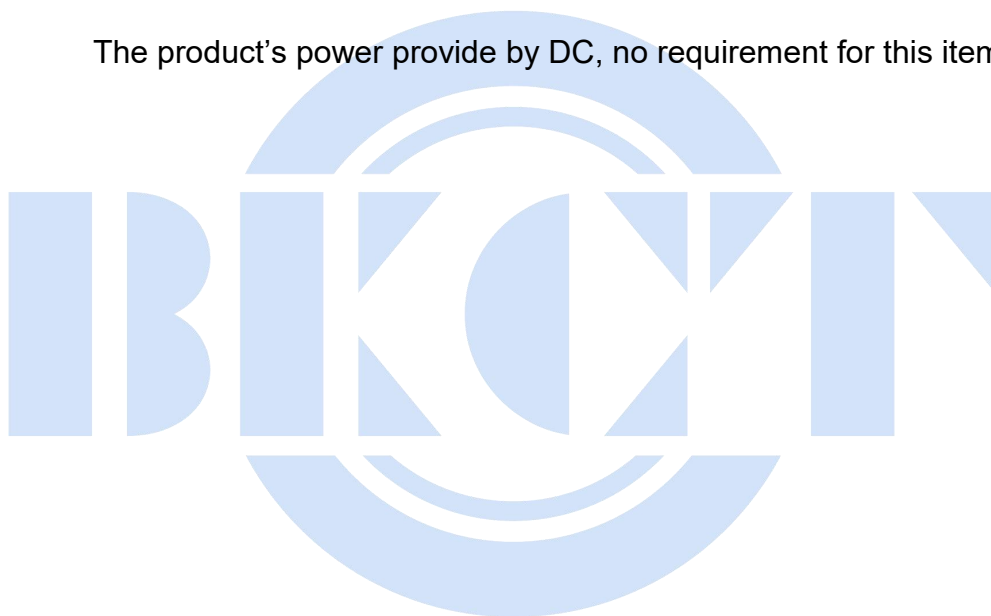
The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the FCC PART 15 Subpart B regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.

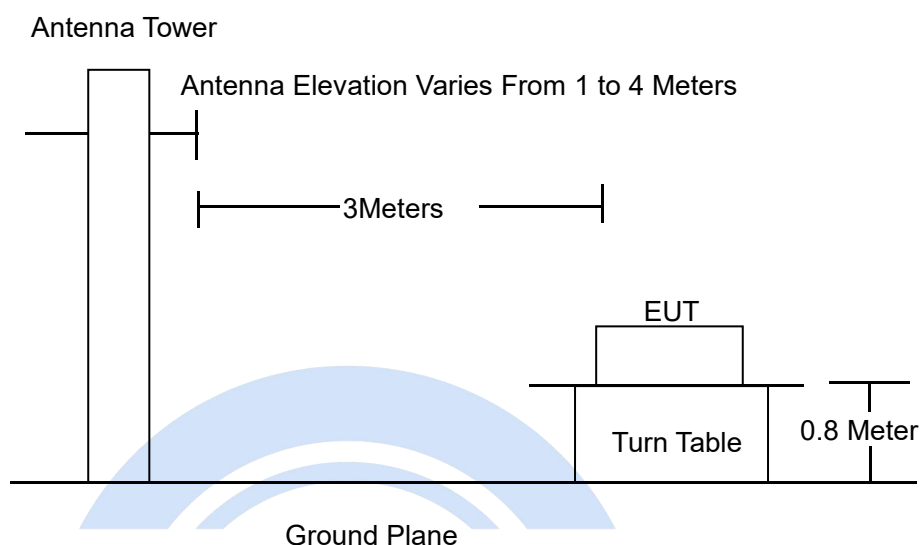
3.7. Test Result

The product's power provide by DC, no requirement for this item.



4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 15 Subpart B

4.3. Radiation Limit

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μ V)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 Subpart B regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 Subpart B on radiated emission test.

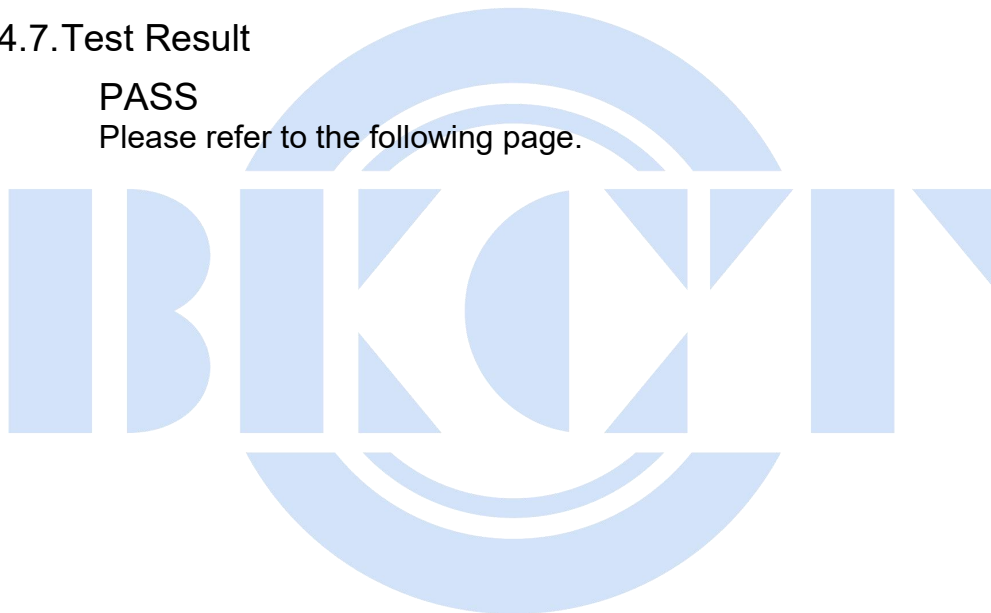
The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz

The frequency range from 30MHz to 1000MHz is checked.

4.7. Test Result

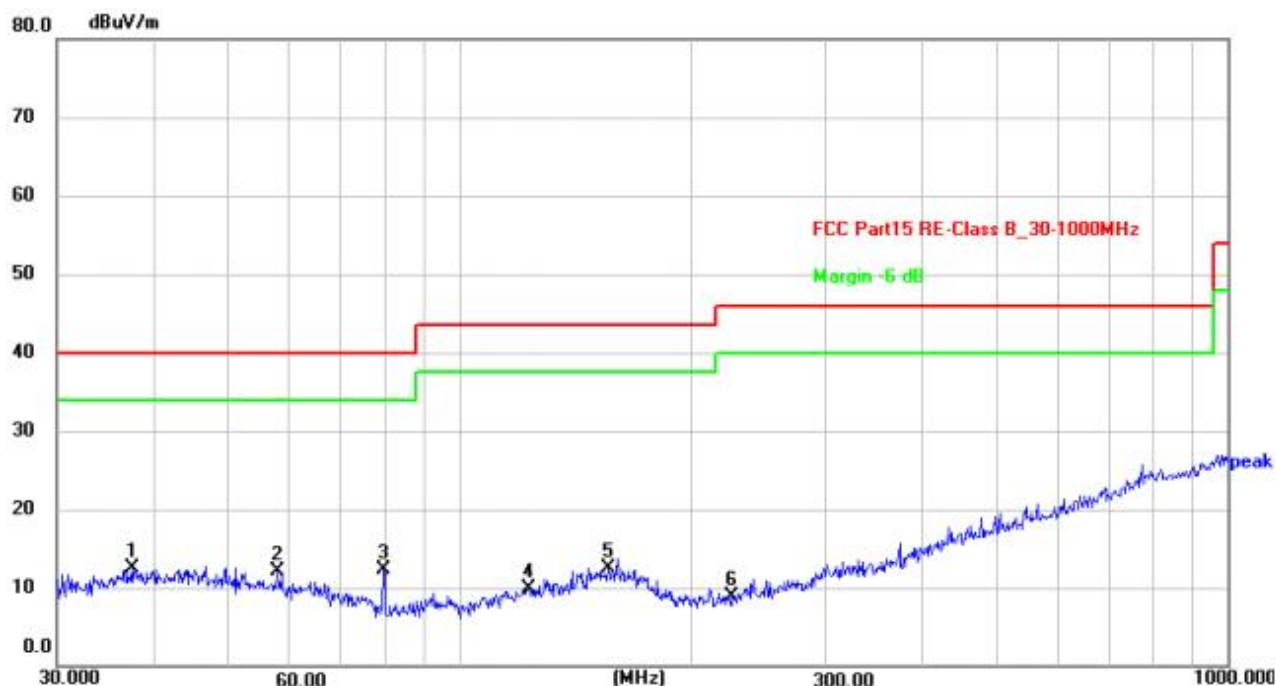
PASS

Please refer to the following page.



Radiation Emission Test Data

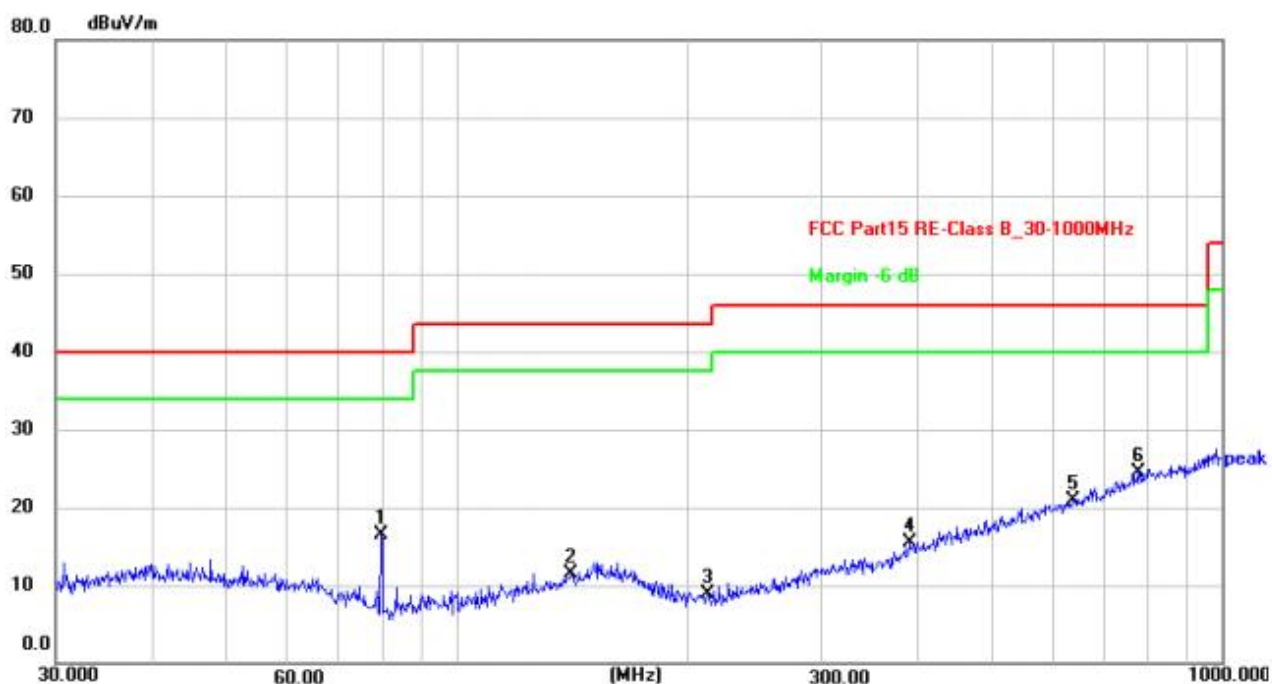
Temperature:	24.8 °C	Relative Humidity:	55%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	DC4.5V	Test Mode:	ON Mode



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	37.5478	28.57	-16.05	12.52	40.00	-27.48	peak	100	118	P	
2	57.9992	29.38	-17.20	12.18	40.00	-27.82	peak	100	191	P	
3	79.8002	33.22	-20.86	12.36	40.00	-27.64	peak	100	132	P	
4	123.2651	27.89	-17.99	9.90	43.50	-33.60	peak	100	170	P	
5	156.4576	28.36	-15.89	12.47	43.50	-31.03	peak	100	351	P	
6	226.8934	27.79	-18.87	8.92	46.00	-37.08	peak	100	271	P	

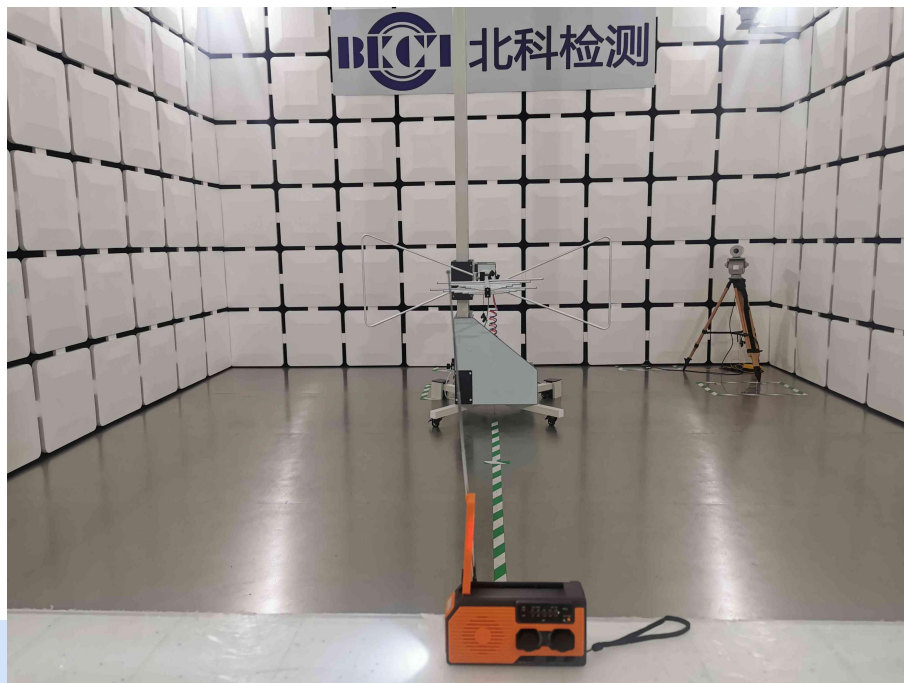
Radiation Emission Test Data

Temperature:	24.8 °C	Relative Humidity:	55%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	DC4.5V	Test Mode:	ON Mode



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	79.8002	37.43	-20.86	16.57	40.00	-23.43	peak	100	353	P	
2	141.3296	28.21	-16.67	11.54	43.50	-31.96	peak	100	214	P	
3	213.0149	28.00	-19.18	8.82	43.50	-34.68	peak	100	119	P	
4	390.7225	29.08	-13.55	15.53	46.00	-30.47	peak	100	97	P	
5	638.3686	28.95	-8.00	20.95	46.00	-25.05	peak	100	31	P	
6 *	779.6067	29.55	-4.99	24.56	46.00	-21.44	peak	100	112	P	

5. EUT TEST PHOTO



Radiated Emission

6. PHOTOGRAPHS

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

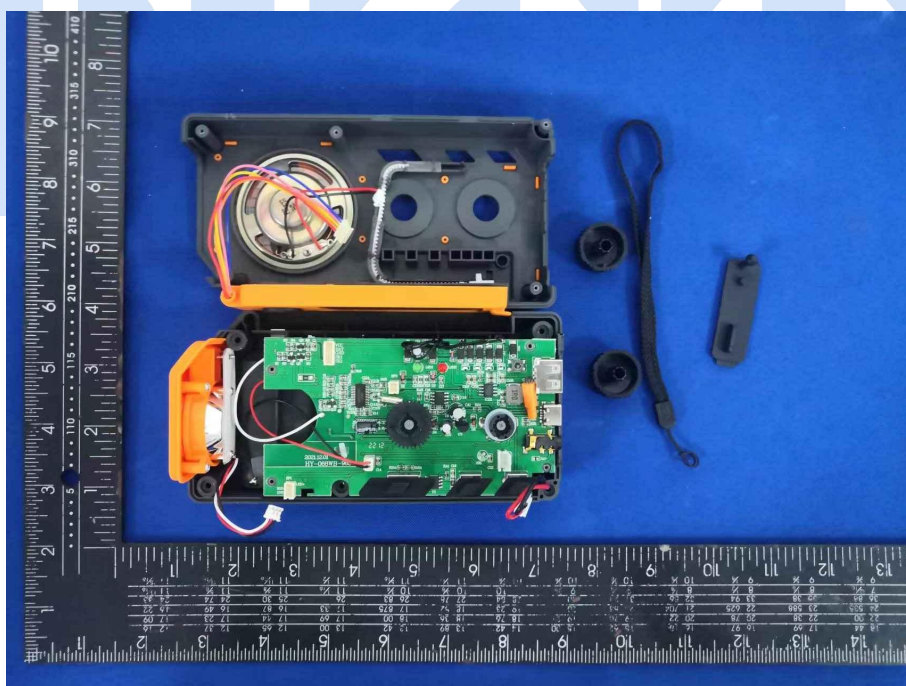


Photo 7

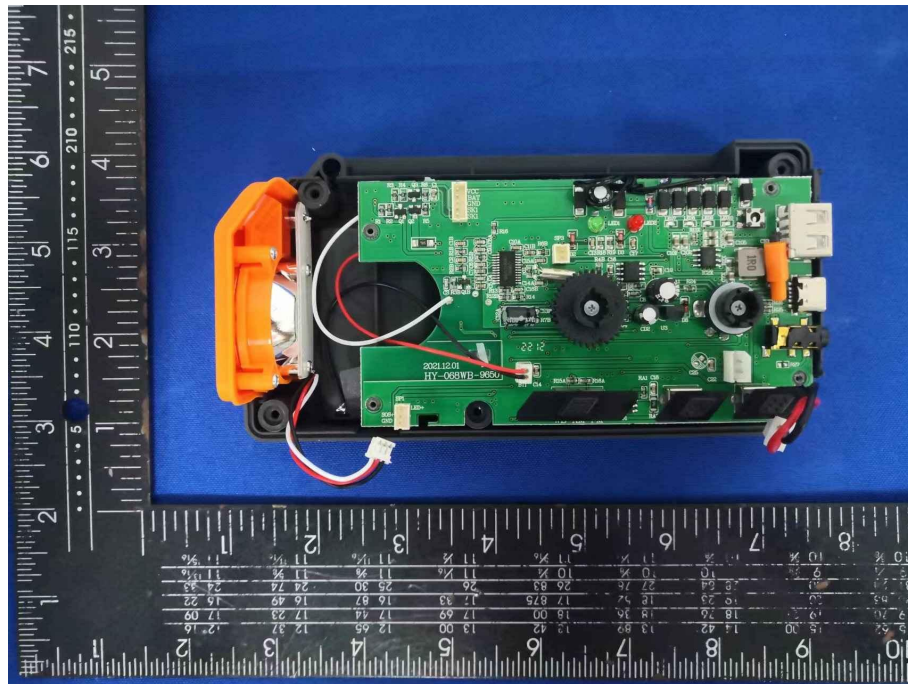
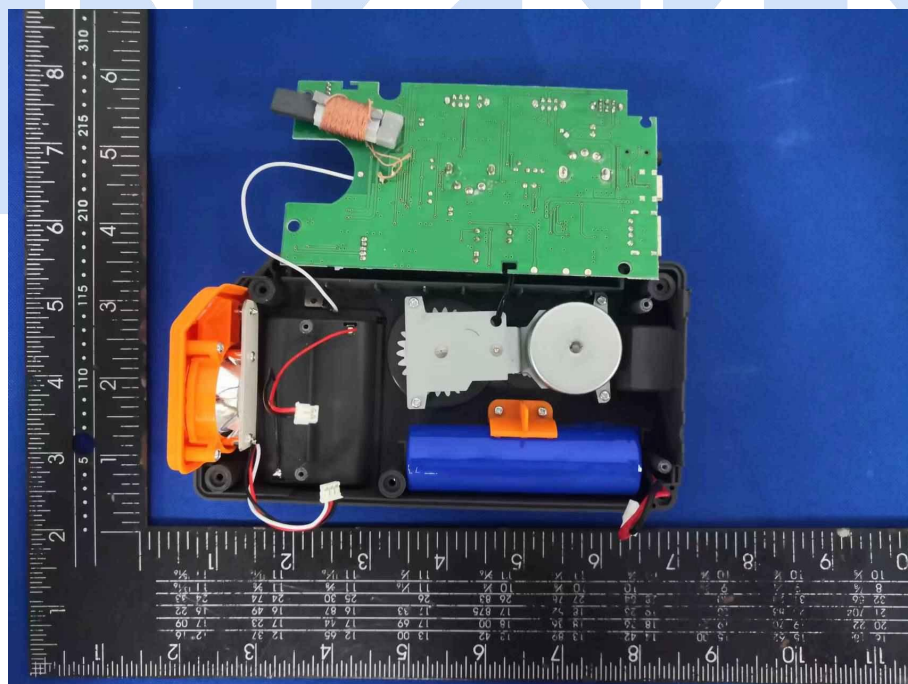


Photo 8



*** END OF REPORT ****