TEST REPORT

Applicant:	Suzhou Pineapple Health Technology Co., Ltd.
Address:	Room 311, House B, CaoHu Science Park West Jiaotong, No.1, Kwun Tang Road, Xiangcheng Economic Development Zone, Suzhou, Jiangsu, China
Manufacturer:	Suzhou Pineapple Health Technology Co., Ltd.
Address:	Room 311, House B, CaoHu Science Park West Jiaotong, No.1, Kwun Tang Road, Xiangcheng Economic Development Zone, Suzhou, Jiangsu, China
EUT:	MASSAGE GUN
Trade Mark:	菠萝君（Booster boluojun）
Model Number:	BOOSTER M2-B BOOSTER M2-A, BOOSTER M2-C
Date of Receipt:	Jan. 27, 2021
Test Date:	Jan. 27, 2021 - Feb. 03, 2021
Date of Report:	Feb. 03, 2021
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China
Applicable Standards:	FCC PART 15 B ANSI C63.4:2014
Test Result:	Pass
Report Number:	DL-20210203031E

Prepared (Engineer):	Alisa Song
Reviewer (Supervisor):	Jack Bu
Approved (Manager):	Jade Yang

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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1. VERSION

Version No.	Date	Description
00	Feb. 03, 2021	Original

2. TEST SUMMARY

EMC Emission				
Standard	Test Item	Limit	Result	Remark
FCC PART 15 B	Conducted Emission at power ports	Class B	PASS	
	Radiated Emission below 1GHz	Class B	PASS	
	Radiated Emission above 1GHz	Class B	N/A	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

(2) Test Facility: Shenzhen DL Testing Technology Co., Ltd.
Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

3. GENERAL INFORMATION

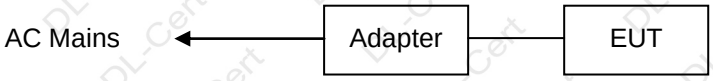
3.1 Description of Device (EUT)

EUT:	MASSAGE GUN
Trade Mark:	菠萝君（Booster boluojun）
Model Number:	BOOSTER M2-B BOOSTER M2-A, BOOSTER M2-C
Test Model:	BOOSTER M2-B
Model difference:	The product's different for model number and appearance color.
Power Supply:	DC 25V from adapter
Adapter:	Model: CL-2600400 Input: 100-240VAC 50/60Hz Output: 25V ⎓ 1A
Working Frequency:	Below 15MHz

3.2 Tested System Details

None.

3.3 Block Diagram of Test Set-up



3.4 Test Mode Description

Mode1. Charging Mode Mode2. On Mode

3.5 Test Auxiliary Equipment

None.

3.6 Test Uncertainty

Conducted Emission Uncertainty : ±2.56dB

Radiated Emission Uncertainty : ±3.24dB

4. TEST INSTRUMENT USED

For Conducted Emission Test (843 Shielded Room)

Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Nov. 25, 2019	Nov. 24, 2022
EMI Receiver	R&S	ESR	101421	Dec. 07, 2020	Dec. 06, 2021
LISN	R&S	ENV216	102417	Dec. 07, 2020	Dec. 06, 2021
Clamp	COM-POWER	CLA-050	431071	Dec. 05, 2020	Dec. 04, 2021
3-Loop Antenna	DAZE	ZN30401	13021	Dec. 07, 2020	Dec. 06, 2021
ISN T8	Schwarzbeck	NTFM 8158	101135	Dec. 07, 2020	Dec. 06, 2021
ISN T5	Schwarzbeck	NTFM 8158	101136	Dec. 07, 2020	Dec. 06, 2021
843 Cable 1#	ChengYu	CE Cable	001	Dec. 07, 2020	Dec. 06, 2021
843 Cable 1#	ChengYu	CE Cable	002	Dec. 07, 2020	Dec. 06, 2021

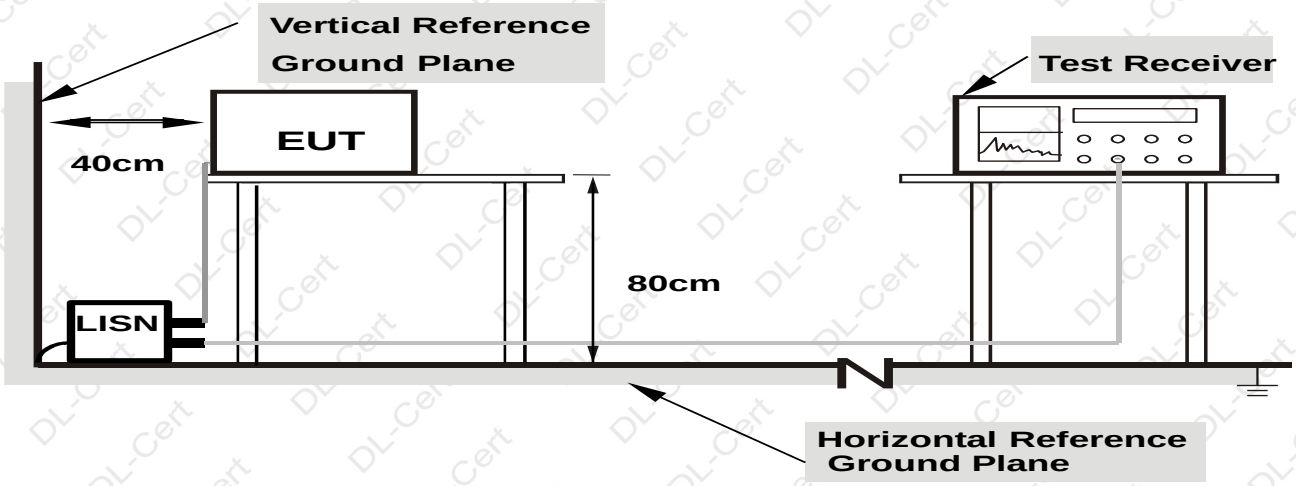
For Radiated Emission Test (966 chamber)

Equipment	Manufacturer	Model	Serial	Last Cal.	Next Cal.
966 Chamber	ChengYu	966 Room	966	Nov. 25, 2019	Nov. 24, 2022
Spectrum Analyzer	Agilent	E4408B	MY50140780	Dec. 07, 2020	Dec. 06, 2021
EMI Receiver	R&S	ESRP7	101393	Dec. 07, 2020	Dec. 06, 2021
Amplifier	Schwarzbeck	BBV9743B	00153	Dec. 07, 2020	Dec. 06, 2021
Amplifier	EMEC	EM01G8GA	00270	Dec. 07, 2020	Dec. 06, 2021
Broadband Trilog Antenna	Schwarzbeck	VULB9162	00306	Nov. 28, 2020	Nov. 27, 2021
Horn Antenna	Schwarzbeck	BBHA9120D	02139	Nov. 28, 2020	Nov. 27, 2021
966 Cable 1#	ChengYu	966	004	Dec. 07, 2020	Dec. 06, 2021
966 Cable 2#	ChengYu	966	003	Dec. 07, 2020	Dec. 06, 2021

5. CONDUCTED EMISSION TEST

5.1 Block Diagram of Test Setup

For Mains Terminals Test



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

5.2 Test Standard and Limit

FCC PART 15 B

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15~0.50	66 ~ 56*	55 ~ 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.

5.3 EUT Configuration on Test

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

5.4 Operating Condition of EUT

5.4.1 Setup the EUT and simulators as shown in Section 5.1.

5.4.2 Turn on the power of all equipments.

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

5.5 Test Procedure

The EUT is put on the table and connected to the AC mains through a Artificial Mains Network (AMN) or ISN. 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 **ANSI C63.4** regulations during conducted emission test.

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

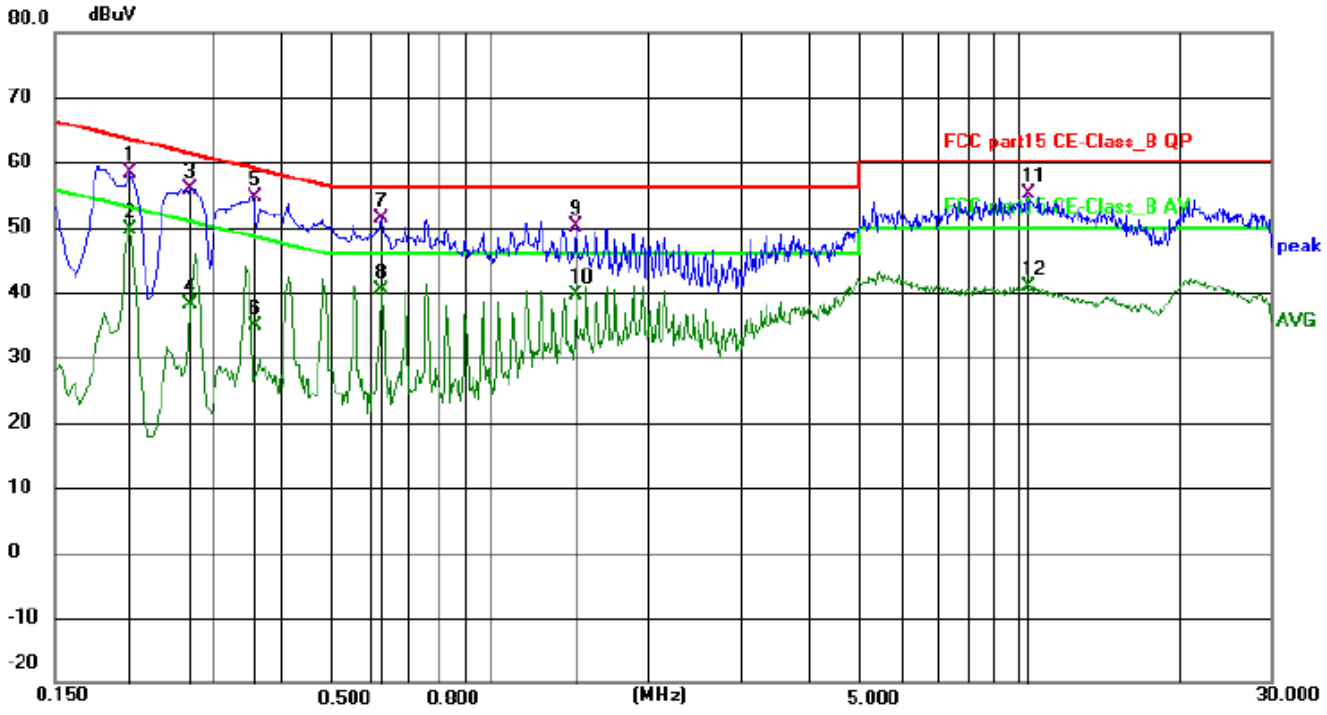
The frequency range from 150 KHz to 30 MHz is investigated.

5.6 Test Result

PASS

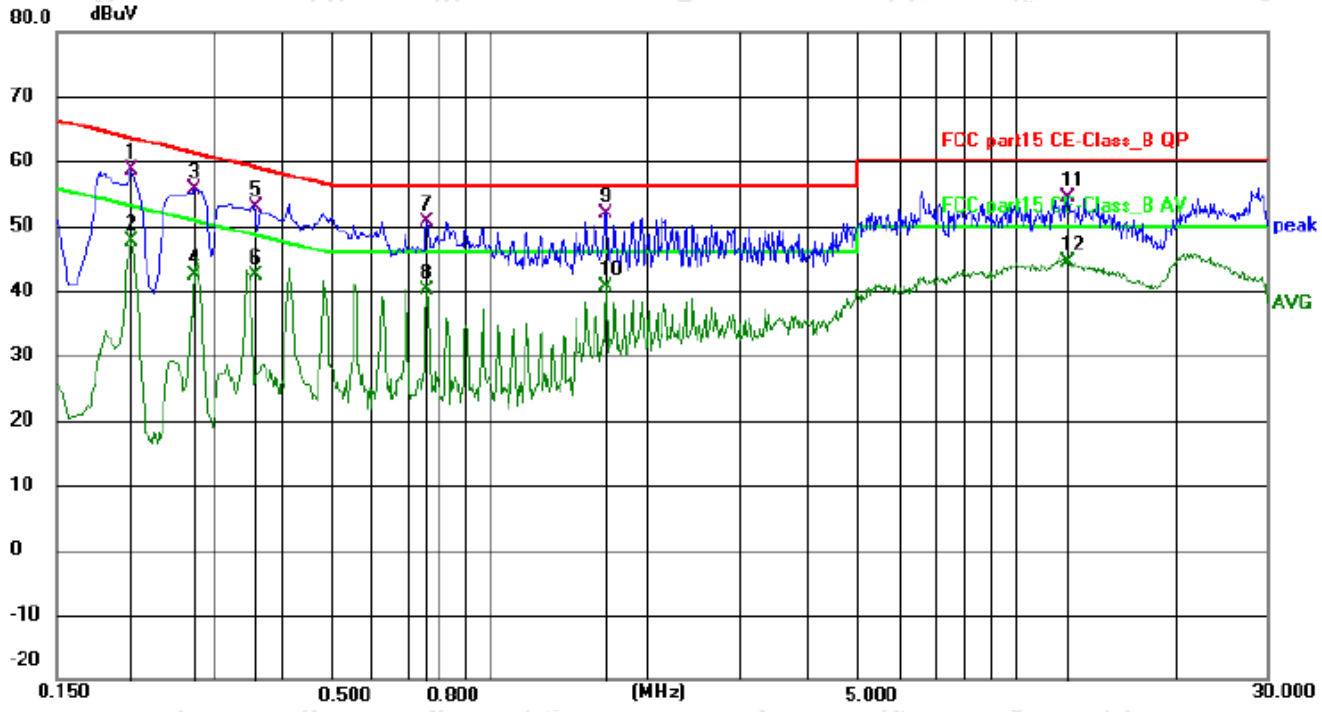
Please refer to the following page.

Conducted Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2084	48.81	9.55	58.36	63.27	4.91	QP	P	
2 *	0.2084	40.03	9.55	49.58	53.27	3.69	AVG	P	
3	0.2714	46.60	9.29	55.89	61.07	5.18	QP	P	
4	0.2714	28.76	9.29	38.05	51.07	13.02	AVG	P	
5	0.3569	45.43	9.17	54.60	58.80	4.20	QP	P	
6	0.3569	25.61	9.17	34.78	48.80	14.02	AVG	P	
7	0.6223	41.93	9.43	51.36	56.00	4.64	QP	P	
8	0.6223	30.96	9.43	40.39	46.00	5.61	AVG	P	
9	1.4549	40.16	10.02	50.18	56.00	5.82	QP	P	
10	1.4594	29.72	10.03	39.75	46.00	6.25	AVG	P	
11	10.3514	44.71	10.33	55.04	60.00	4.96	QP	P	
12	10.3514	30.63	10.33	40.96	50.00	9.04	AVG	P	

Conducted Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode1

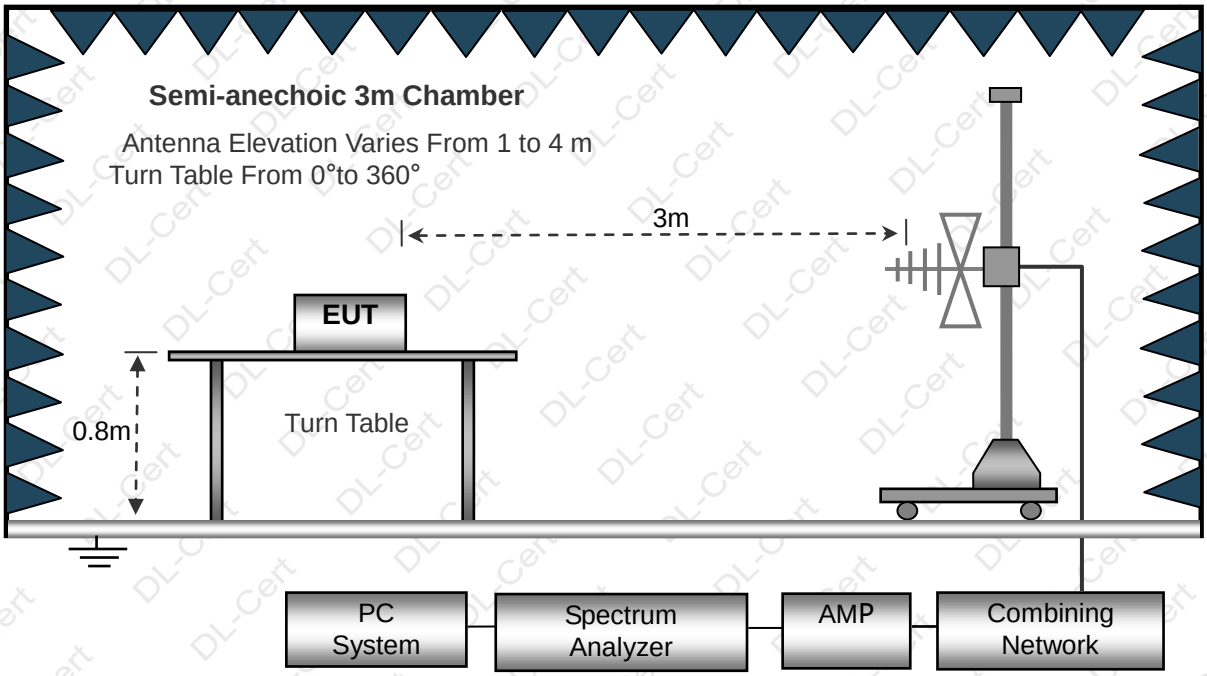


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2084	49.65	8.97	58.62	63.27	4.65	QP	P	
2	0.2084	38.68	8.97	47.65	53.27	5.62	AVG	P	
3	0.2728	46.47	9.10	55.57	61.03	5.46	QP	P	
4	0.2728	33.19	9.10	42.29	51.03	8.74	AVG	P	
5	0.3569	43.75	9.25	53.00	58.80	5.80	QP	P	
6	0.3569	33.01	9.25	42.26	48.80	6.54	AVG	P	
7	0.7619	41.17	9.40	50.57	56.00	5.43	QP	P	
8	0.7619	30.85	9.40	40.25	46.00	5.75	AVG	P	
9 *	1.6618	41.74	10.17	51.91	56.00	4.09	QP	P	
10	1.6618	30.53	10.17	40.70	46.00	5.30	AVG	P	
11	12.5790	43.66	10.60	54.26	60.00	5.74	QP	P	
12	12.5790	33.83	10.60	44.43	50.00	5.57	AVG	P	

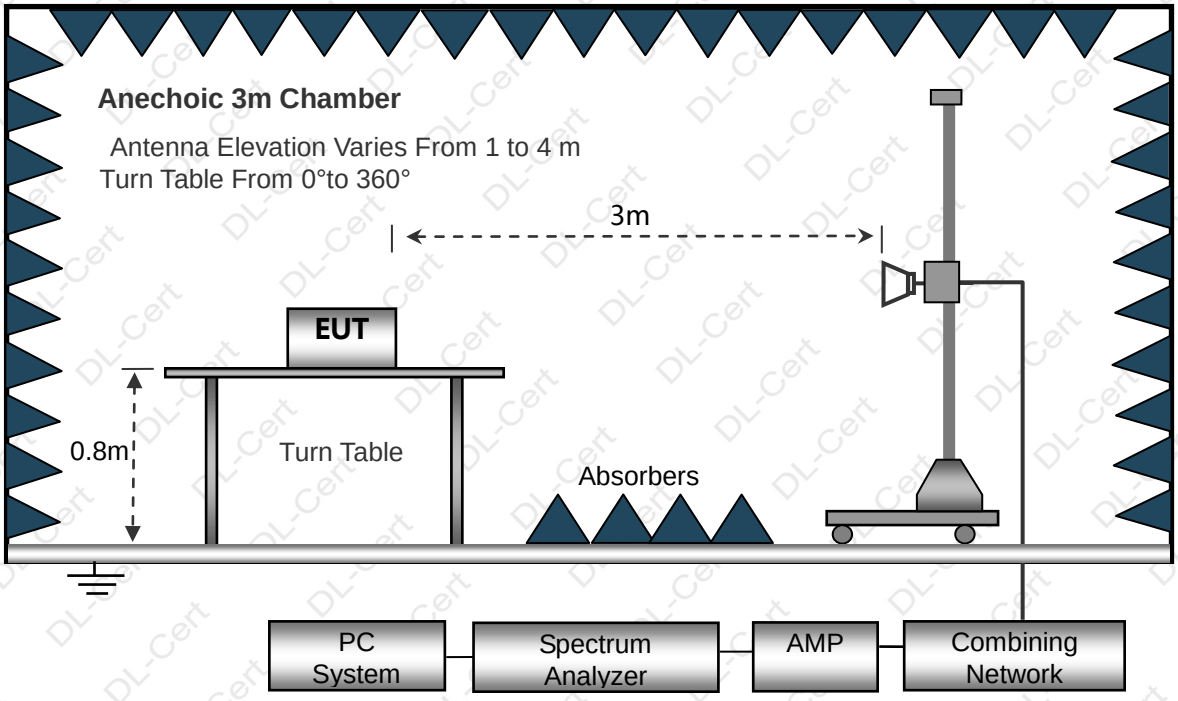
6. RADIATION EMISSION TEST

6.1 Block Diagram of Test Setup

Below 1GHz



Above 1GHz



6.2 Test Standard and Limit

FCC PART 15 B

Below 1GHz

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

Above 1GHz

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μV)/m	Detector
1000～3000	3	76.0	PEAK
1000～3000	3	56.0	AVERAGE
3000～6000	3	80.0	PEAK
3000～6000	3	60.0	AVERAGE

Remark:

(1) The smaller limit shall apply at the cross point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

6.3 EUT Configuration on Test

The FCC PART 15 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 5.3.

6.4 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 5.4 except the test set up replaced as Section 6.2.

6.5 Test Procedure

1) The radiated emissions test was conducted in a semi-anechoic chamber.

2) 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 reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.

3) Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.

4) The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

5) The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz.

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

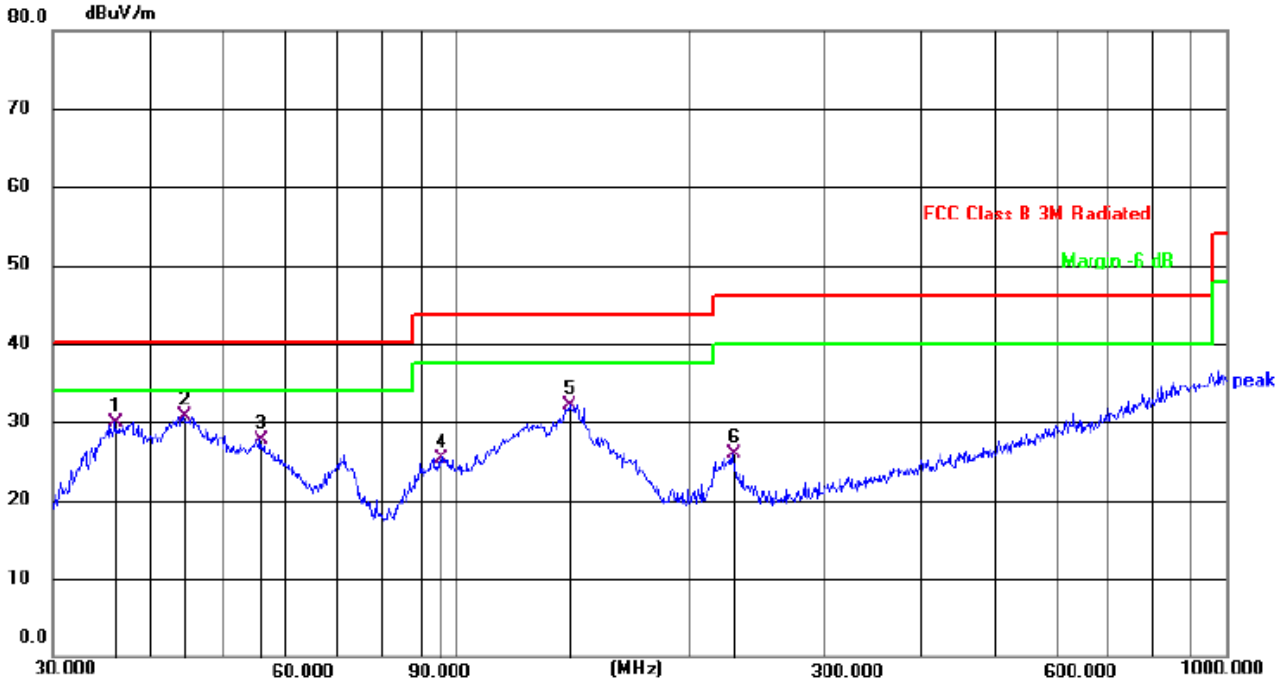
7) We pretest all mode, the result only show the worst mode's data.

6.6 Test Result

PASS

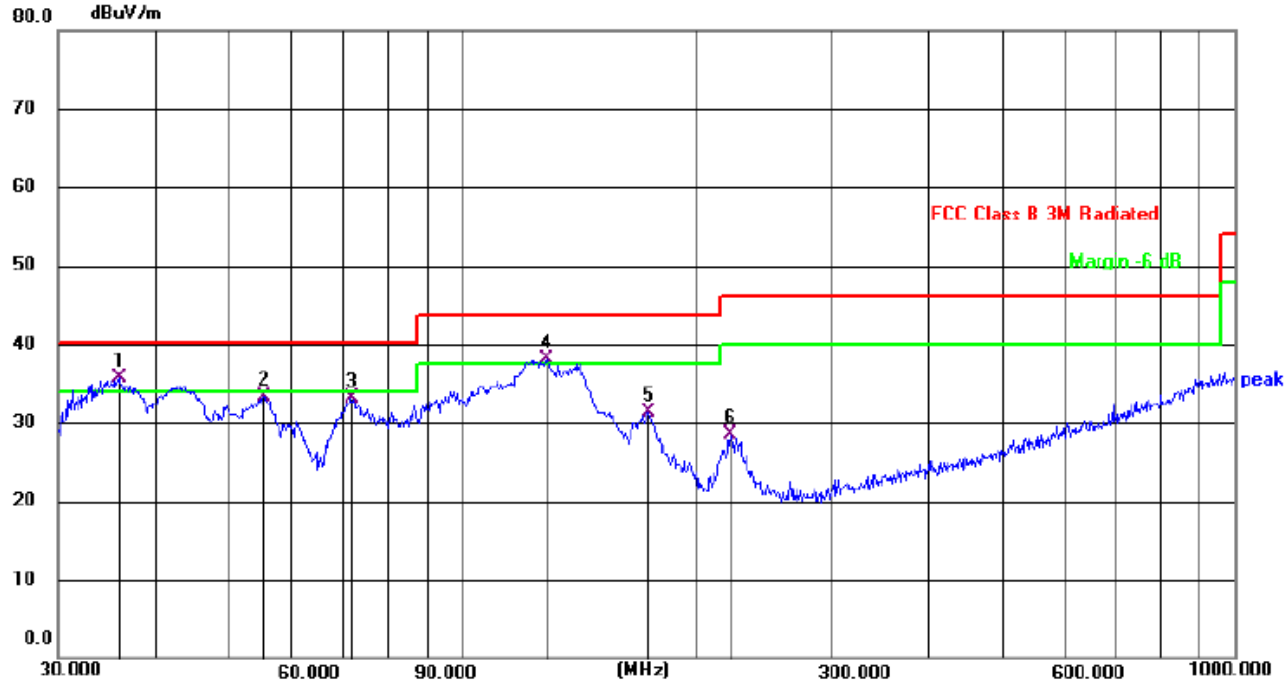
Please refer to the following page.

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode1



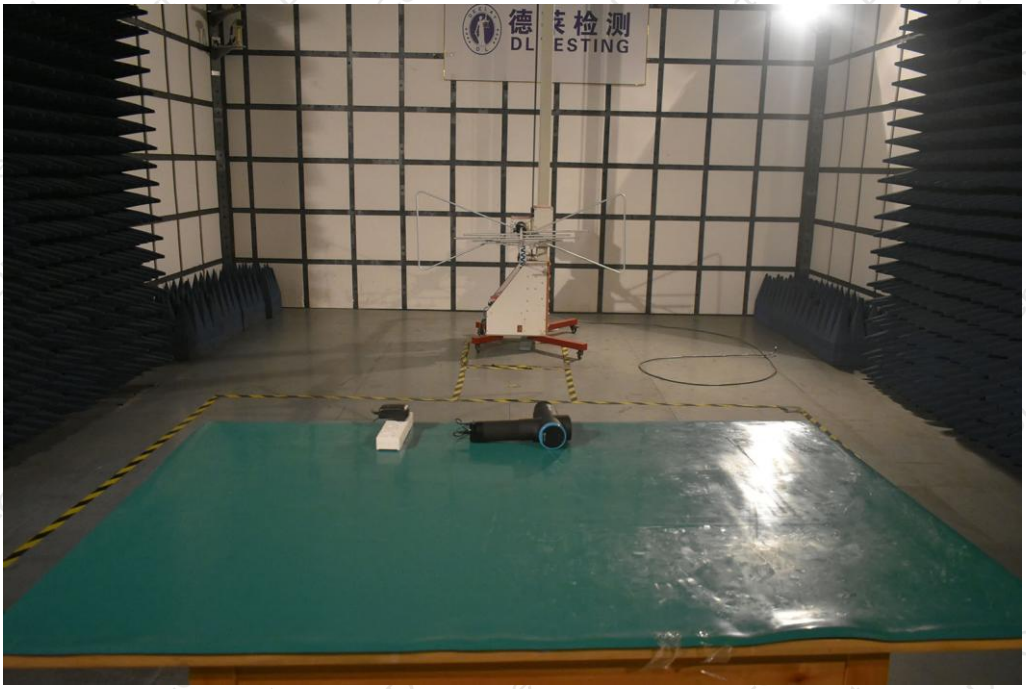
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	Comment
1		36.1272	45.62	-15.74	29.88	40.00	10.12	QP	
2	*	44.2752	45.31	-14.52	30.79	40.00	9.21	QP	
3		55.8047	42.28	-14.57	27.71	40.00	12.29	QP	
4		95.4270	42.00	-16.71	25.29	43.50	18.21	QP	
5		140.3421	50.75	-18.56	32.19	43.50	11.31	QP	
6		228.4904	40.46	-14.50	25.96	46.00	20.04	QP	

Radiation Emission Test Data			
Temperature:	24.5 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode1

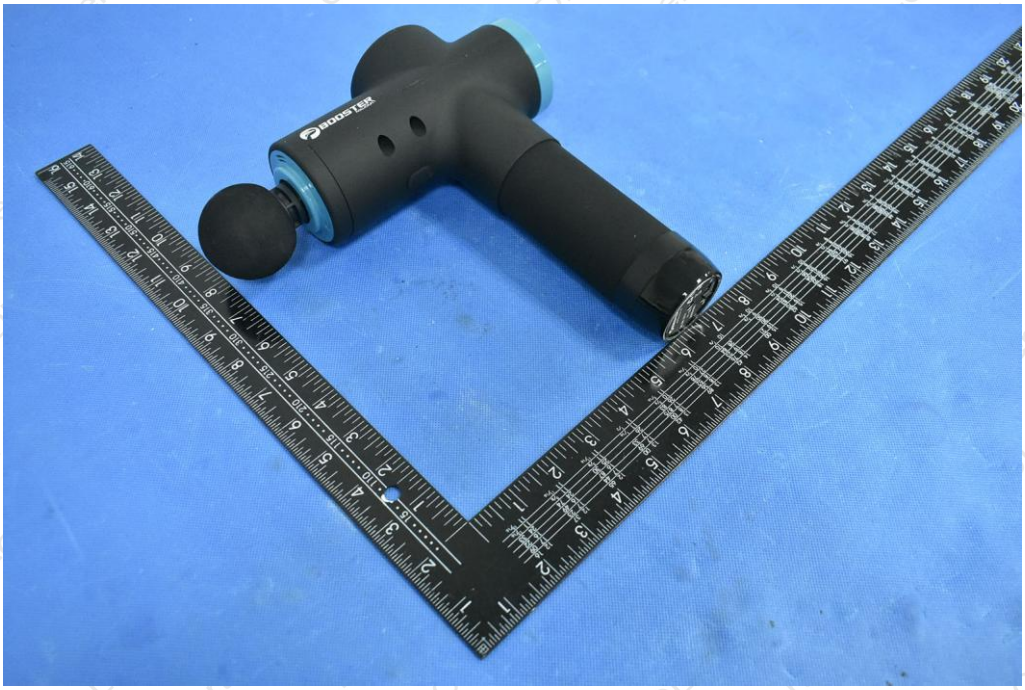


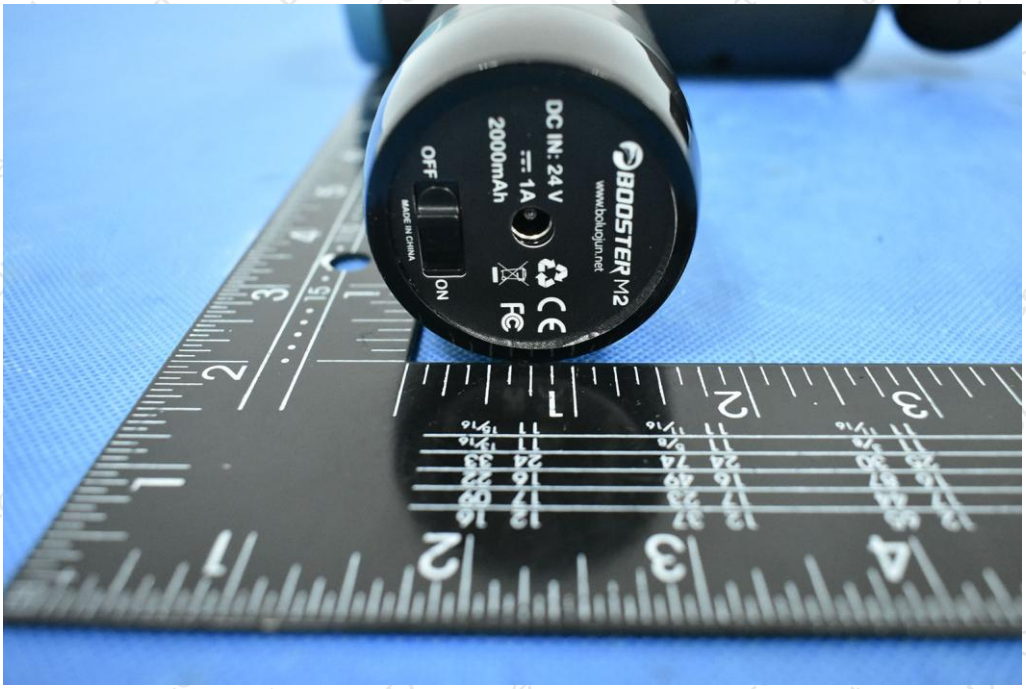
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	Comment
1	*	36.0007	51.53	-15.76	35.77	40.00	4.23	QP	
2		55.4147	47.77	-14.52	33.25	40.00	6.75	QP	
3		71.8320	51.65	-18.52	33.13	40.00	6.87	QP	
4	!	128.5629	56.20	-18.15	38.05	43.50	5.45	QP	
5		174.4240	48.86	-17.48	31.38	43.50	12.12	QP	
6		222.1697	43.21	-14.73	28.48	46.00	17.52	QP	

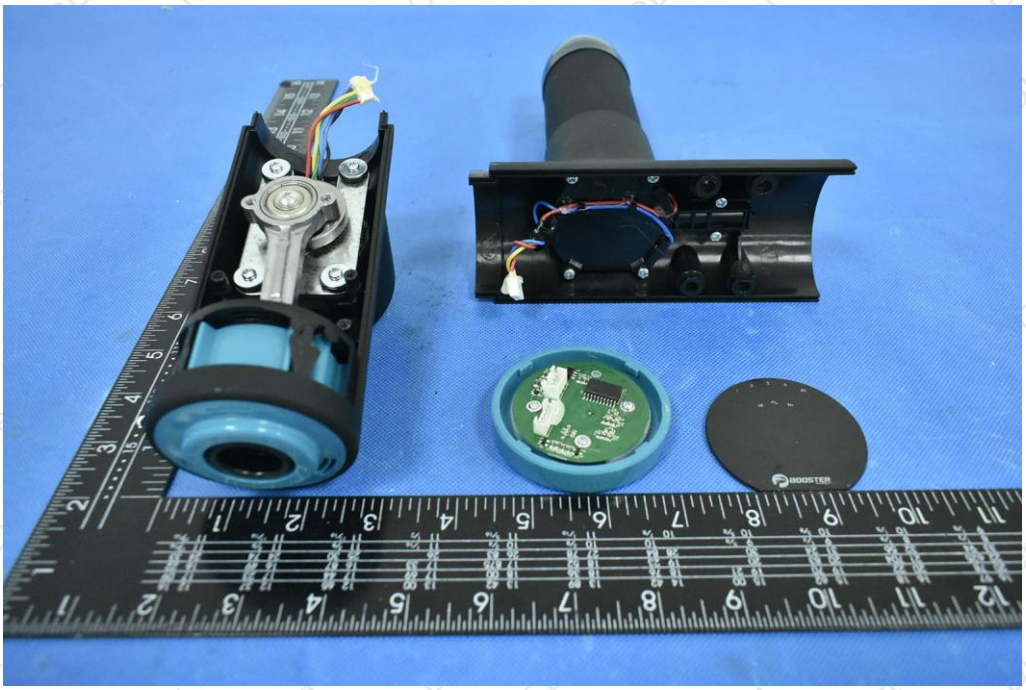
7. SETUP PHOTOGRAPHS

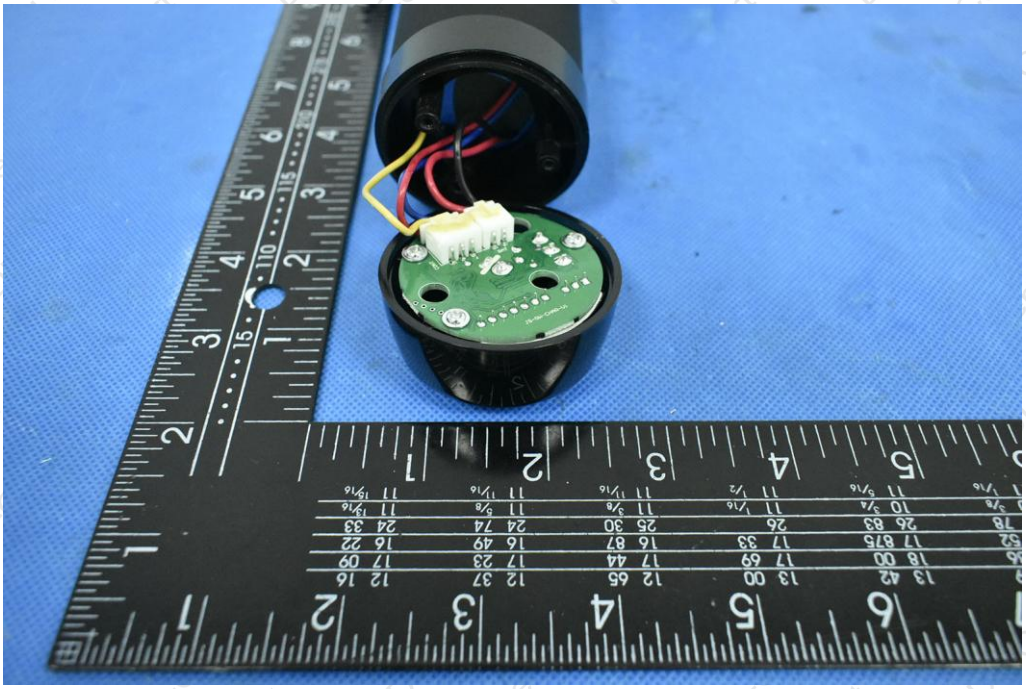


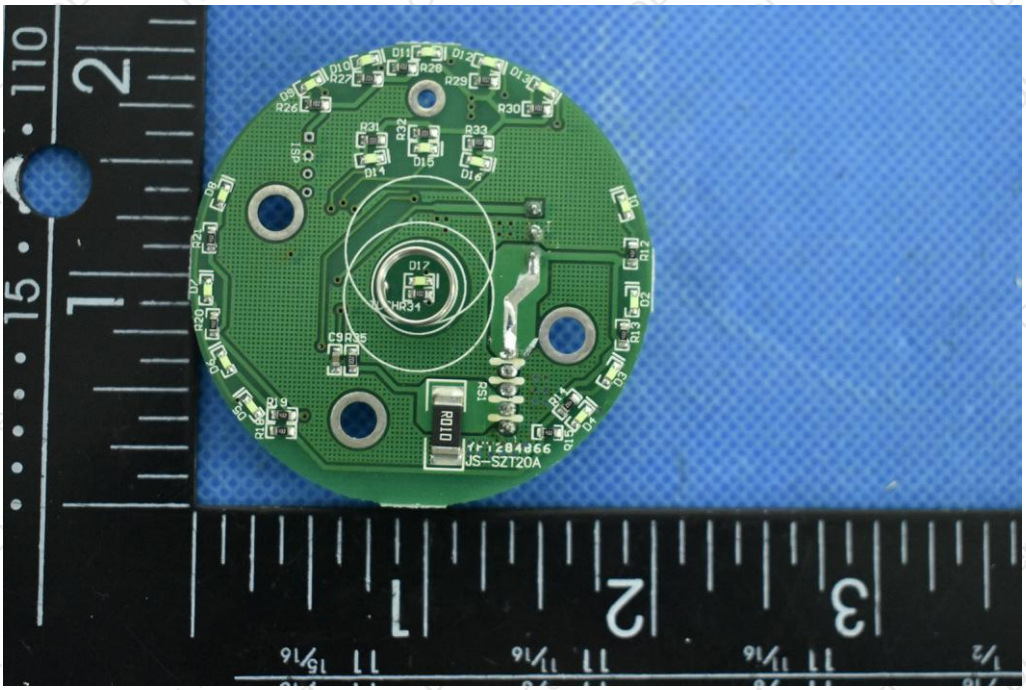
8. EUT PHOTOGRAPHS




OFF
ON
MADE IN CHINA
DC IN: 24 V
1A
2000mAh
BOOSTER M2
www.boluojun.net



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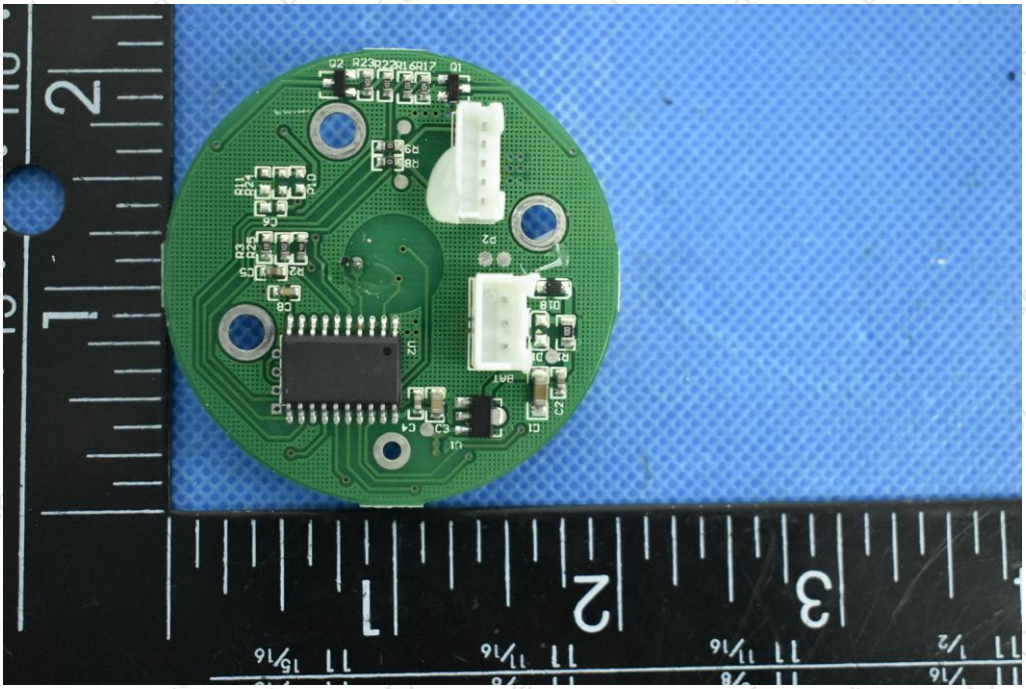

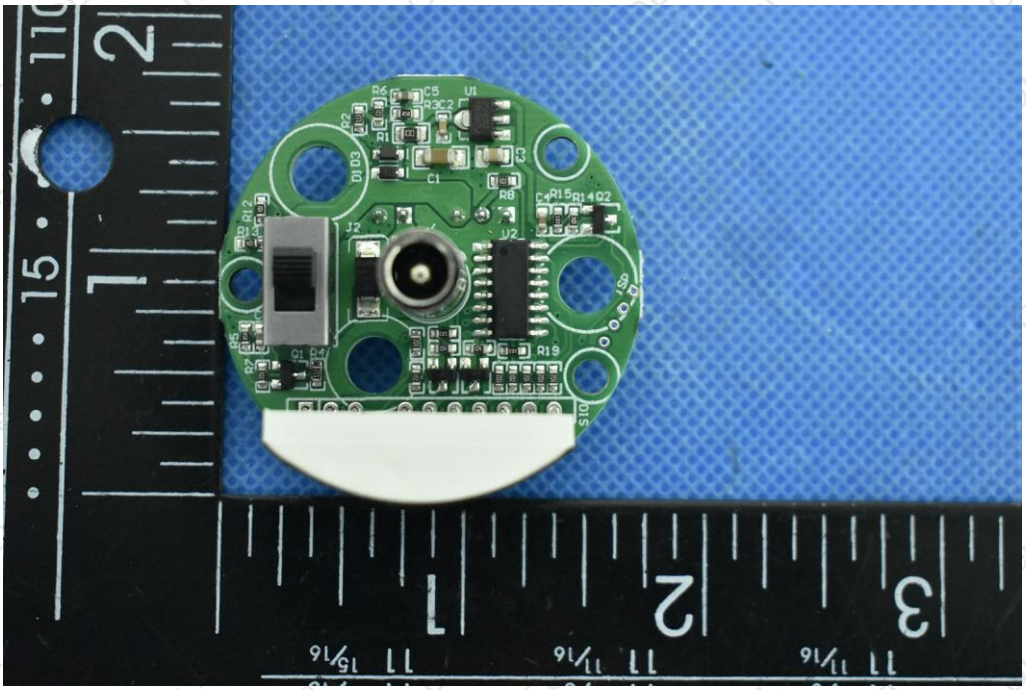

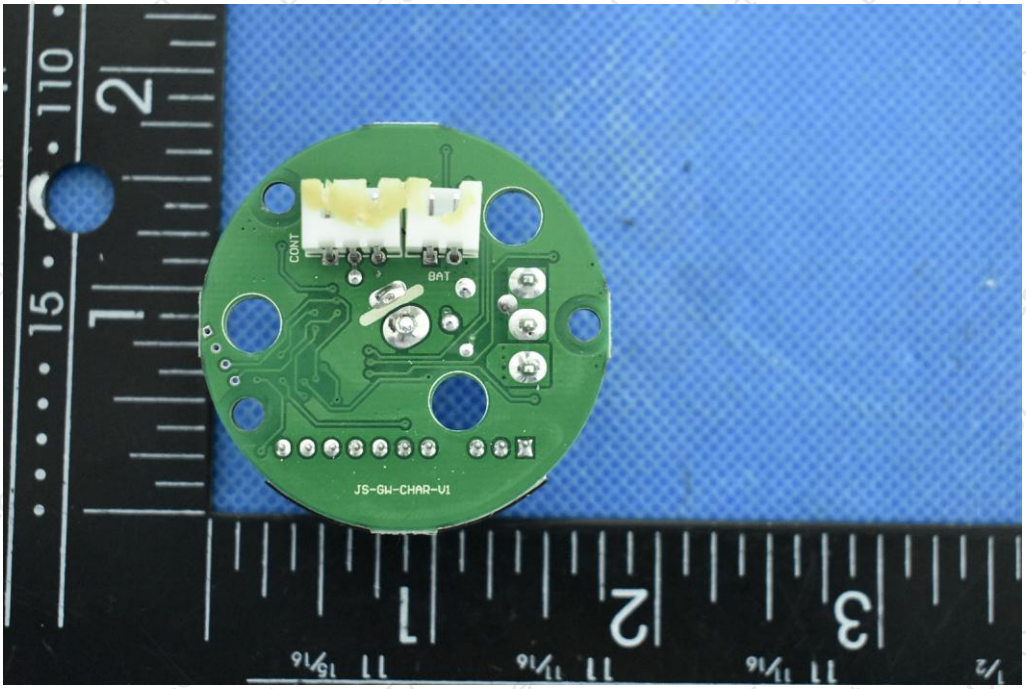
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