

FCC Test Report

Report No.: AGC02724190503FE03

FCC ID : 2ADK3XO-9771
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : 10000 mAh Solar Fast Wireless Power Bank
BRAND NAME : N/A
MODEL NAME : XO-9771
CLIENT : XING DA INTERNATIONAL ELECTRONICS LIMITED
DATE OF ISSUE : Jun. 13, 2019
STANDARD(S) : FCC Part 15 Rules
TEST PROCEDURE(S) :
REPORT VERSION : V1.0

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Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Service Hotline:400 089 2118

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun. 13, 2019	Valid	Initial Release



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1. VERIFICATION OF CONFORMITY

Applicant	XING DA INTERNATIONAL ELECTRONICS LIMITED
Address	#98 LiWu Swan Industrial District, Qiao Tou Town, Dong Guan, Guang Dong, China
Manufacturer	XING DA INTERNATIONAL ELECTRONICS LIMITED
Address	#98 LiWu Swan Industrial District, Qiao Tou Town, Dong Guan, Guang Dong, China
Factory	XING DA INTERNATIONAL ELECTRONICS LIMITED
Address	#98 LiWu Swan Industrial District, Qiao Tou Town, Dong Guan, Guang Dong, China
Product Designation	10000 mAh Solar Fast Wireless Power Bank
Brand Name	N/A
Test Model	XO-9771
Date of test	May 29, 2019 to Jun. 13, 2019
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with Section 15.207, 15.209, 15.203 of the FCC Part 15, Subpart C Rules.

The results of testing in this report apply to the product/system which was tested only.

Tested By

Jeast Zhan(Zhan Jiangdong)

Jun. 13, 2019

Reviewed By

Max Zhang(Zhang Yi)

Jun. 13, 2019

Approved By

Forrest Lei(Lei Yonggang)
Authorized Officer

Jun. 13, 2019



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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	146.3kHz
Maximum field strength	56.05dBuV/m(PK)@3m
Modulation	FSK
Number of channels	1
Antenna Gain	0dBi
Antenna Designation	Integrated Antenna (Met 15.203 Antenna requirement)
Hardware Version	X09771A V2.1
Software Version	V1.0
Power Supply	DC 5V/2A,9V/1.67A by Type-C Port or DC 3.7V by Battery



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3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in measurement" (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission, $U_c = \pm 3.2 \text{ dB}$
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9 \text{ dB}$
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8 \text{ dB}$



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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Wireless charging Mode(Full load)
2	Wireless charging Mode(half load)
3	Wireless charging Mode(Null load)

Note:

1. The mode 1 was the worst case and only the data of the worst case record in this report.



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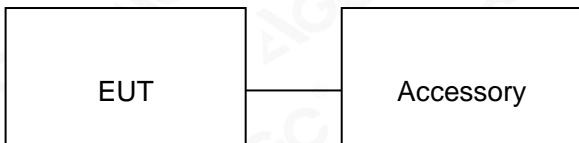
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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure :



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	10000 mAh Solar Fast Wireless Power Bank	XO-9771	2ADK3XO-9771	EUT
2	Adapter	N/A	N/A	Accessory
3	Wireless Load	N/A	10W	Accessory
4	USB and Type-C cable	N/A	1m unshielded	Accessory

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.209	Radiated Emission	Compliant
§15.215	20dB bandwidth	Compliant
§15.207	Conducted Emission	N/A

Note: If the powerbank is being charged, can not use cable to charge other device, also can not use wireless charger.



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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Jun. 10, 2019	Jun. 09, 2020
LISN	R&S	ESH2-Z5	100086	Aug. 28, 2018	Aug. 27, 2019

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 10, 2019	Jun. 09, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun. 14, 2018	Jun. 13, 2020
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 28, 2017	Sep. 27, 2019



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7. RADIATED EMISSION**7.1 TEST LIMIT****Standard FCC 15.209**

Frequency (MHz)	Distance Meters	Field Strengths Limit	
		µ V/m	dB(µV)/m
0.009 ~ 0.490	300	2400/F(kHz)	---
0.490 ~ 1.705	30	24000/F(kHz)	---
1.705 ~ 30	30	30	---
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	Other:74.0 dB(µV)/m (Peak) 54.0 dB(µV)/m (Average)	

Remark: (1) Emission level $\text{dB}\mu\text{V} = 20 \log \text{Emission level } \mu\text{V}/\text{m}$
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



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7.2. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP



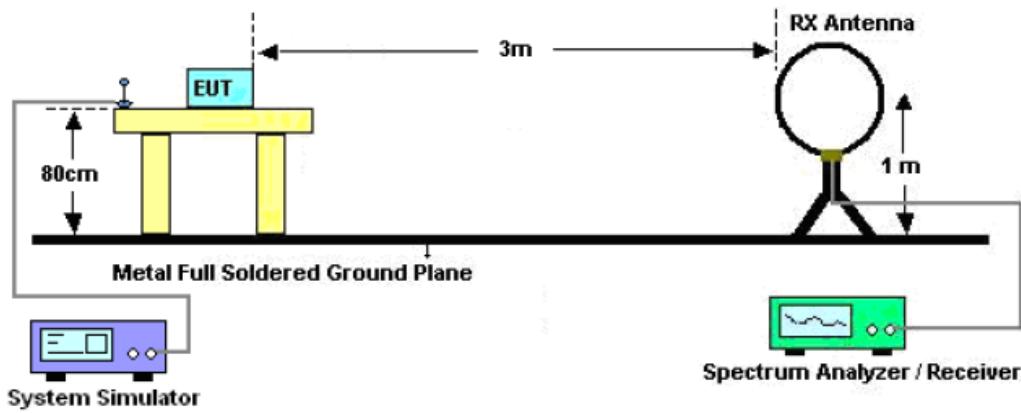
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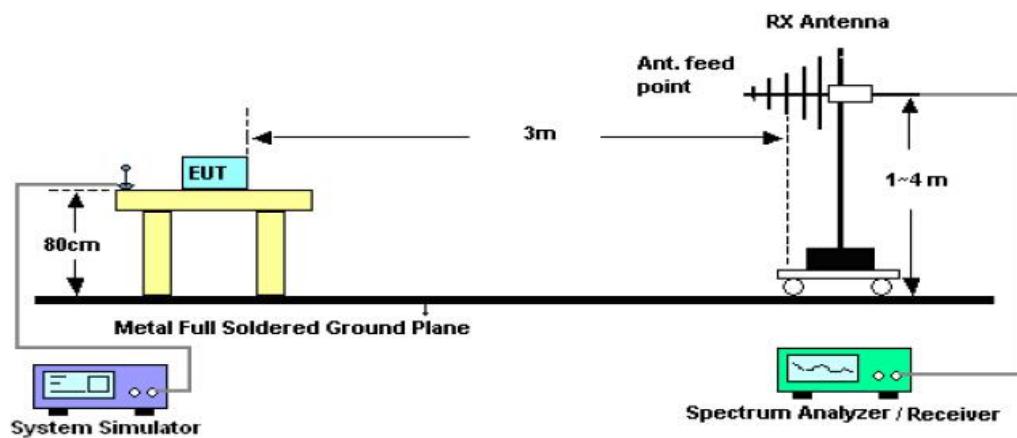
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7.3. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



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7.4. TEST RESULT**RADIATED EMISSION BELOW 30MHZ**

Frequency MHz	Polarization	Reading dB(uV) PK	Factor dB (1/m)	Level dB(uV/m) PK	Limit dB(uV/m) PK	Margin dB	Pass/Fail
0.1463	Face	45.65	10.40	56.05	104.30	-48.25	Pass
0.1463	Side	35.33	10.40	45.73	104.30	-58.57	Pass

Note: No other emissions found between lowest internal used/generated frequencies to 30MHz. The peak level of the emission is less than the average limit, so the average level shall be less than the limit without test.



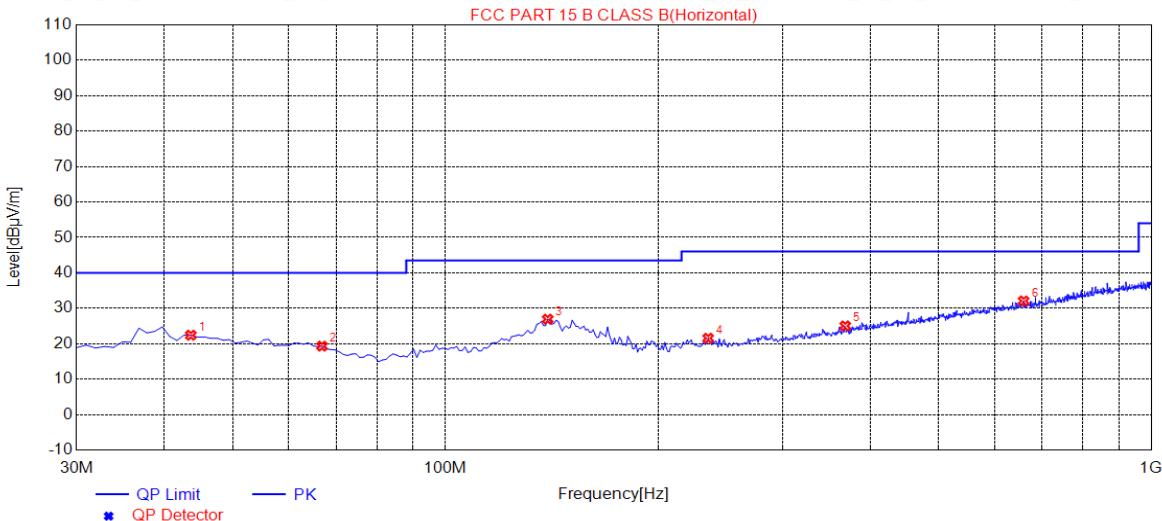
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RADIATED EMISSION 30MHz- 1GHz

EUT :	10000 mAh Solar Fast Wireless Power Bank	Model Name. :	XO-9771
Temperature :	20.5°C	Relative Humidity:	48.3%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Mode 1	Polarization :	Horizontal



NO.	Freq. [MHz]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	43.5800	22.41	14.84	40.00	17.59	150	248	Horizontal
2	66.8600	19.33	12.76	40.00	20.67	150	234	Horizontal
3	139.610	26.93	14.85	43.50	16.57	200	208	Horizontal
4	235.640	21.56	14.48	46.00	24.44	100	258	Horizontal
5	368.530	25.03	18.56	46.00	20.97	150	14	Horizontal
6	659.530	32.08	25.29	46.00	13.92	150	295	Horizontal

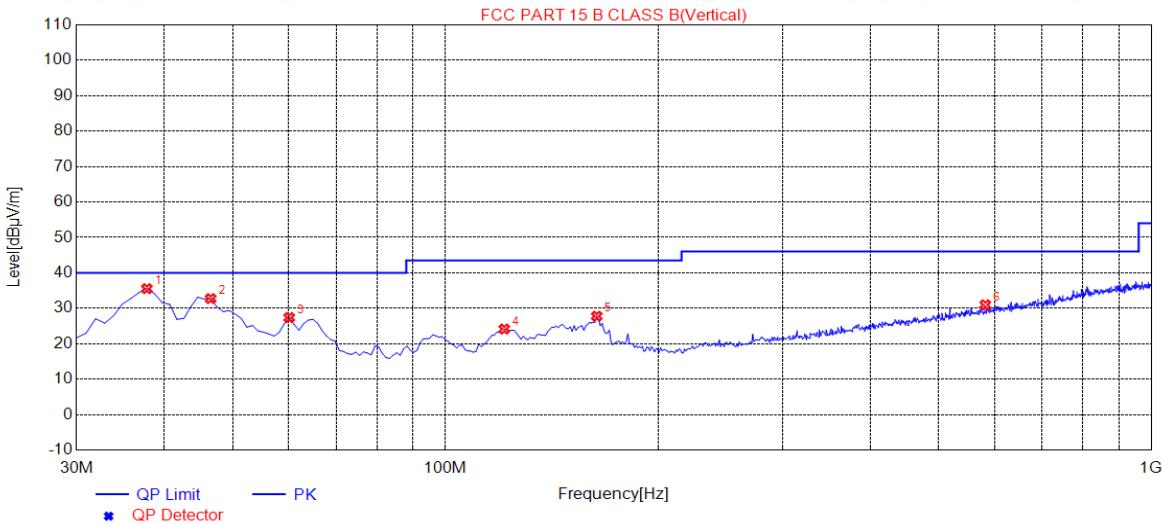
RESULT: PASS


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EUT :	10000 mAh Solar Fast Wireless Power Bank	Model Name. :	XO-9771
Temperature :	20.5°C	Relative Humidity:	48.3%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Mode 1	Polarization :	Vertical



NO.	Freq. [MHz]	Level [dB μ V/m]	Factor [dB]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	37.7600	35.54	14.39	40.00	4.46	100	337	Vertical
2	46.4900	32.74	14.77	40.00	7.26	100	225	Vertical
3	60.0700	27.39	13.90	40.00	12.61	100	214	Vertical
4	121.180	24.16	13.55	43.50	19.34	100	56	Vertical
5	163.860	27.78	14.55	43.50	15.72	100	2	Vertical
6	581.930	31.00	23.95	46.00	15.00	200	141	Vertical

RESULT: PASS

Note:

Factor=Antenna Factor + Cable loss, Over=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.



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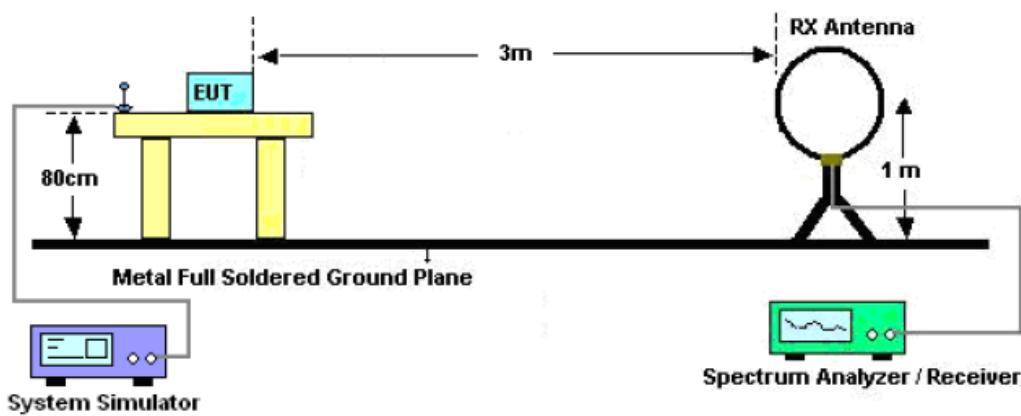
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8. 20DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Set the EUT Work on operation frequency.
3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a channel
The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



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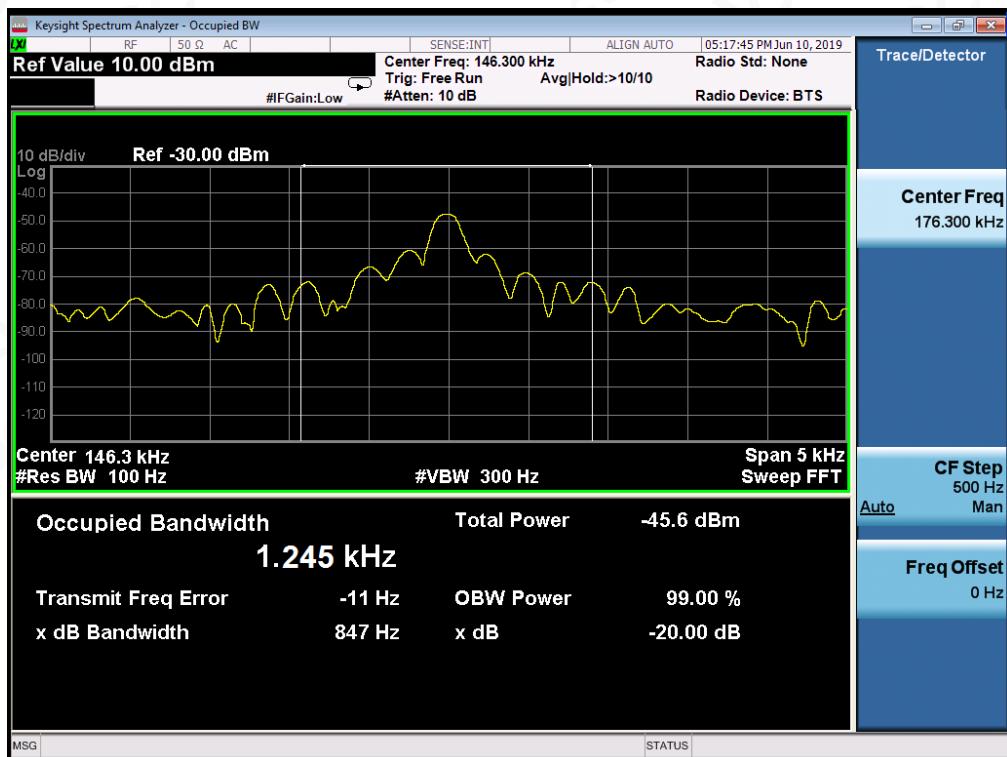
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8.3. MEASUREMENT RESULTS

TEST ITEM	20DB BANDWIDTH	
TEST MODULATION	FSK	

Test Data (Hz)	Criteria	
Operate Channel	847	PASS

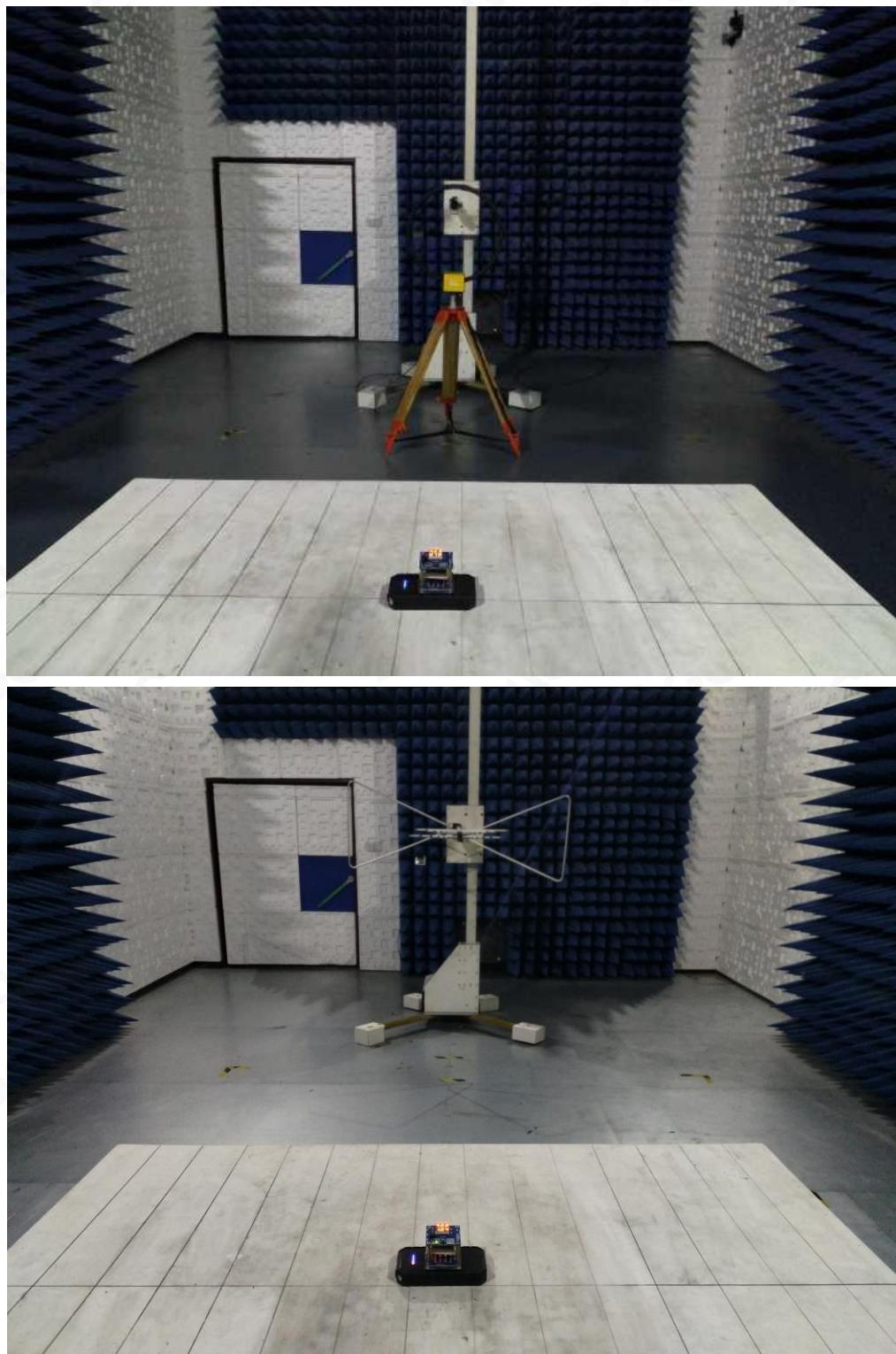
TEST PLOT OF BANDWIDTH



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APPENDIX A: PHOTOGRAPHS OF TEST SETUP
FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ

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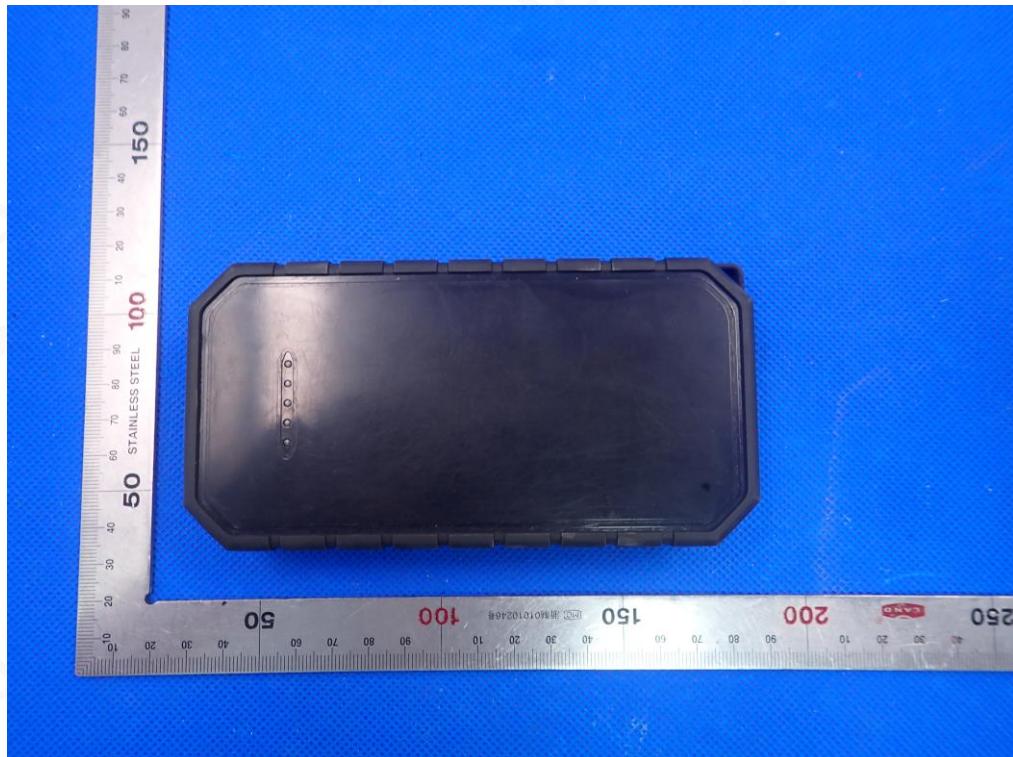
APPENDIX B: PHOTOGRAPHS OF EUT
TOP VIEW OF EUT**BOTTOM VIEW OF EUT**

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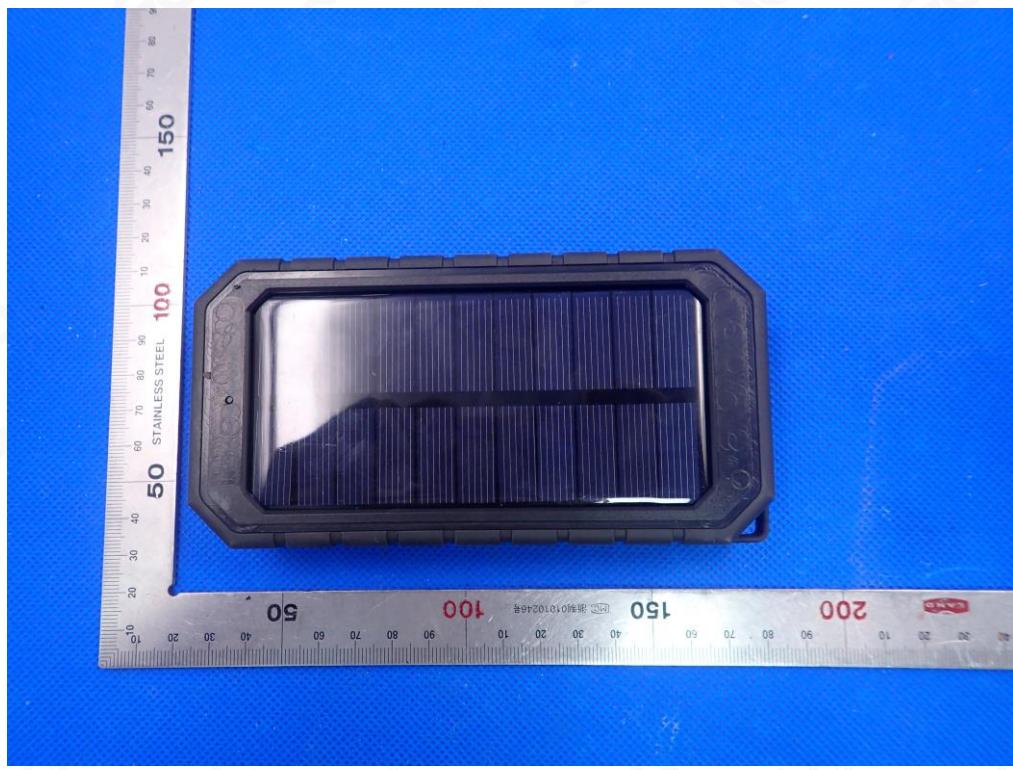
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FRONT VIEW OF EUT



BACK VIEW OF EUT



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LEFT VIEW OF EUT



RIGHT VIEW OF EUT



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OPEN VIEW OF EUT-1



OPEN VIEW OF EUT-2



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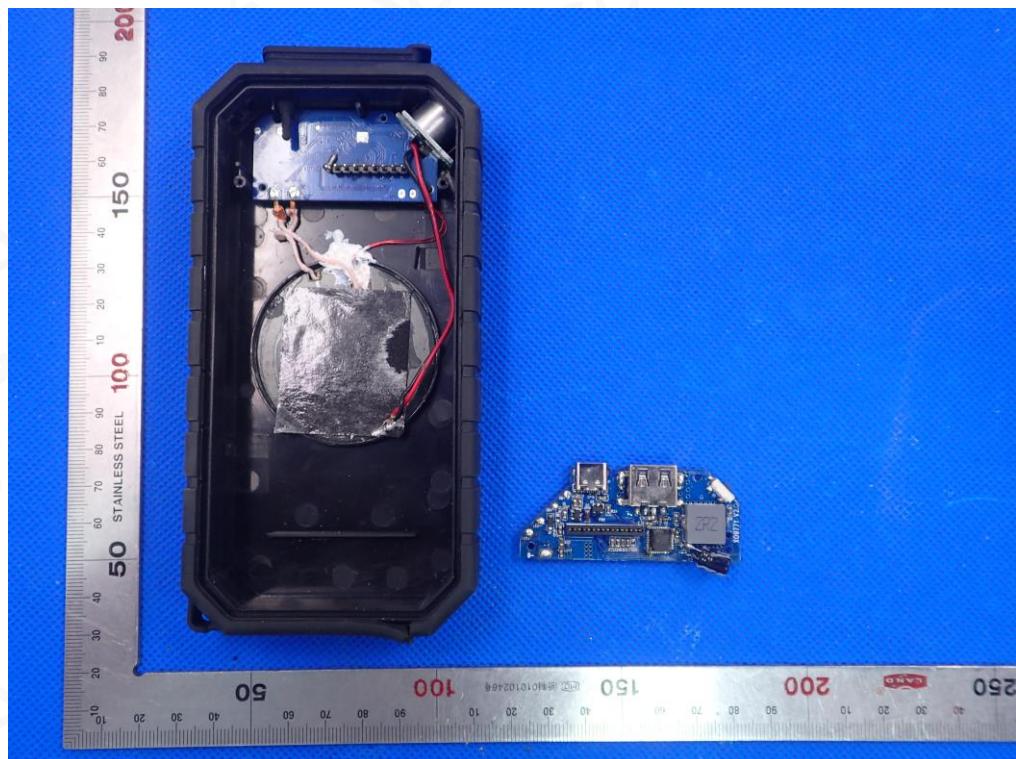
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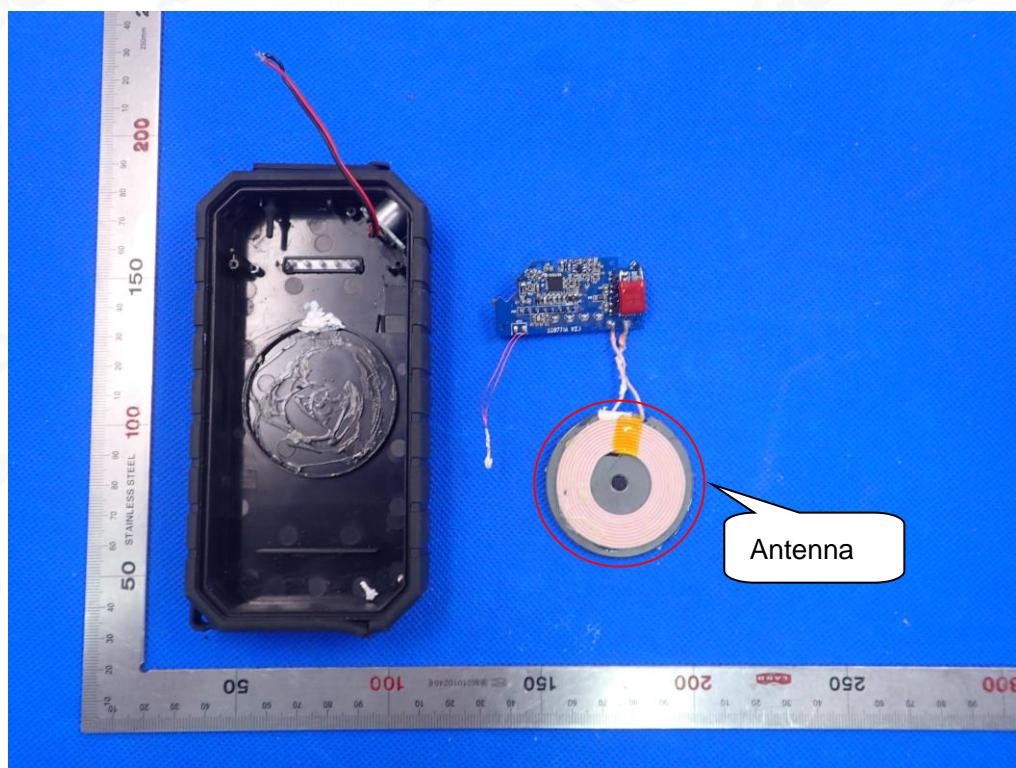
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OPEN VIEW OF EUT- 3



OPEN VIEW OF EUT- 4



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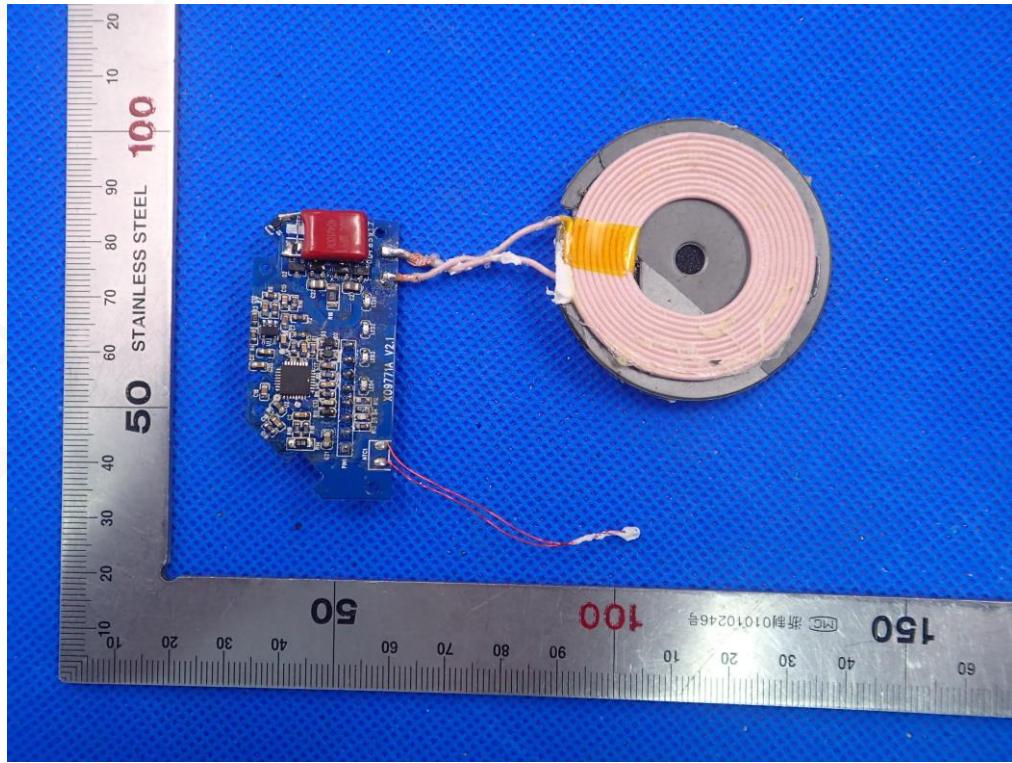
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BATTERY VIEW OF EUT



INTERNAL VIEW-1 OF EUT

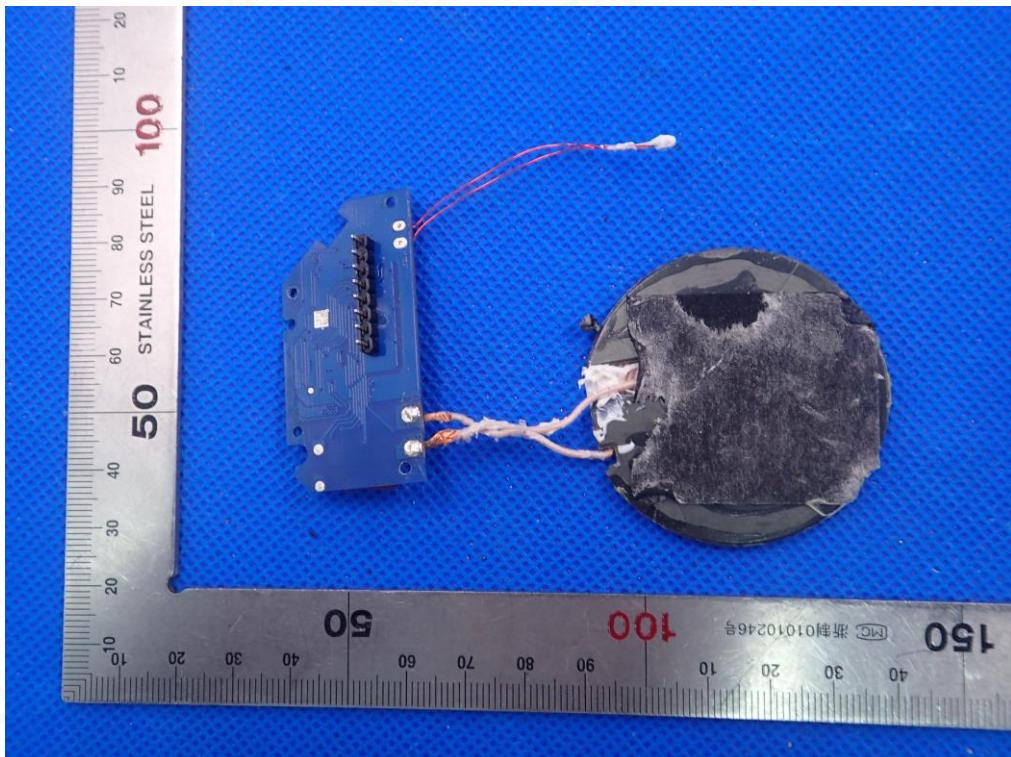


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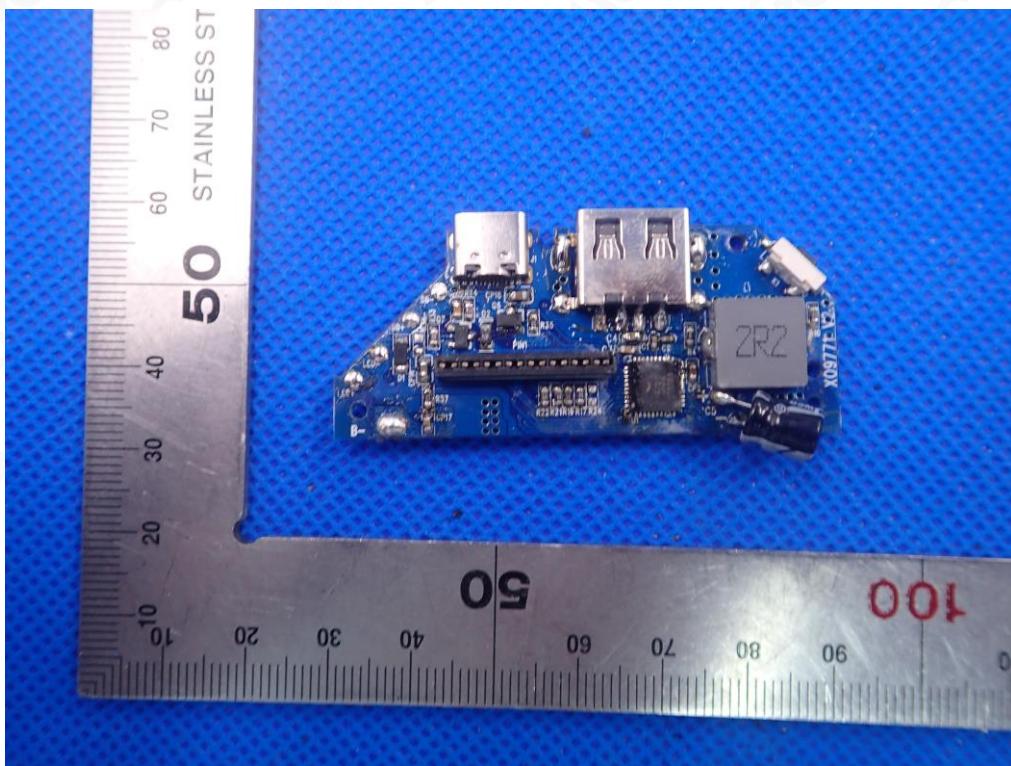
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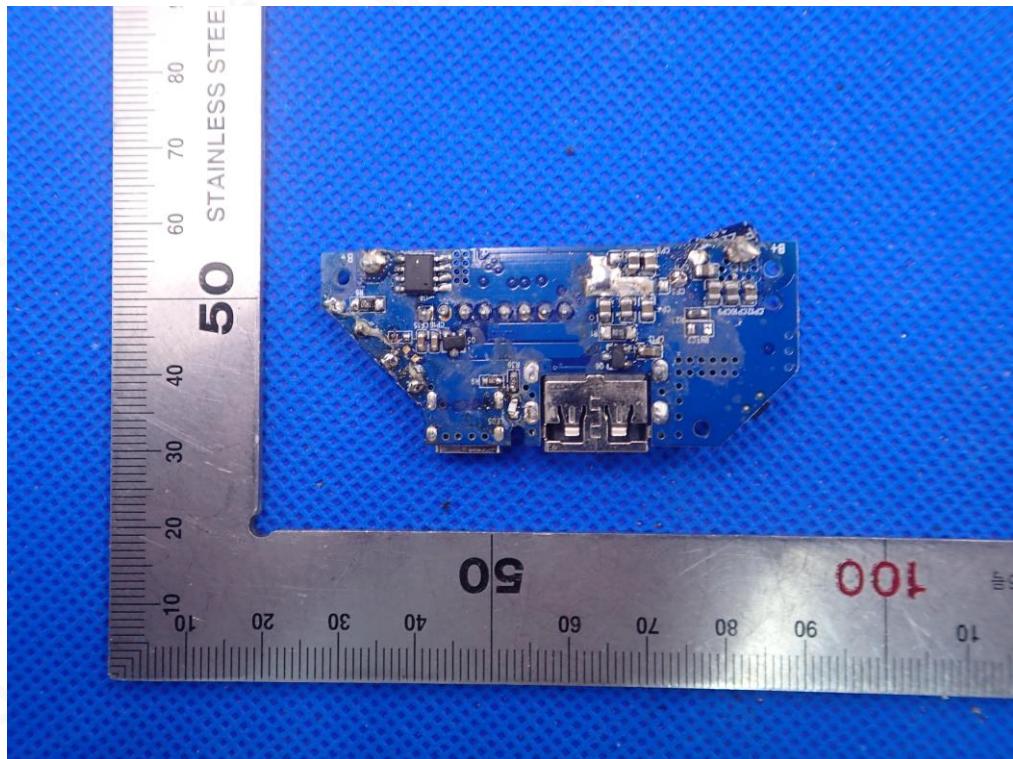
INTERNAL VIEW-2 OF EUT



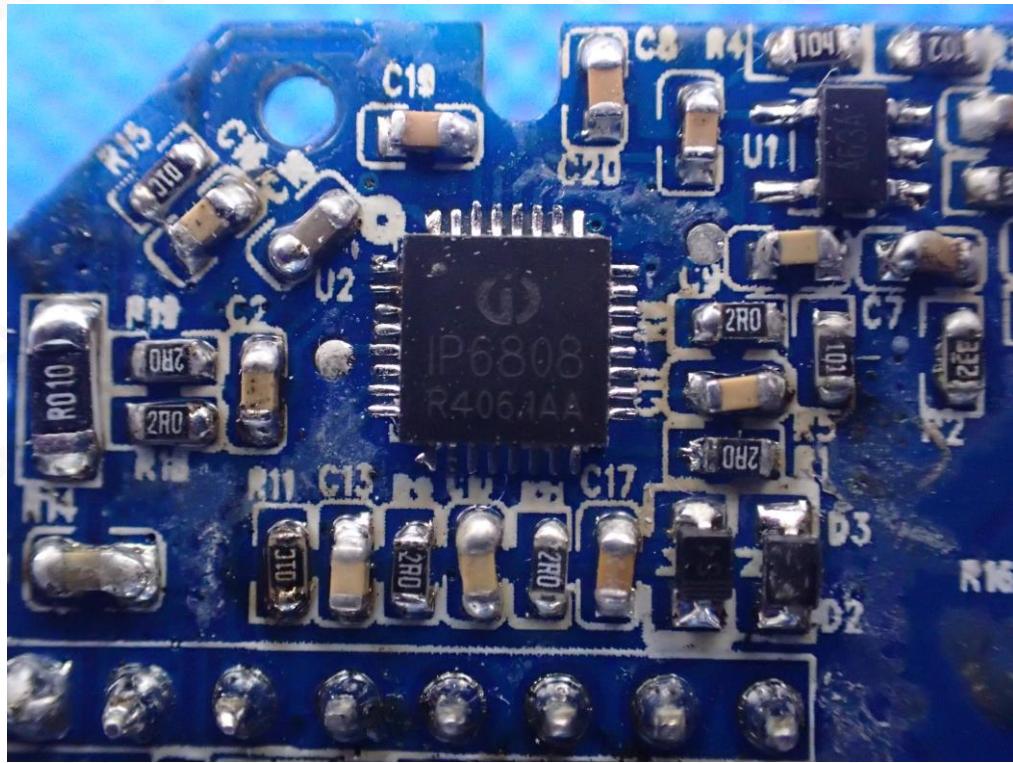
INTERNAL VIEW-3 OF EUT



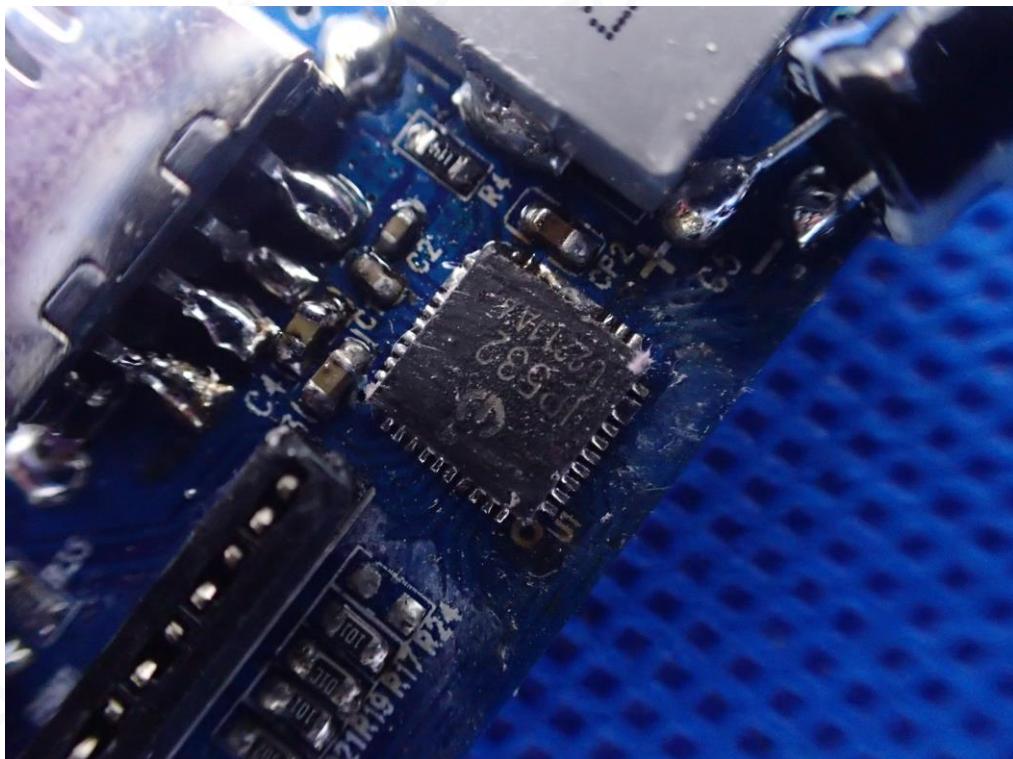
INTERNAL VIEW-4 OF EUT



INTERNAL VIEW-5 OF EUT



INTERNAL VIEW-6 OF EUT

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Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Service Hotline:400 089 2118