

FCC Test Report

Report No.: AGC05794190701FE03

FCC ID : 2ANFN0911-05
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : Wireless Charging Powerbank Portfolio
BRAND NAME : N/A
MODEL NAME : 0911-05, 0911-03, LG250, LG251, 21634, 21635
APPLICANT : Anhui Inno-Sign International Co., Ltd.
DATE OF ISSUE : Aug. 17, 2019
STANDARD(S) : FCC Part 15 Rules
TEST PROCEDURE(S)
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Aug. 17, 2019	Valid	Initial Release



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1. VERIFICATION OF CONFORMITY

Applicant	Anhui Inno-Sign International Co., Ltd.
Address	1410, Buliding B, Blue Sky Business Port, No.188 South Qianshan Road, Hefei, Anhui
Manufacturer	Dongguan Cohesion Leather goods CO., Ltd
Address	Taoyuan Road, Chanshan Town, Dongguan, Guangdong
Factory	Dongguan Cohesion Leather goods CO., Ltd
Address	Taoyuan Road, Chanshan Town, Dongguan, Guangdong
Product Designation	Wireless Charging Powerbank Portfolio
Brand Name	N/A
Test Model	0911-05
Series Model	0911-03, LG250, LG251, 21634, 21635
Difference description	All the same except for model name and appearance of leather sheath.
Date of test	Jul. 15, 2019 to Aug. 17, 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.

Prepared By

Erik Yang

Erik Yang
(Project Engineer)

Aug. 17, 2019

Reviewed By

Max Zhang

Max Zhang
(Reviewer)

Aug. 17, 2019

Approved By

Forrest Lei

Forrest Lei
(Authorized Officer)

Aug. 17, 2019



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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	110-205 kHz
Test Frequency	122.1 kHz
Maximum field strength	55.57dBuV/m(PK)@3m
Modulation	FSK
Number of channels	1
Antenna Gain	0dBi
Antenna Designation	Integrated Antenna (Met 15.203 Antenna requirement)
Hardware Version	SP0539-B-V01
Software Version	V1.0
Power Supply	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, $U_c = \pm 3.2$ dB
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9$ dB
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8$ 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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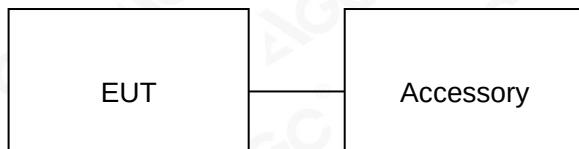
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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure :



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Wireless Charging Powerbank Portfolio	0911-05	2ANFN0911-05	EUT
2	Load	N/A	5W	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: N/A stands for not applicable. Wireless charging does not work while charging.



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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 RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun.12, 2019	Jun.11, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun.12, 2019	Jun.11, 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(μ V)/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(μ V)/m (Peak) 54.0 dB(μ V)/m (Average)	
Remark: (1) Emission level dB μ V = 20 log Emission level μ V/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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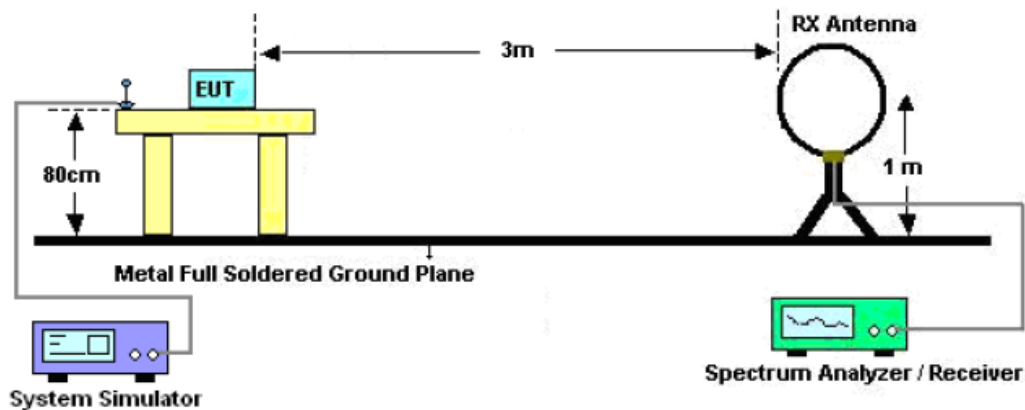
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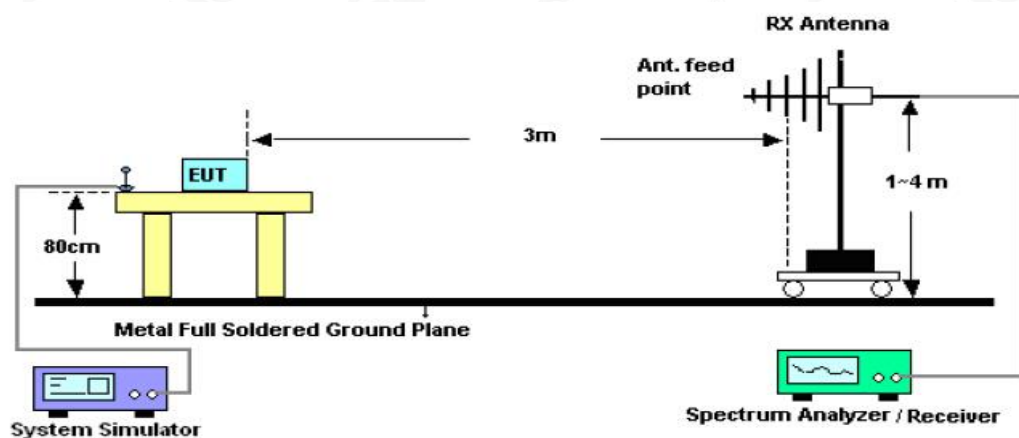
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7.3. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



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
0.1221	Face	45.17	10.40	55.57	105.87	-50.30	Pass
0.1221	Side	35.08	10.40	45.48	105.87	-60.39	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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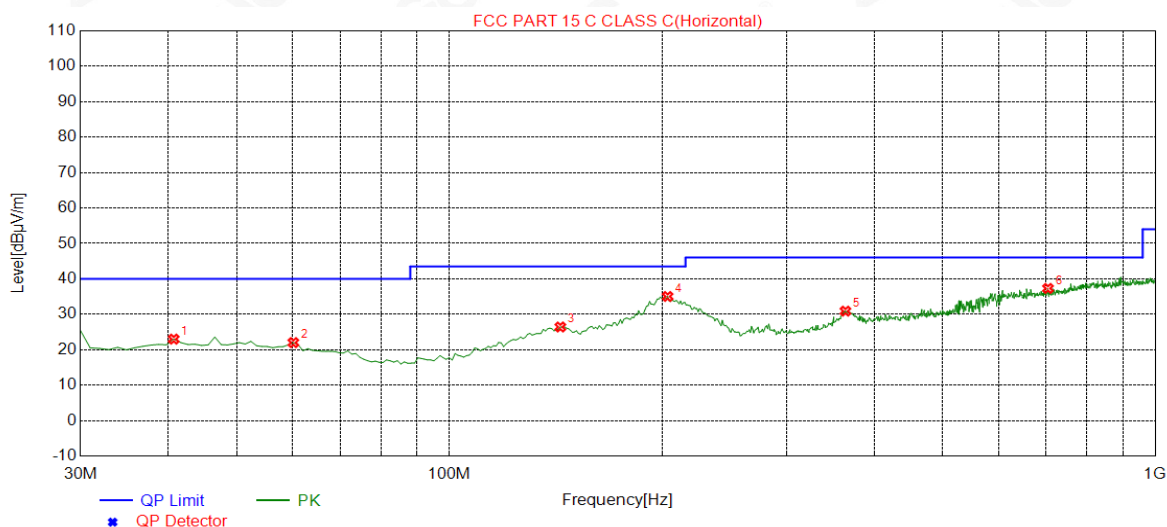
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RADIATED EMISSION 30MHz- 1GHz

EUT :	Wireless Charging Powerbank Portfolio	Model Name. :	0911-05
Temperature :	23°C	Relative Humidity:	58%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Mode 1	Polarization :	Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.6807	23.00	14.91	40.00	17.00	150	94	Horizontal
2	60.1001	22.01	13.89	40.00	17.99	150	354	Horizontal
3	143.6036	26.42	14.88	43.50	17.08	150	2	Horizontal
4	203.8038	35.03	12.30	43.50	8.47	150	32	Horizontal
5	364.0140	30.89	18.41	46.00	15.11	100	241	Horizontal
6	704.8248	37.31	26.05	46.00	8.69	100	202	Horizontal

RESULT: PASS



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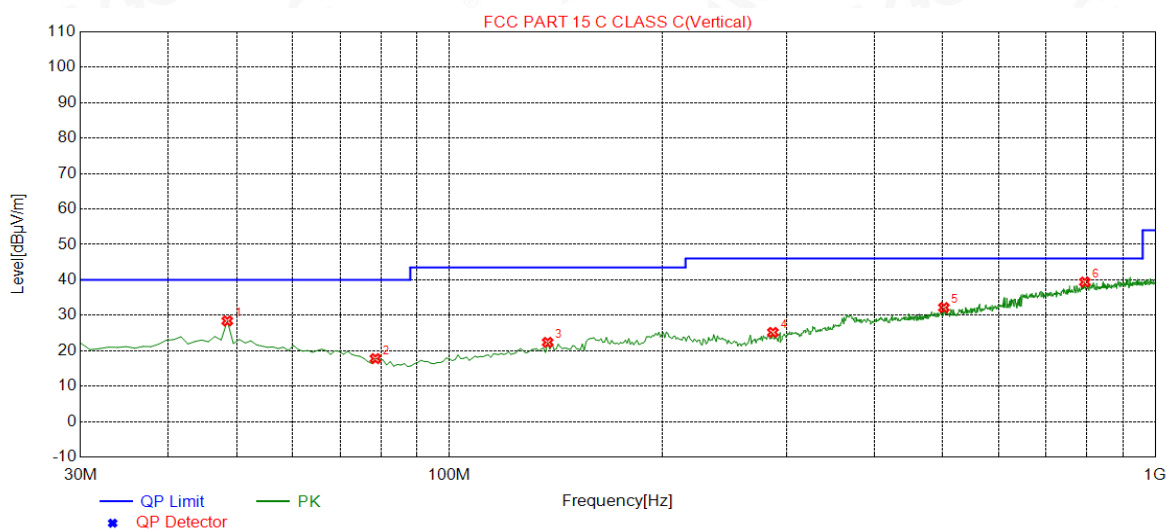
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EUT :	Wireless Charging Powerbank Portfolio	Model Name. :	0911-05
Temperature :	23°C	Relative Humidity:	58%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Mode 1	Polarization :	Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	48.4484	28.41	14.71	40.00	11.59	100	357	Vertical
2	78.5485	17.78	10.45	40.00	22.22	150	112	Vertical
3	137.7778	22.36	14.72	43.50	21.14	150	319	Vertical
4	287.3073	25.18	16.18	46.00	20.82	150	358	Vertical
5	501.8919	32.18	22.22	46.00	13.82	150	56	Vertical
6	795.1251	39.40	28.40	46.00	6.60	100	358	Vertical

RESULT: PASS

Note:

Factor=Antenna Factor + Cable loss, Margin=Limit-Level.

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



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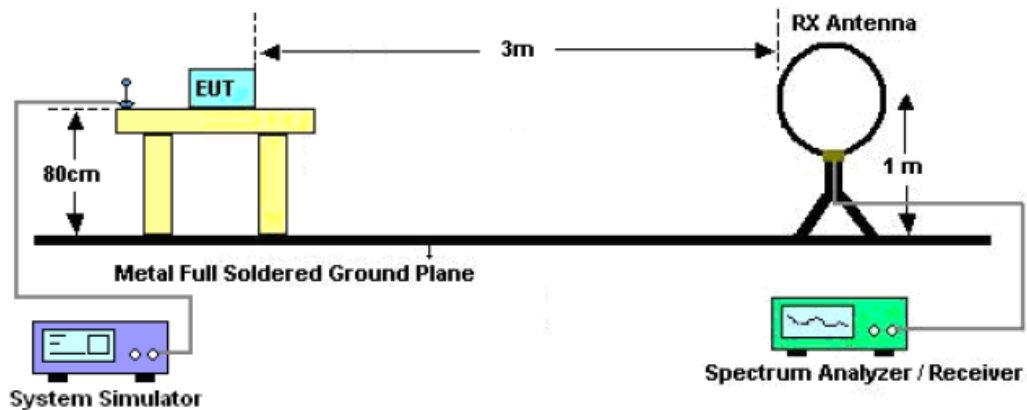
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8. 20DB BANDWIDTH

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)

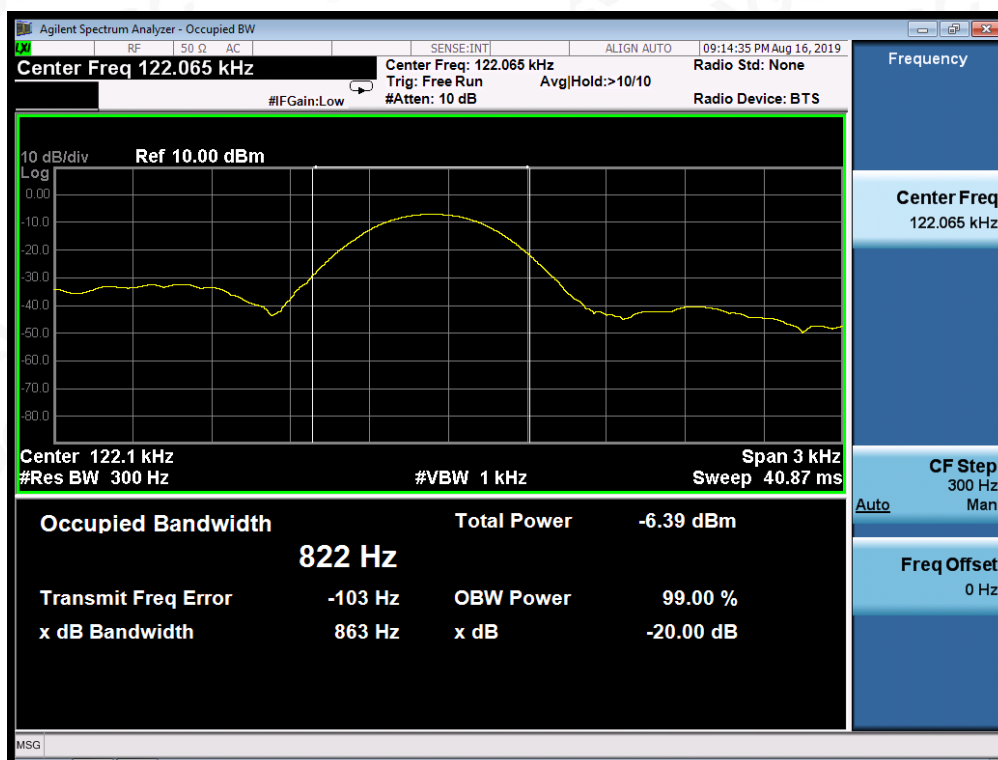


8.3. MEASUREMENT RESULTS

TEST ITEM	20DB BANDWIDTH
TEST MODULATION	FSK

Test Data (Hz)		Criteria
Operate Channel	863	PASS

TEST PLOT OF BANDWIDTH



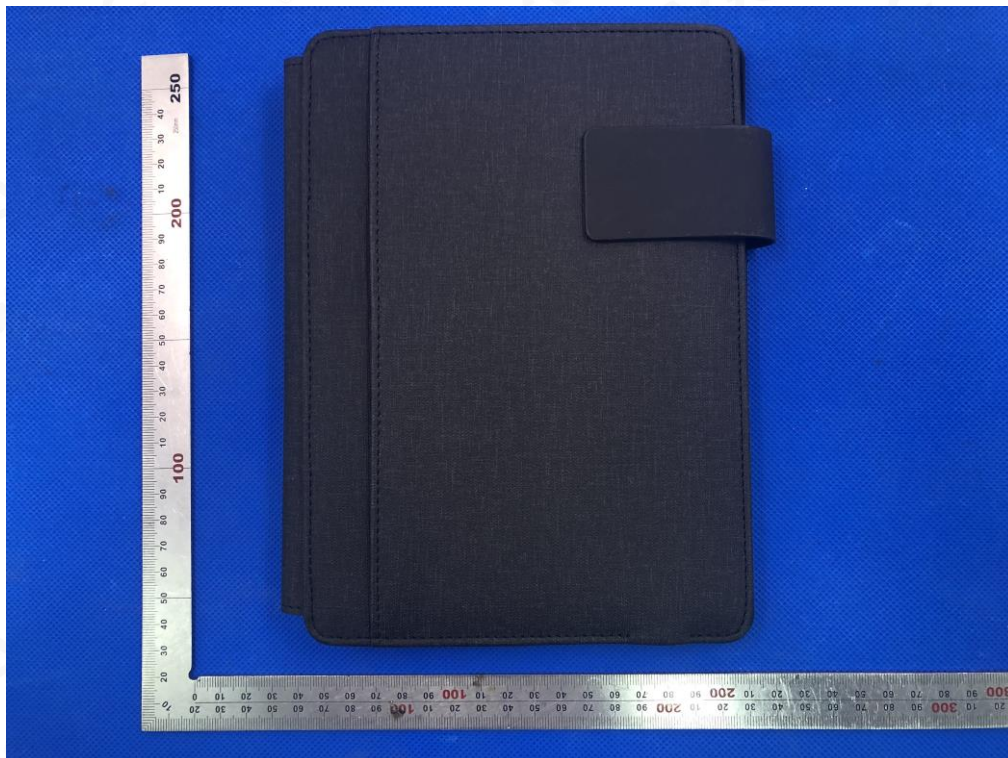
APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ

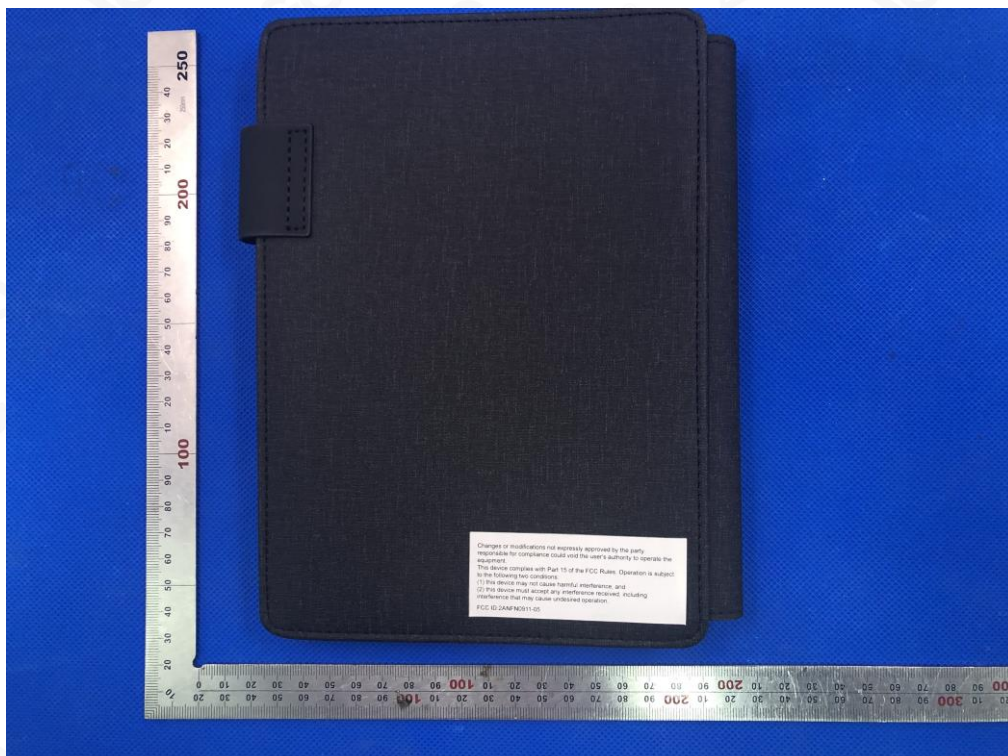


APPENDIX B: PHOTOGRAPHS OF EUT

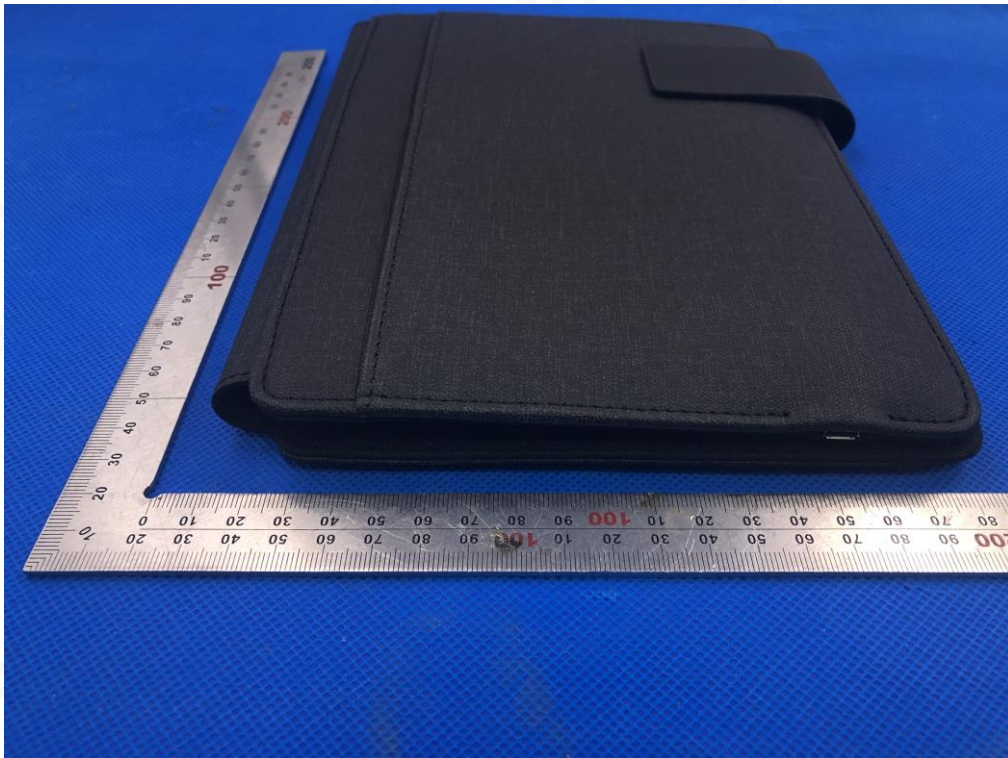
TOP VIEW OF EUT



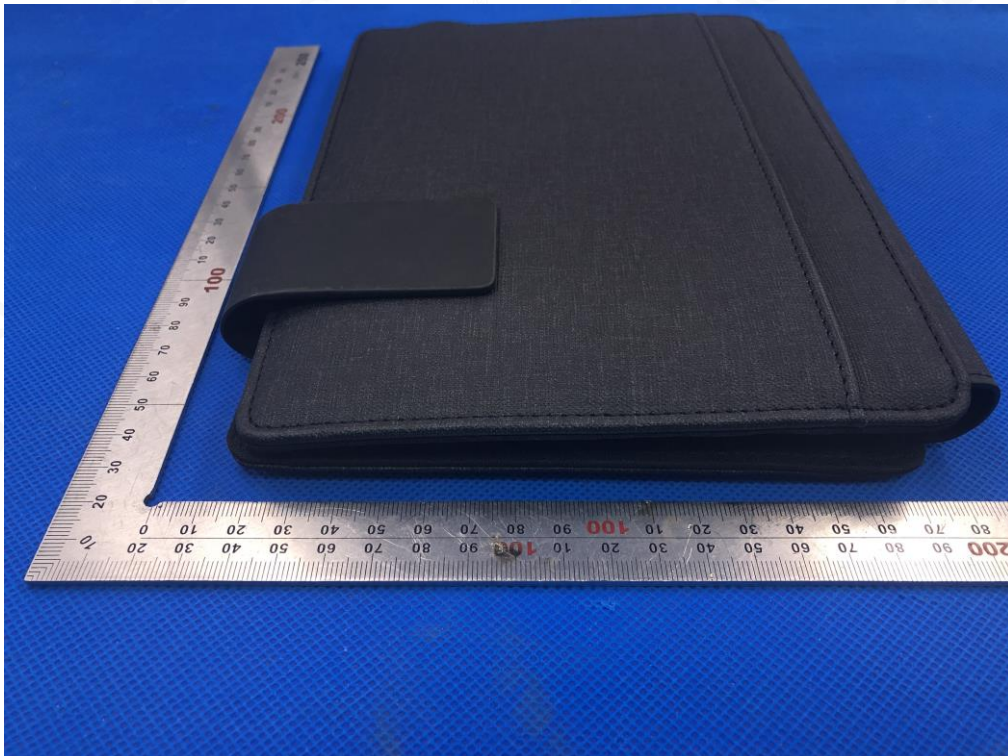
BOTTOM VIEW OF EUT



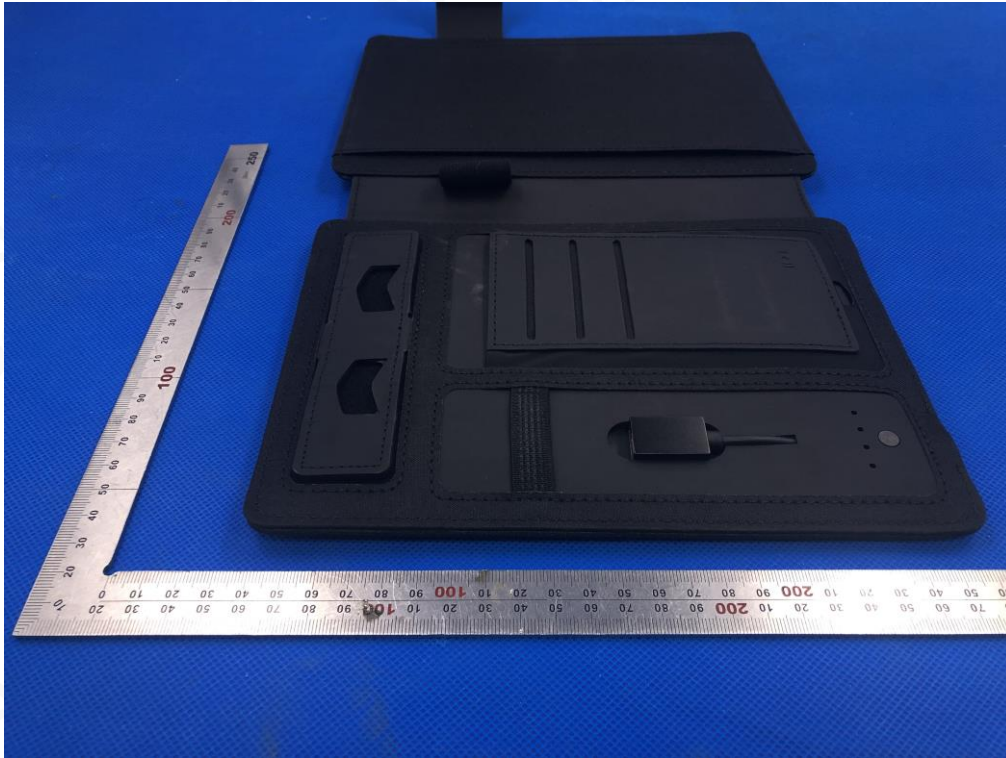
FRONT VIEW OF EUT



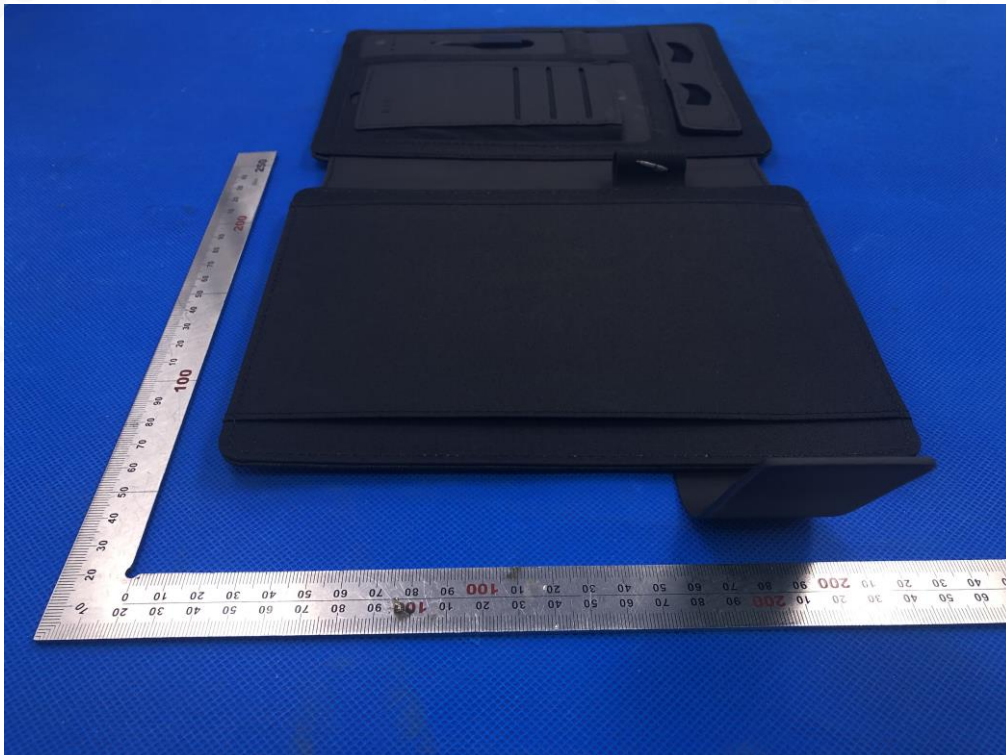
BACK VIEW OF EUT



LEFT VIEW OF EUT



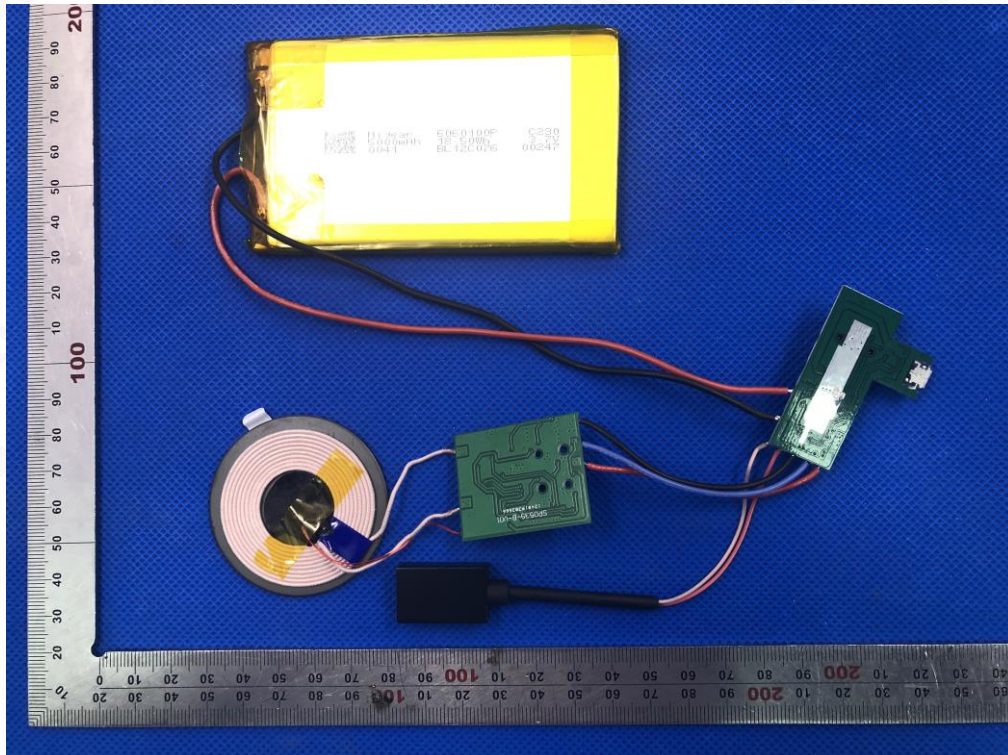
RIGHT VIEW OF EUT



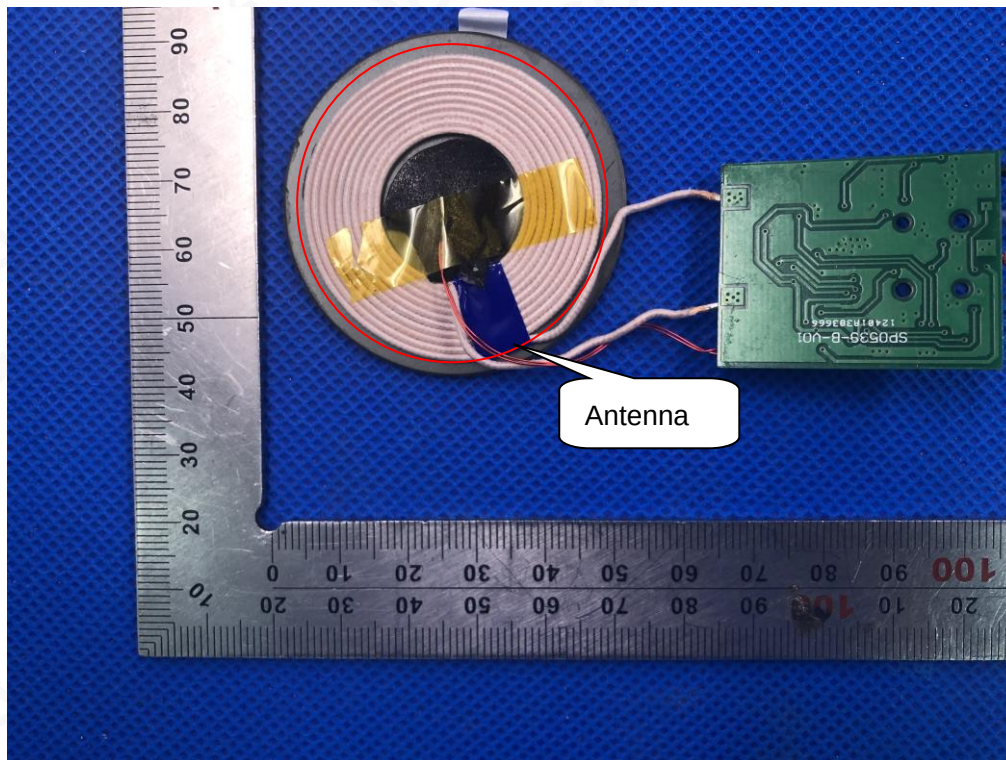
OPEN VIEW OF EUT



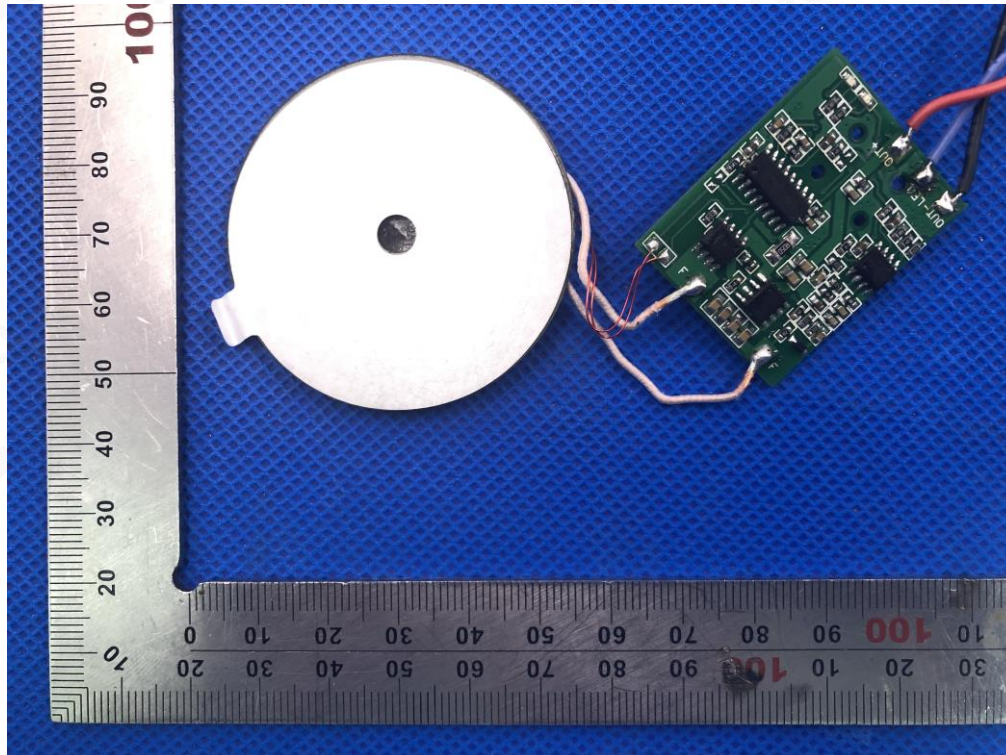
INTERNAL VIEW-1 OF EUT



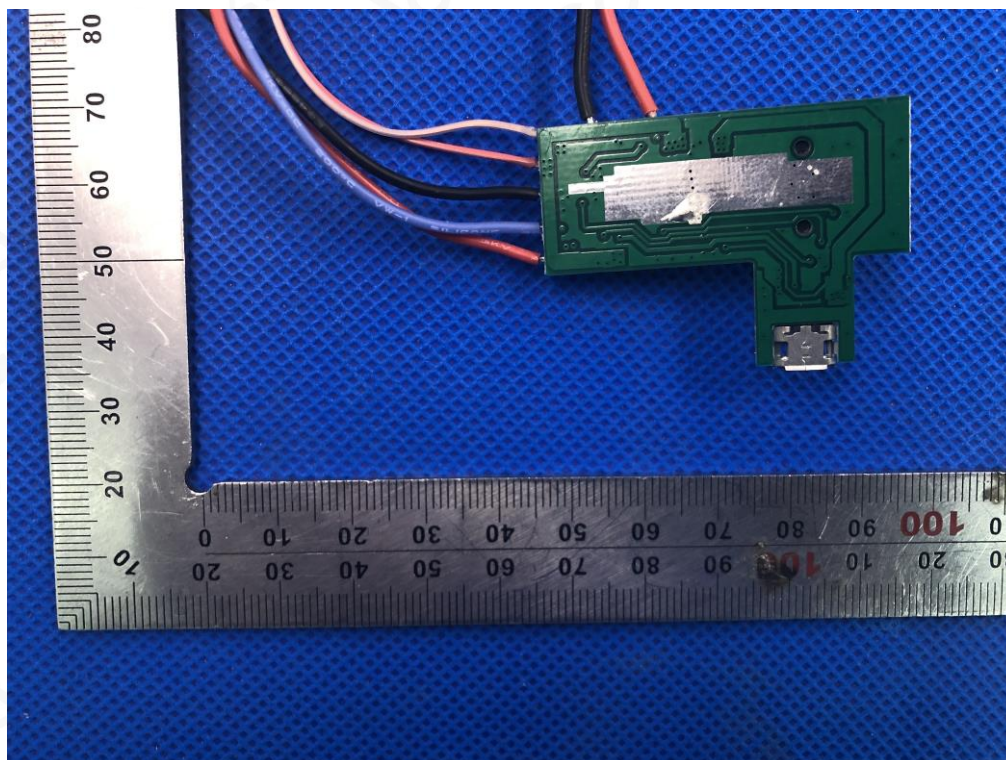
INTERNAL VIEW-2 OF EUT



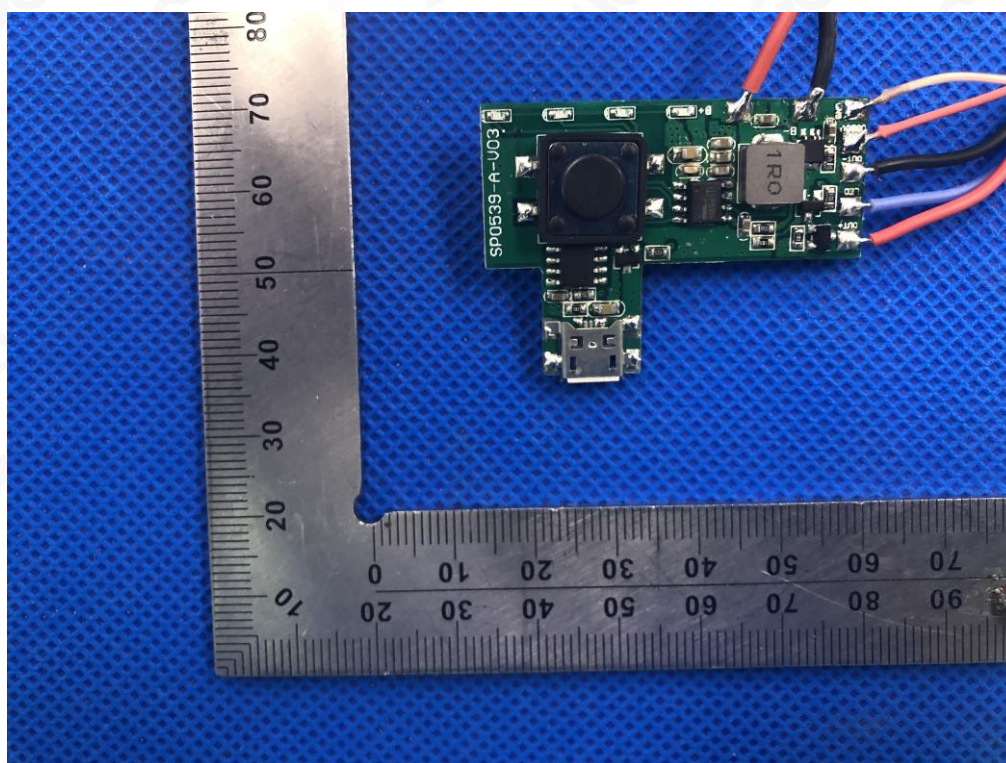
INTERNAL VIEW-3 OF EUT



INTERNAL VIEW-4 OF EUT

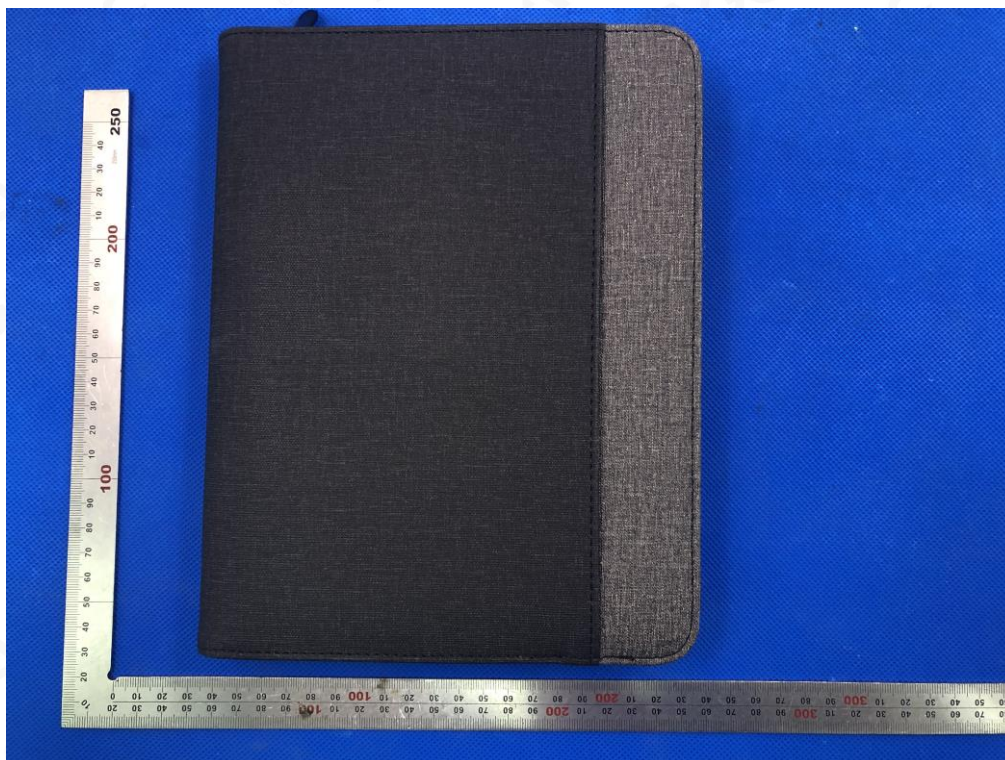


INTERNAL VIEW-5 OF EUT



0911-03

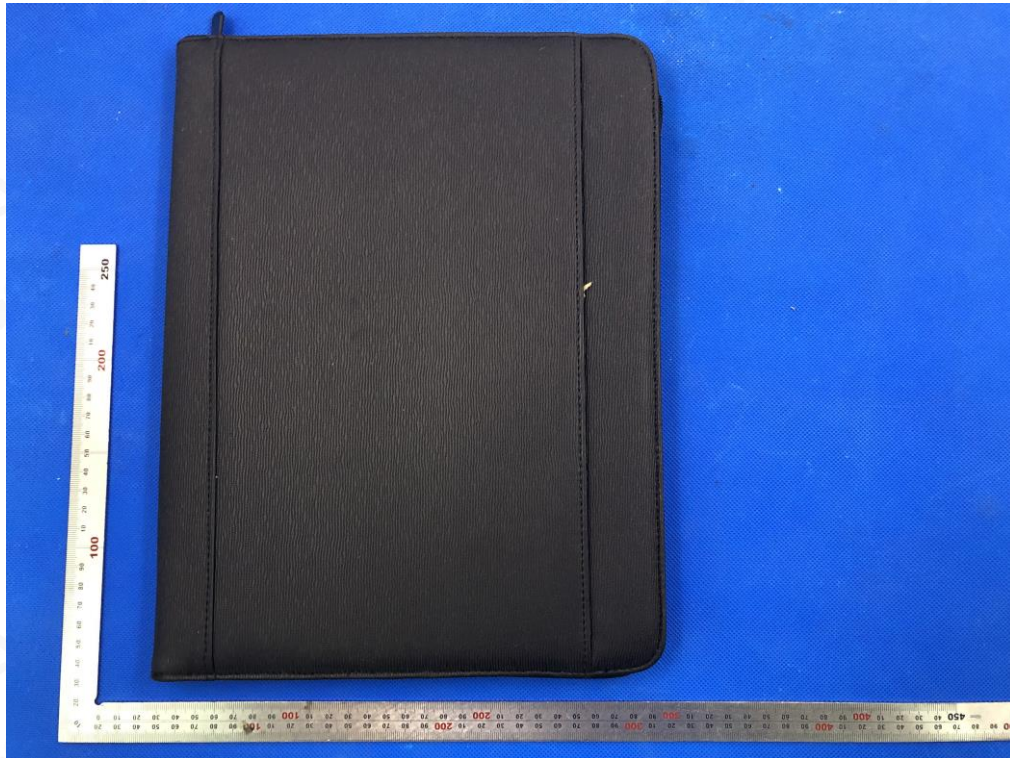
TOP VIEW OF EUT



OPEN VIEW OF EUT



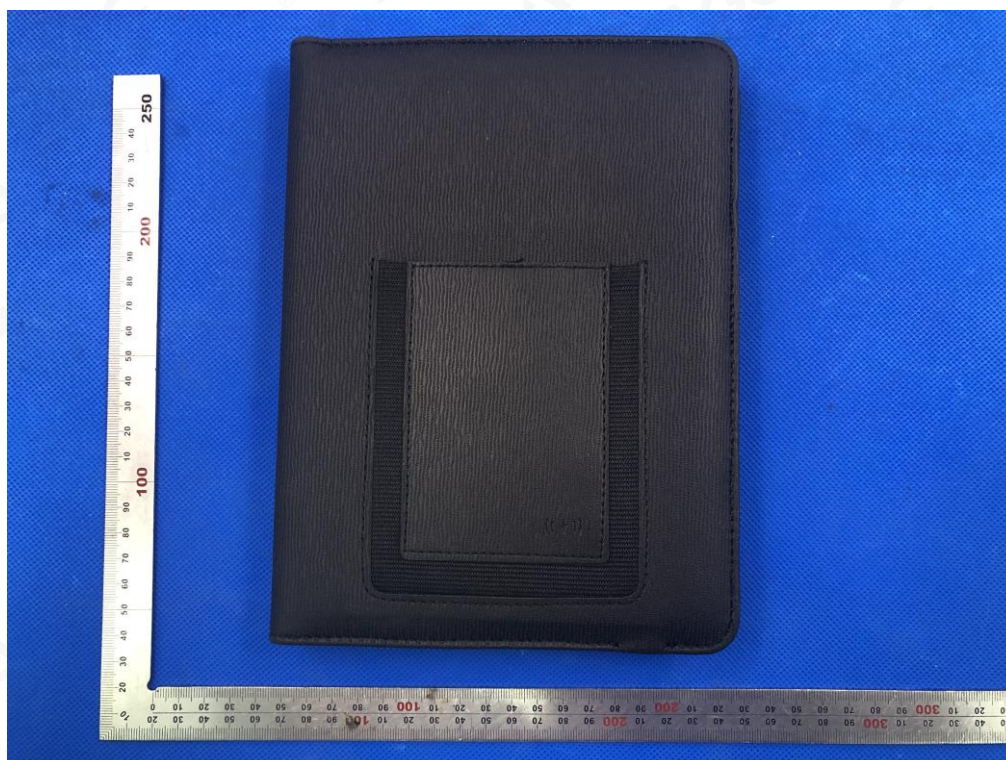
LG250
TOP VIEW OF EUT



OPEN VIEW OF EUT



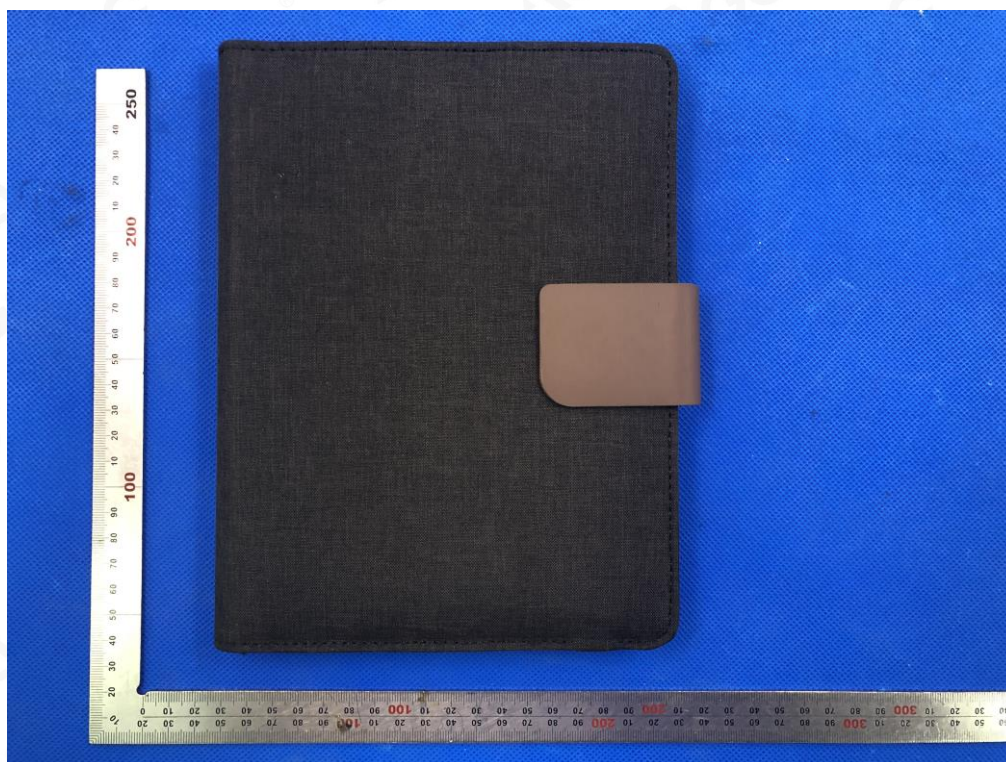
LG251
TOP VIEW OF EUT



OPEN VIEW OF EUT



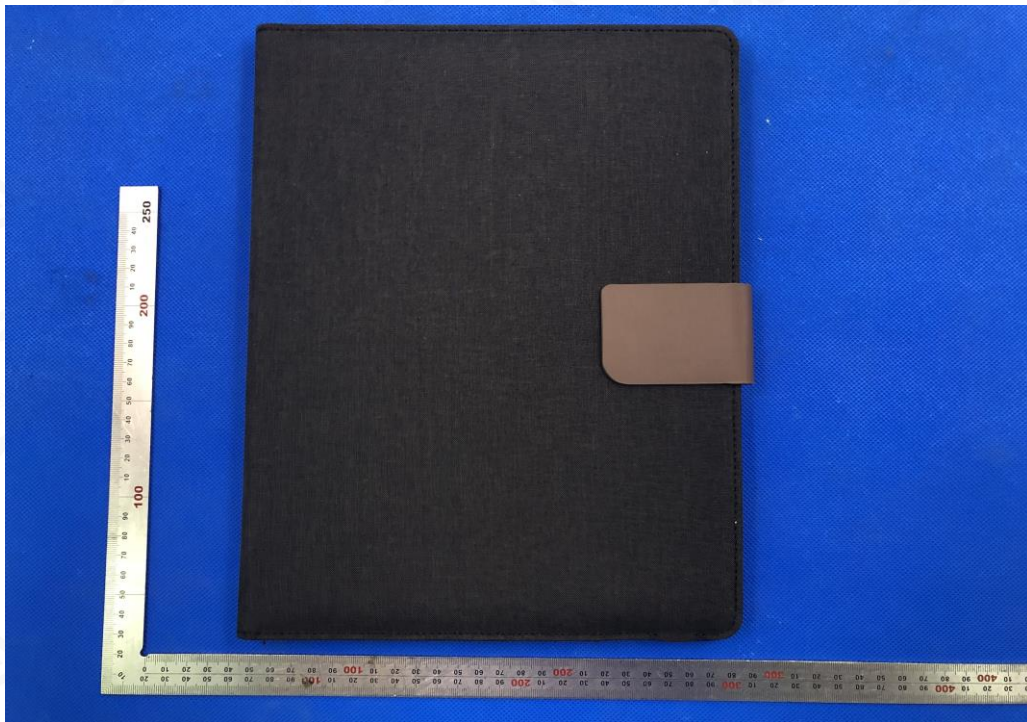
21634
TOP VIEW OF EUT



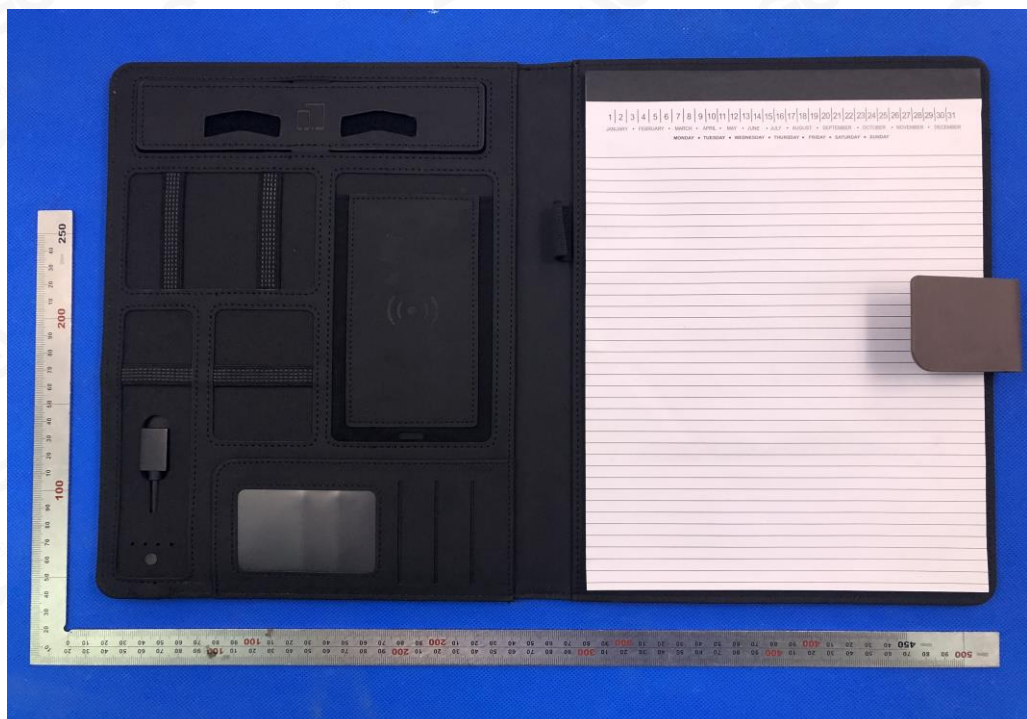
OPEN VIEW OF EUT



21635
TOP VIEW OF EUT



OPEN VIEW OF EUT



----END OF REPORT----