FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Pelican Products, Inc.

EMS Recharge

Model Number: C00220

FCC ID: 2AOIU-C00220

Prepared for:	Pelican Products, Inc.
	23215 Early Avenue, Torrance, California, 90505, United States
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
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Report Number:	ESTE-R1907001
Date of Test:	Jun. 25~Jul. 29, 2019
Date of Report:	Jul. 29, 2019

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EST Technology Co., Ltd.

Applicant: **Address:**	Pelican Products, Inc. 23215 Early Avenue, Torrance, California, 90505, United States
Manufacturer: **Address:**	Pelican Products, Inc. 23215 Early Avenue, Torrance, California, 90505, United States
E.U.T:	EMS Recharge
Model Number:	C00220
Power Supply:	DC 5V From Adapter DC 3.7V From Battery
Test Voltage:	DC 5V From Adapter Input AC 120V/60Hz DC 5V From Adapter Input AC 240V/50Hz DC 3.7V From Battery
Trade Name:	PELICAN Serial No.: ------
Date of Receipt:	Jun. 24, 2019 Date of Test: Jun. 25~Jul. 29, 2019
Test Specification:	FCC Rules and Regulations Part 15 Subpart C:2018 ANSI C63.10:2013
Test Result:	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. **Date:** Jul. 29, 2019

Prepared by:	Reviewed by:	Approved by:
Ring	Tony	
Ring / Assistant	Tony / Engineer	Iceman Hu / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

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 EST Technology Co., Ltd.

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	EMS Recharge
FCC ID	:	2AOIU-C00220
Model Number	:	C00220
Operation frequency	:	110.5-205kHz
Antenna	:	Coil, 0 dBi.
Modulation	:	MSK
Max output power	:	5W
Sample Type	:	Prototype production

2. SUMMARY OF TEST

2.1. Summary of test result

Description of Test Item	Standard	Results
Power Line Conducted Emission	FCC Part 15: 15.207 ANSI C63.10:2013	PASS
Radiated Emission	FCC Part 15: 15.209 ANSI C63.10:2013	PASS

2.2. Test Facilities

EMC Lab	:	Certificated by CNAS, CHINA Registration No.: L5288 Date of registration: November 13, 2017 Certificated by A2LA, USA Registration No.: 4366.01 Date of registration: November 07, 2017 Certificated by FCC, USA Designation Number: CN1215 Registration No.: 722932 Date of registration: November 21, 2017 Certificated by Industry Canada Registration No.: 9405A Date of registration: December 03, 2015 Certificated by VCCI, Japan Registration No.: R-13663; C-14103 Date of registration: July 25, 2017 This Certificate is valid until: July 24, 2020 Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: February 07, 2015 Certificated by TUV/PS, Shenzhen Registration No.: SCN1017 Date of registration: January 27, 2011 Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L2-64 Date of registration: April 28, 2011 Certificated by Nemko, Hong Kong Registration No.: 175193 Date of registration: May 4, 2011
Name of Firm	:	EST Technology Co., Ltd.
Site Location	:	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

2.3. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	±3.48dB
Uncertainty for spurious emissions test (30MHz-1GHz)	±4.60 dB(Polarize: H)
	±4.68 dB(Polarize: V)
Uncertainty for spurious emissions test (1GHz to 18GHz)	±4.96dB
Uncertainty for radio frequency	7×10^{-8}
Uncertainty for conducted RF Power	0.20dB
Uncertainty for Power density test	0.26dB

Note：This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

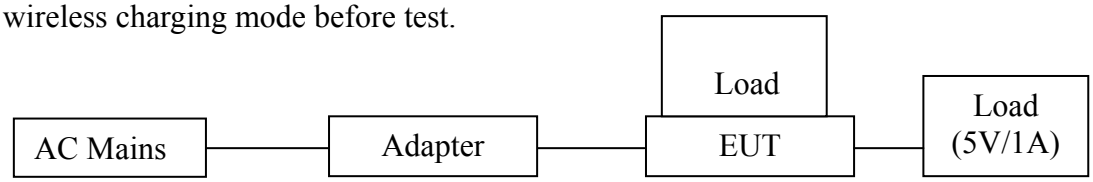
2.4. Assistant equipment used for test

2.4.1. Adapter

M/N	:	HKC0105020-4H
Input	:	AC 100-240V~50/60Hz,0.15A
Output	:	DC 5V/2A
S/N	:	H10A90175A004272

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground. EUT was beset into wireless charging mode before test.



(EUT: EMS Recharge)

2.6. Test mode

Mode	
TX Mode	Full Load
	Half Load
	Empty Load
Remark: The “Full Load” is worst case, will be recorded in the report.	

2.7. Test Equipment

2.7.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	CEPREI	June 14,19	1 Year
Artificial Mains Network	Rohde & Schwarz	ENV216	101260	CEPREI	June 14,19	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101100	CEPREI	June 14,19	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.7.2. For radiated emission test(9 kHz-30MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	101780	CEPREI	June 14,19	1 Year
Active Loop Antenna	SCHWAREBECK	FMZB 1519B	1519B-088	CEPREI	June 14,19	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.7.3. For radiated emissions test (30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	101780	CEPREI	June 14,19	1 Year
Bilog Antenna	Teseq	CBL 6111D	27090	CEPREI	June 14,19	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.7.4. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120D1002	CEPREI	June 14,19	1 Year
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170242	CEPREI	June 14,19	1Year
Signal Amplifier	SCHWARZBECK	BBV9718	9718-212	CEPREI	June 14,19	1 Year
Spectrum Analyzer	Rohde &Schwarz	FSV	103173	CEPREI	June 14,19	1 Year
PSA Series Spertrum Analyzer	Agilent	E4447A	MY50180031	CEPREI	June 14,19	1Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.7.5. For connect EUT antenna terminal test

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Spectrum Analyzer	Rohde &Schwarz	FSV	103173	CEPREI	June 14,19	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211 139	CEPREI	June 14,19	1 Year

3 POWER LINE CONDUCTED EMISSION TEST

3.1Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.2 Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS30) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

3.3. Test Result

PASS. **(**All emissions not reported below are too low against the prescribed limits.)

3.4. Test data

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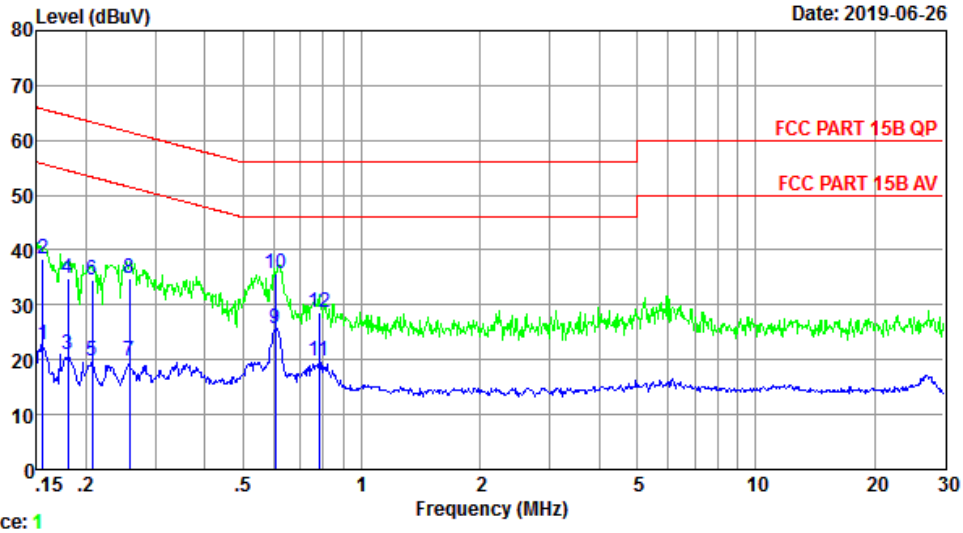
Data: 2 File: \\EMC-CE-1\Test data\2019\RF\P\Power7.EM6 (8)



Trace: 1

Site no : 844 Shield Room Data no. : 2
Env. / Ins. : Temp:24.8'C Humi:54% Press:101.50kPa LINE Phase : NEUTRAL
Limit : FCC PART 15B QP
Engineer : Zero
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.16	9.61	9.69	3.45	22.75	55.69	32.94	Average
2	0.16	9.61	9.69	19.00	38.30	65.69	27.39	QP
3	0.18	9.61	9.77	1.65	21.03	54.50	33.47	Average
4	0.18	9.61	9.77	15.60	34.98	64.50	29.52	QP
5	0.21	9.62	9.84	0.22	19.68	53.32	33.64	Average
6	0.21	9.62	9.84	15.20	34.66	63.32	28.66	QP
7	0.26	9.62	9.92	0.32	19.86	51.51	31.65	Average
8	0.26	9.62	9.92	15.30	34.84	61.51	26.67	QP
9	0.60	9.67	9.92	6.16	25.75	46.00	20.25	Average
10	0.60	9.67	9.92	16.00	35.59	56.00	20.41	Peak
11	0.78	9.70	9.93	0.06	19.69	46.00	26.31	Average
12	0.78	9.70	9.93	9.00	28.63	56.00	27.37	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin=Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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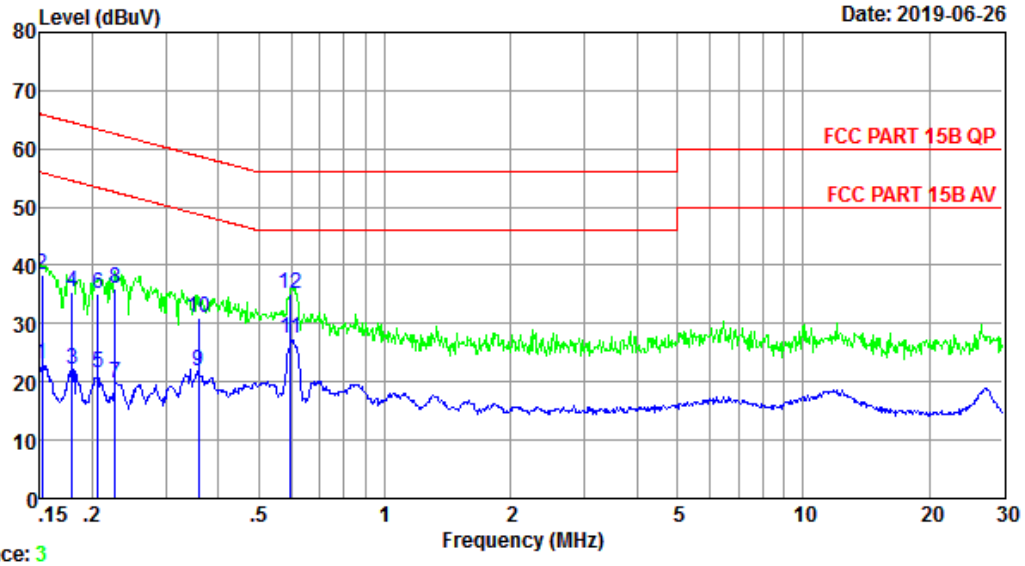
Data: 4 File: \\EMC-CE-1\Test data\2019\RF\P\Power7.EM6 (8)



Trace: 3

Site no : 844 Shield Room Data no. : 4
Env. / Ins. : Temp:24.8'C Humi:54% Press:101.50kPa LINE Phase : LINE
Limit : FCC PART 15B QP
Engineer : Zero
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.15	9.73	9.69	3.74	23.16	55.91	32.75	Average
2	0.15	9.73	9.69	19.03	38.45	65.91	27.46	QP
3	0.18	9.73	9.77	2.77	22.27	54.55	32.28	Average
4	0.18	9.73	9.77	16.03	35.53	64.55	29.02	QP
5	0.21	9.73	9.84	1.94	21.51	53.36	31.85	Average
6	0.21	9.73	9.84	15.43	35.00	63.36	28.36	QP
7	0.23	9.73	9.84	0.09	19.66	52.57	32.91	Average
8	0.23	9.73	9.84	16.43	36.00	62.57	26.57	QP
9	0.36	9.72	9.92	2.14	21.78	48.74	26.96	Average
10	0.36	9.72	9.92	11.36	31.00	58.74	27.74	QP
11	0.59	9.72	9.92	7.80	27.44	46.00	18.56	Average
12	0.59	9.72	9.92	15.36	35.00	56.00	21.00	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin=Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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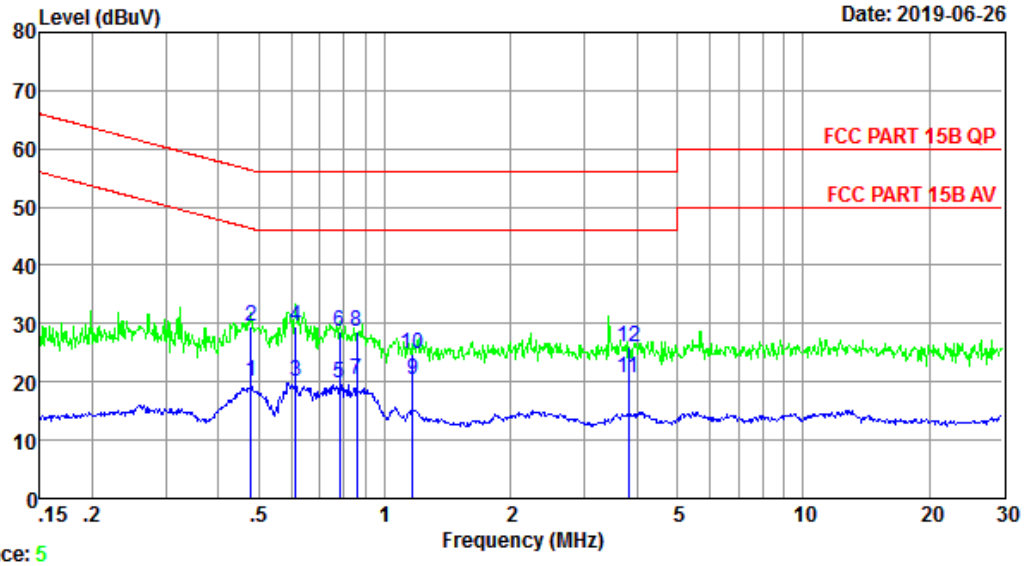
Data: 6 File: \\EMC-CE-1\Test data\2019\RF\P\Power7.EM6 (8)



Trace: 5

Site no : 844 Shield Room Data no. : 6
Env. / Ins. : Temp:24.8'C Humi:54% Press:101.50kPa LINE Phase : NEUTRAL
Limit : FCC PART 15B QP
Engineer : Zero
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 240V/50Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.48	9.65	9.92	0.61	20.18	46.36	26.18	Average
2	0.48	9.65	9.92	10.02	29.59	56.36	26.77	QP
3	0.61	9.67	9.92	0.46	20.05	46.00	25.95	Average
4	0.61	9.67	9.92	10.01	29.60	56.00	26.40	QP
5	0.78	9.70	9.93	0.15	19.78	46.00	26.22	Average
6	0.78	9.70	9.93	9.14	28.77	56.00	27.23	QP
7	0.86	9.71	9.93	0.73	20.37	46.00	25.63	Average
8	0.86	9.71	9.93	9.14	28.78	56.00	27.22	QP
9	1.17	9.75	9.94	0.56	20.25	46.00	25.75	Average
10	1.17	9.75	9.94	5.01	24.70	56.00	31.30	QP
11	3.82	9.88	9.99	0.83	20.70	46.00	25.30	Average
12	3.82	9.88	9.99	6.21	26.08	56.00	29.92	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin=Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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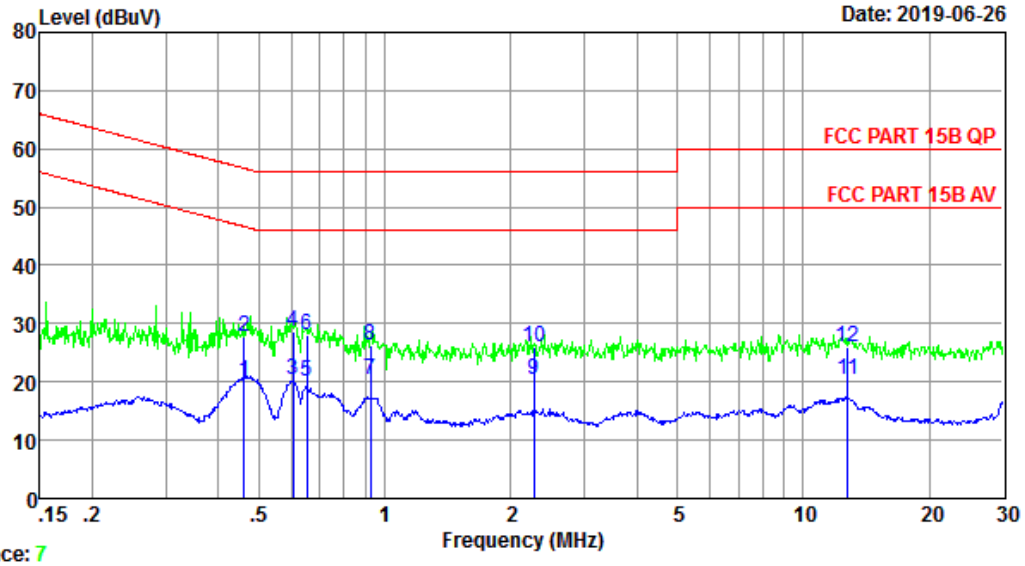
Data: 8 File: \\EMC-CE-1\Test data\2019\RF\P\Power7.EM6 (8)



Trace: 7

Site no : 844 Shield Room Data no. : 8
Env. / Ins. : Temp:24.8'C Humi:54% Press:101.50kPa LINE Phase : LINE
Limit : FCC PART 15B QP
Engineer : Zero
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 240V/50Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.46	9.72	9.92	0.35	19.99	46.67	26.68	Average
2	0.46	9.72	9.92	8.02	27.66	56.67	29.01	QP
3	0.60	9.72	9.92	0.65	20.29	46.00	25.71	Average
4	0.60	9.72	9.92	9.12	28.76	56.00	27.24	QP
5	0.65	9.72	9.92	0.52	20.16	46.00	25.84	Average
6	0.65	9.72	9.92	8.47	28.11	56.00	27.89	QP
7	0.92	9.72	9.94	0.84	20.50	46.00	25.50	Average
8	0.92	9.72	9.94	6.63	26.29	56.00	29.71	QP
9	2.27	9.75	9.96	0.54	20.25	46.00	25.75	Average
10	2.27	9.75	9.96	6.20	25.91	56.00	30.09	QP
11	12.78	9.85	10.10	0.55	20.50	50.00	29.50	Average
12	12.78	9.85	10.10	5.99	25.94	60.00	34.06	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin=Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

4 RADIATED EMISSION TEST

4.1 Limit

4.1.1 15.209 limits

Frequency (MHz)	Field Strength(μV/m)	Distance(m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark：(1) Emission level dBμV = 20 log Emission level μV/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.

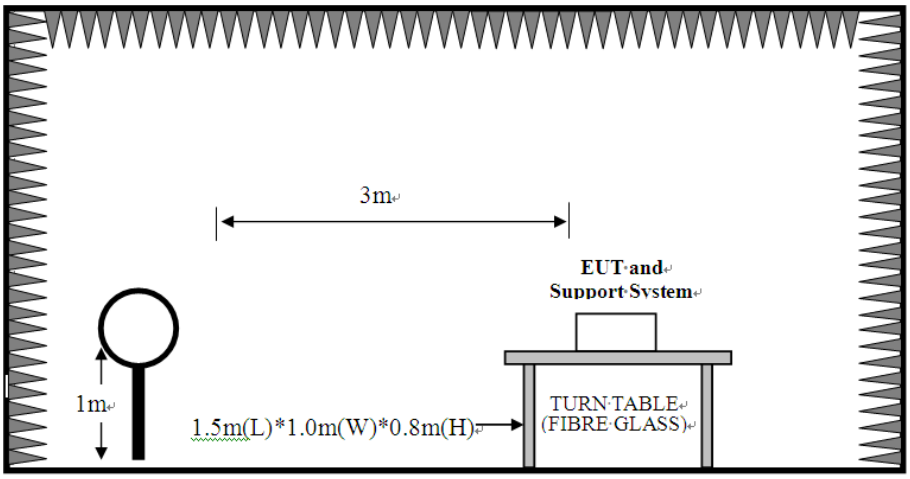
4.1.2 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

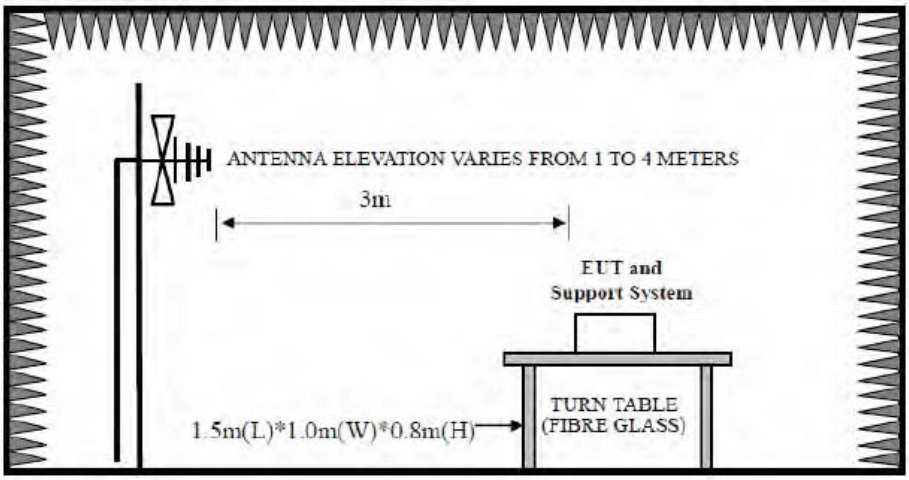
All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

4.2. Block Diagram of Test setup

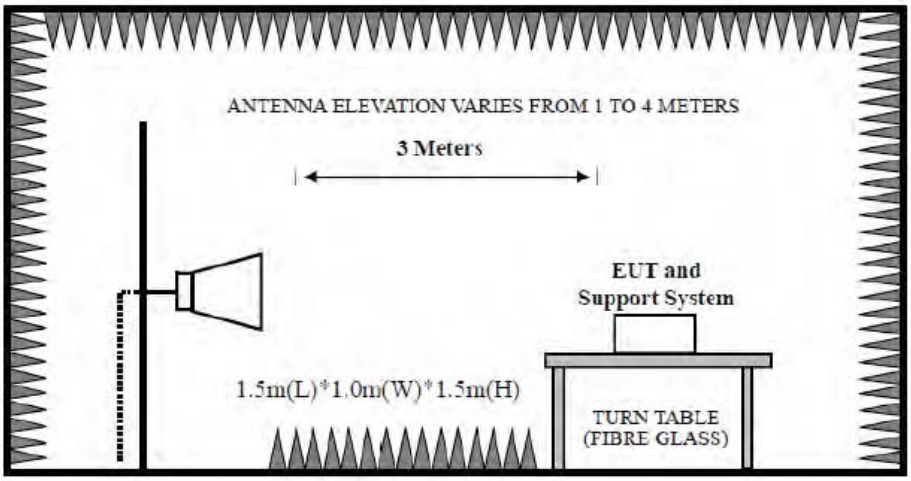
9kHz~30MHz



30~1000MHz



Above 1GHz



4.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and which is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The test frequency analyzer system was set to Peak Detect (200Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz
PEAK detector, 1MHz/1MHz for PAEK measurement,
PEAK detector, 1MHz/10Hz for Average measurement

4.4. Test Result

PASS.

All the emissions from 9kHz to 1000 MHz were comply with 15.209 limits.

4.5. Test Data

9 kHz – 30 MHz

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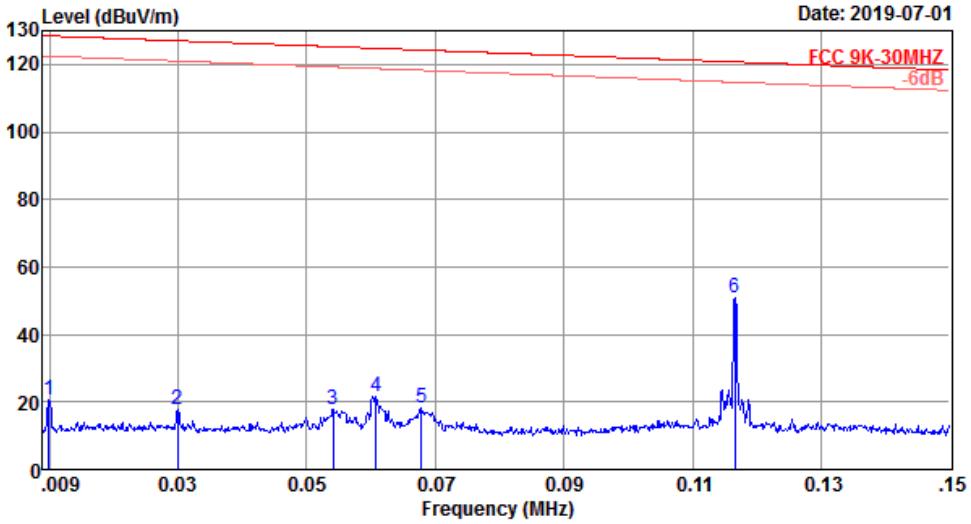
Data: 7 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : site Data no. : 7
Dis. / Ant. : 3m FMZB 1519B-H-FIELD Ant. pol. : HORIZONTAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.01	3.15	0.10	17.44	20.69	128.45	107.76	Peak
2	0.03	2.92	0.10	14.54	17.56	127.00	109.44	Peak
3	0.05	2.79	0.10	15.04	17.93	125.26	107.33	Peak
4	0.06	2.79	0.10	18.71	21.60	124.78	103.18	Peak
5	0.07	2.79	0.10	15.22	18.11	124.28	106.17	Peak
6	0.12	2.75	0.10	48.16	51.01	120.75	69.74	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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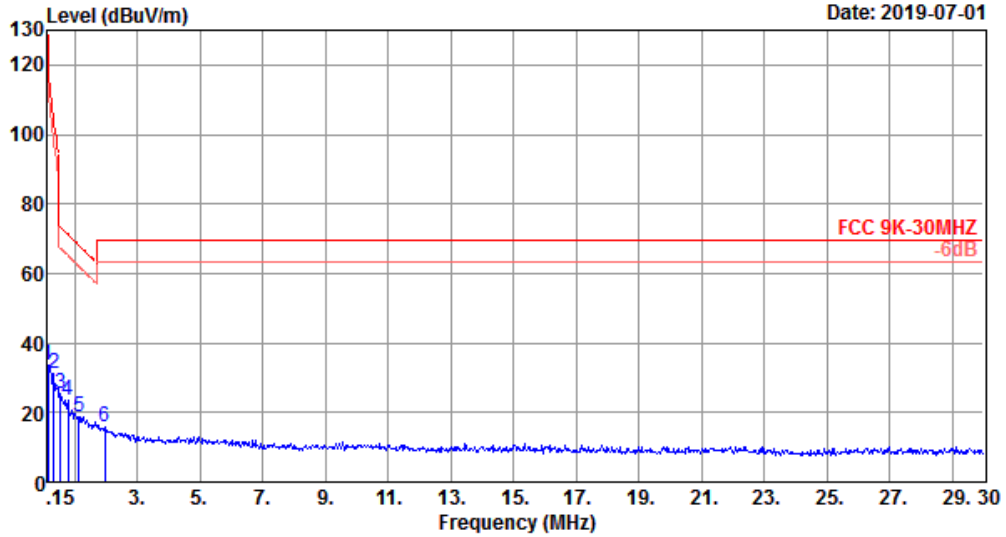
Data: 8 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : 1# 966 Chamber Data no. : 8
Dis. / Ant. : 3m FMZB 1519B-H-FIELD Ant. pol. : HORIZONTAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.15	2.76	0.10	30.67	33.53	118.34	84.81	Peak
2	0.36	2.58	0.10	28.69	31.37	103.26	71.89	Peak
3	0.57	2.56	0.10	22.66	25.32	73.11	47.79	Peak
4	0.81	2.53	0.10	20.85	23.48	70.98	47.50	Peak
5	1.14	2.51	0.10	16.21	18.82	68.05	49.23	Peak
6	1.97	2.49	0.11	13.02	15.62	69.54	53.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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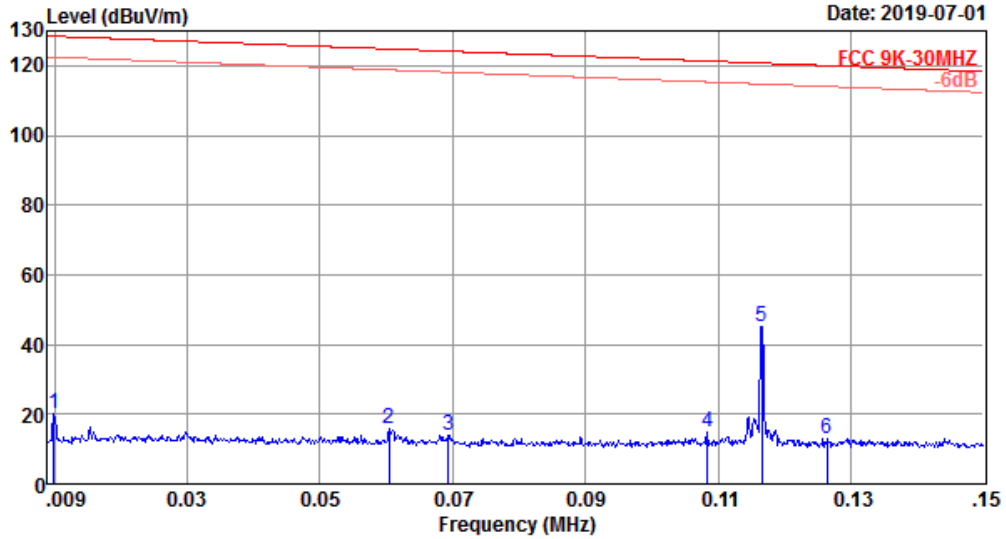
Data: 9 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : 1# 966 Chamber Data no. : 9
Dis. / Ant. : 3m FMZB 1519B-H-FIELD Ant. pol. : VERTICAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.01	3.15	0.10	17.06	20.31	128.45	108.14	Peak
2	0.06	2.79	0.10	13.08	15.97	124.81	108.84	Peak
3	0.07	2.79	0.10	10.90	13.79	124.16	110.37	Peak
4	0.11	2.74	0.10	12.05	14.89	121.34	106.45	Peak
5	0.12	2.75	0.10	42.25	45.10	120.75	75.65	Peak
6	0.13	2.75	0.10	10.17	13.02	120.04	107.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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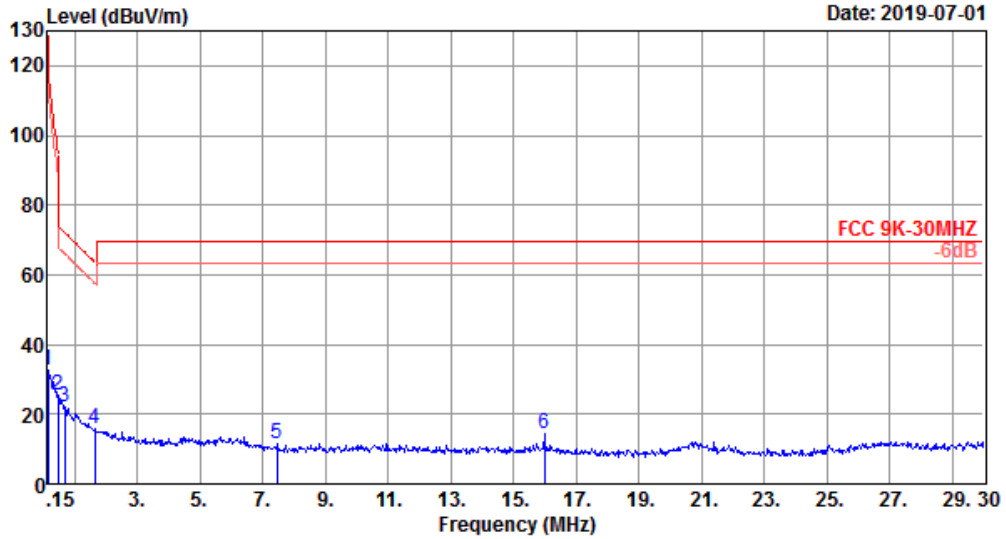
Data: 10 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : 1# 966 Chamber Data no. : 10
Dis. / Ant. : 3m FMZB 1519B-H-FIELD Ant. pol. : VERTICAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.15	2.76	0.10	29.83	32.69	118.34	85.65	Peak
2	0.48	2.58	0.10	22.53	25.21	94.64	69.43	Peak
3	0.69	2.56	0.10	19.25	21.91	72.04	50.13	Peak
4	1.64	2.49	0.11	13.08	15.68	63.53	47.85	Peak
5	7.46	2.50	0.12	8.76	11.38	69.54	58.16	Peak
6	16.00	2.50	0.15	11.83	14.48	69.54	55.06	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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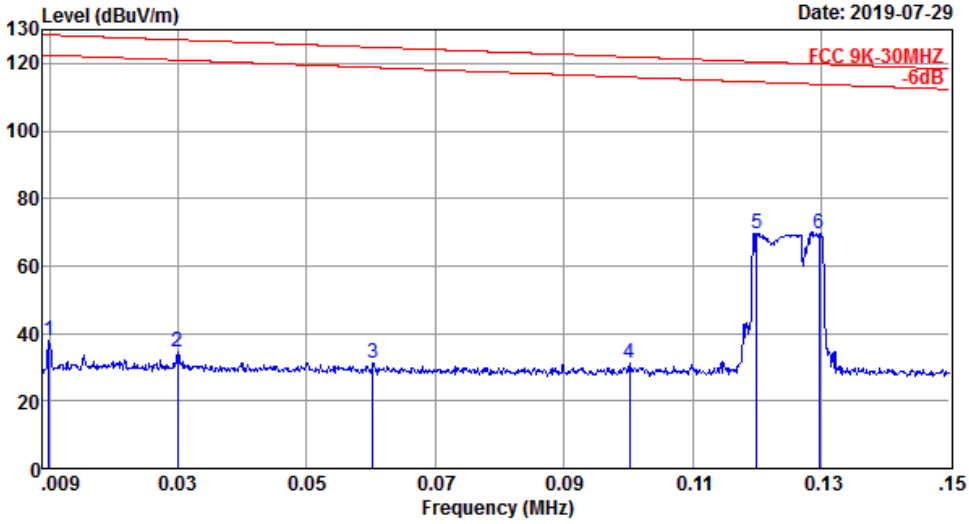
Data: 39 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (42)



Site no. : 1# 966 Chamber Data no. : 39
Dis. / Ant. : 3m FMZB 1519B Ant. pol. : VERTICAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.01	20.65	0.10	17.11	37.86	128.45	90.59	Peak
2	0.03	20.42	0.10	13.79	34.31	127.00	92.69	Peak
3	0.06	20.29	0.10	10.73	31.12	124.82	93.70	Peak
4	0.10	20.24	0.10	10.91	31.25	121.93	90.68	Peak
5	0.12	20.25	0.10	49.36	69.71	120.51	50.80	Peak
6	0.13	20.25	0.10	49.42	69.77	119.81	50.04	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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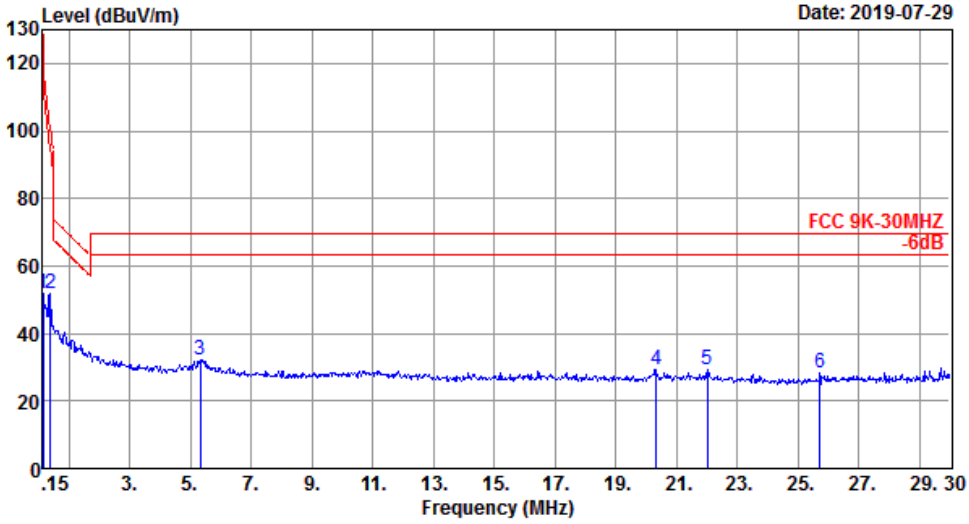
Data: 40 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (42)



Site no. : 1# 966 Chamber Data no. : 40
Dis. / Ant. : 3m FMZB 1519B Ant. pol. : VERTICAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.15	20.26	0.10	31.53	51.89	118.34	66.45	Peak
2	0.39	20.08	0.10	31.51	51.69	101.10	49.41	Peak
3	5.34	20.03	0.12	12.23	32.38	69.54	37.16	Peak
4	20.33	20.08	0.17	9.12	29.37	69.54	40.17	Peak
5	22.03	20.16	0.17	8.73	29.06	69.54	40.48	Peak
6	25.73	20.34	0.19	7.77	28.30	69.54	41.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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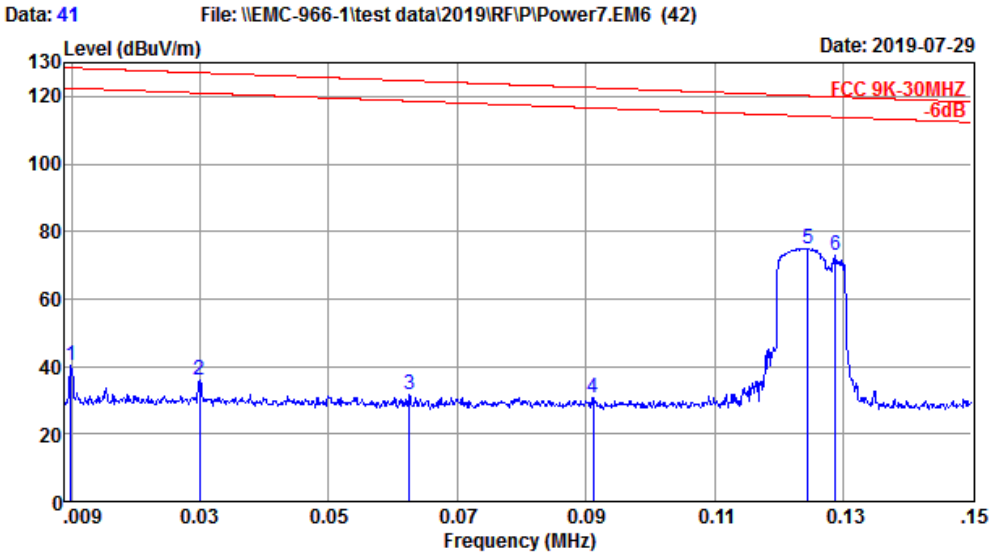

Site no. : 1# 966 Chamber Data no. : 41
Dis. / Ant. : 3m FMZB 1519B Ant. pol. : HORIZONTAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.01	20.65	0.10	19.55	40.30	128.45	88.15	Peak
2	0.03	20.42	0.10	15.52	36.04	127.00	90.96	Peak
3	0.06	20.29	0.10	11.45	31.84	124.65	92.81	Peak
4	0.09	20.24	0.10	10.50	30.84	122.59	91.75	Peak
5	0.12	20.25	0.10	54.63	74.98	120.18	45.20	Peak
6	0.13	20.25	0.10	52.73	73.08	119.87	46.79	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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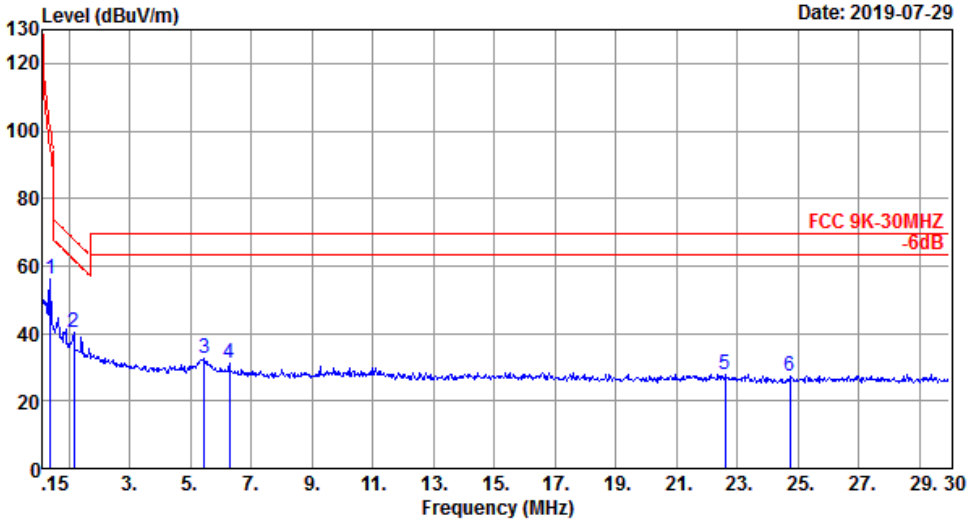
Data: 42 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (42)



Site no. : 1# 966 Chamber Data no. : 42
Dis. / Ant. : 3m FMZB 1519B Ant. pol. : HORIZONTAL
Limit : FCC 9K-30MHZ
Env. / Ins. : Temp:20.5';Humi:59%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.39	20.08	0.10	35.71	55.89	101.10	45.21	Peak
2	1.16	20.01	0.10	20.25	40.36	67.78	27.42	Peak
3	5.46	20.02	0.12	12.54	32.68	69.54	36.86	Peak
4	6.30	20.00	0.12	11.00	31.12	69.54	38.42	Peak
5	22.60	20.18	0.18	7.45	27.81	69.54	41.73	Peak
6	24.75	20.28	0.18	7.01	27.47	69.54	42.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

30-1000 MHz

EST Technology

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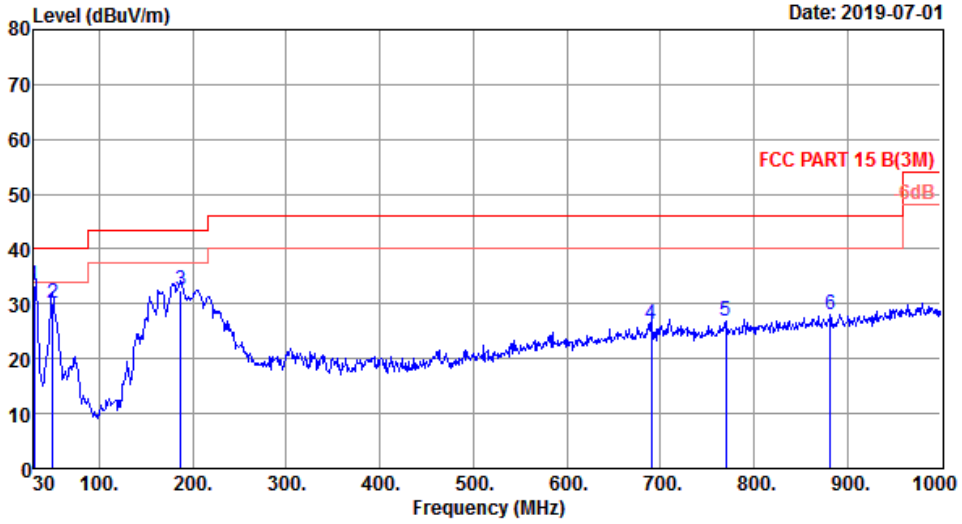
Data: 1 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : 1# 966 Chamber Data no. : 1
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.1';Humi:58%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.50	0.14	14.82	33.46	40.00	6.54	QP
2	50.37	8.10	0.30	21.80	30.20	40.00	9.80	QP
3	187.14	9.14	1.25	21.94	32.33	43.50	11.17	QP
4	690.57	21.50	3.20	1.58	26.28	46.00	19.72	QP
5	770.11	22.60	3.54	0.59	26.73	46.00	19.27	QP
6	881.66	23.52	3.88	0.58	27.98	46.00	18.02	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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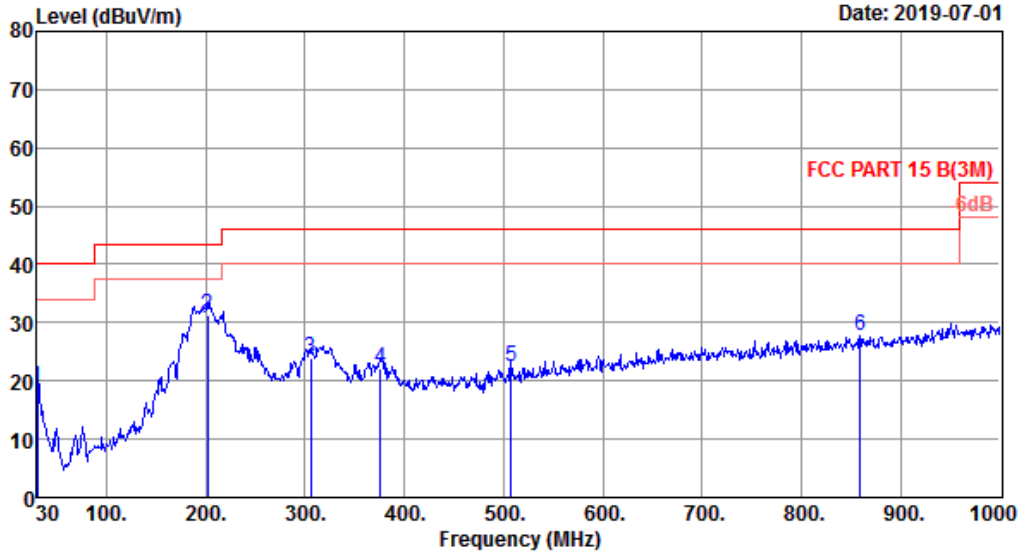
Data: 2 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (26)



Site no. : site Data no. : 2
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.1';Humi:58%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 5V From Adapter Input AC 120V/60Hz
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.00	18.50	0.14	0.17	18.81	40.00	21.19	QP
2	201.69	8.34	1.28	21.64	31.26	43.50	12.24	QP
3	305.48	13.75	1.86	8.17	23.78	46.00	22.22	QP
4	376.29	15.72	2.18	4.13	22.03	46.00	23.97	QP
5	507.24	18.34	2.69	1.47	22.50	46.00	23.50	QP
6	859.35	23.39	3.76	0.70	27.85	46.00	18.15	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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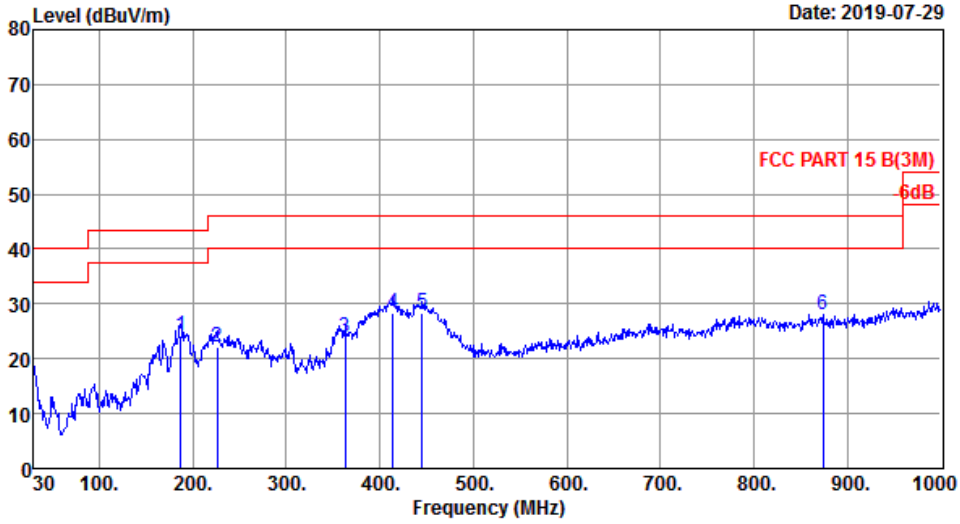
Data: 27 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (42)



Site no. : 1# 966 Chamber Data no. : 27
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.1';Humi:58%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	187.14	9.08	1.25	14.01	24.34	43.50	19.16	QP
2	225.94	10.30	1.47	10.47	22.24	46.00	23.76	QP
3	362.71	15.25	2.16	6.49	23.90	46.00	22.10	QP
4	414.12	16.52	2.15	9.59	28.26	46.00	17.74	QP
5	445.16	17.10	2.50	8.83	28.43	46.00	17.57	QP
6	873.90	23.86	3.85	0.34	28.05	46.00	17.95	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

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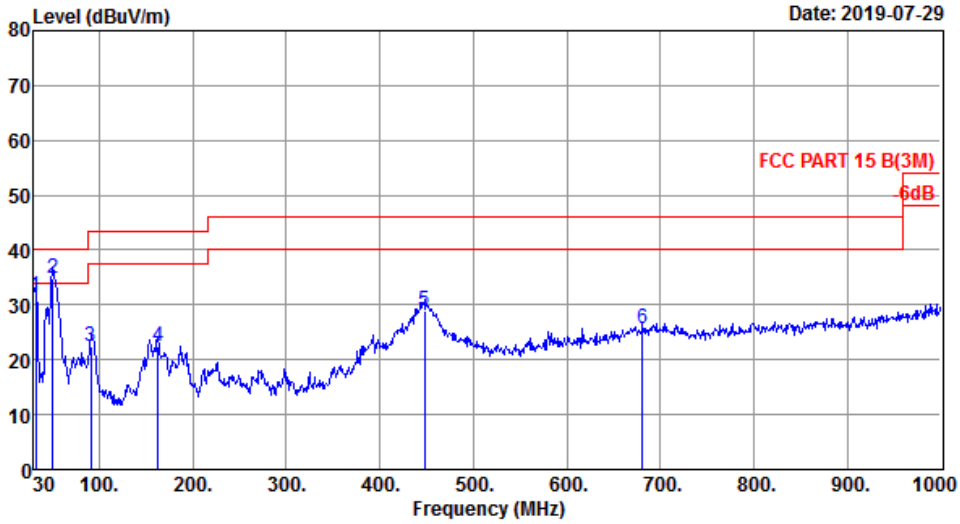
Data: 28 File: \\EMC-966-1\test data\2019\RF\P\Power7.EM6 (42)



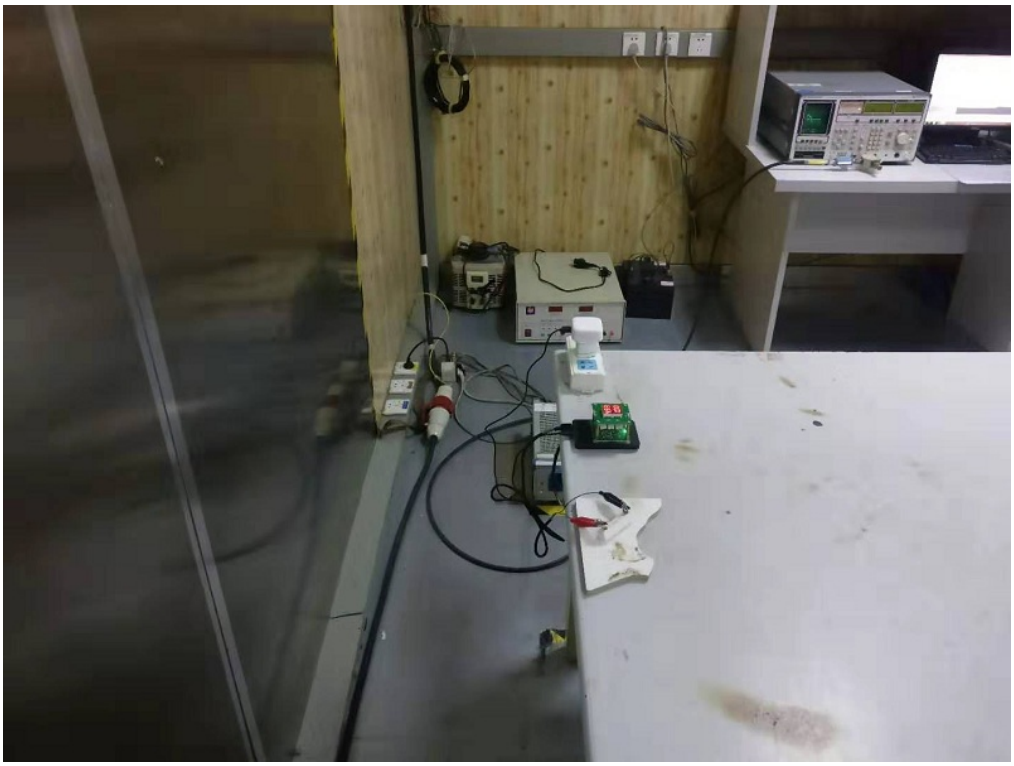
Site no. : 1# 966 Chamber Data no. : 28
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : FCC PART 15 B(3M)
Env. / Ins. : Temp:23.1';Humi:58%;Press:101.52kPa
Engineer : ZERO
EUT : EMS Recharge
Power : DC 3.7V From Battery
M/N : C00220
Test Mode : TX Mode

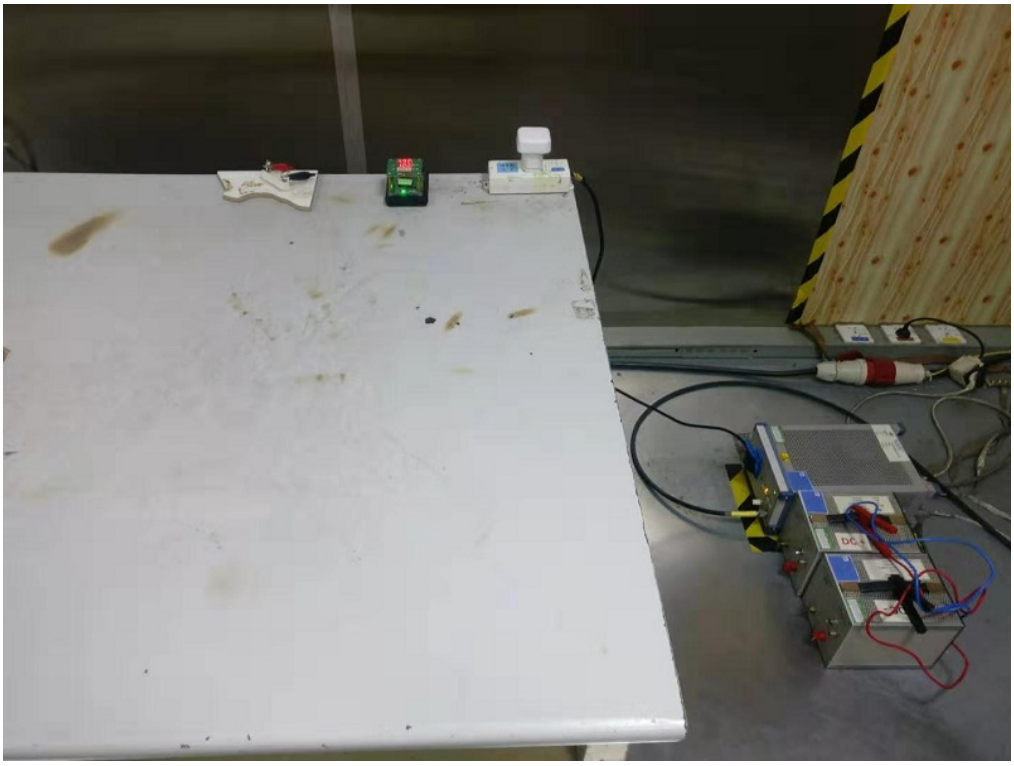
	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.94	16.80	0.15	14.59	31.54	40.00	8.46	QP
2	50.37	8.30	0.30	26.24	34.84	40.00	5.16	QP
3	91.11	9.34	0.80	12.23	22.37	43.50	21.13	QP
4	162.89	10.82	1.16	10.33	22.31	43.50	21.19	QP
5	448.07	17.22	2.54	9.09	28.85	46.00	17.15	QP
6	680.87	21.69	3.22	0.78	25.69	46.00	20.31	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

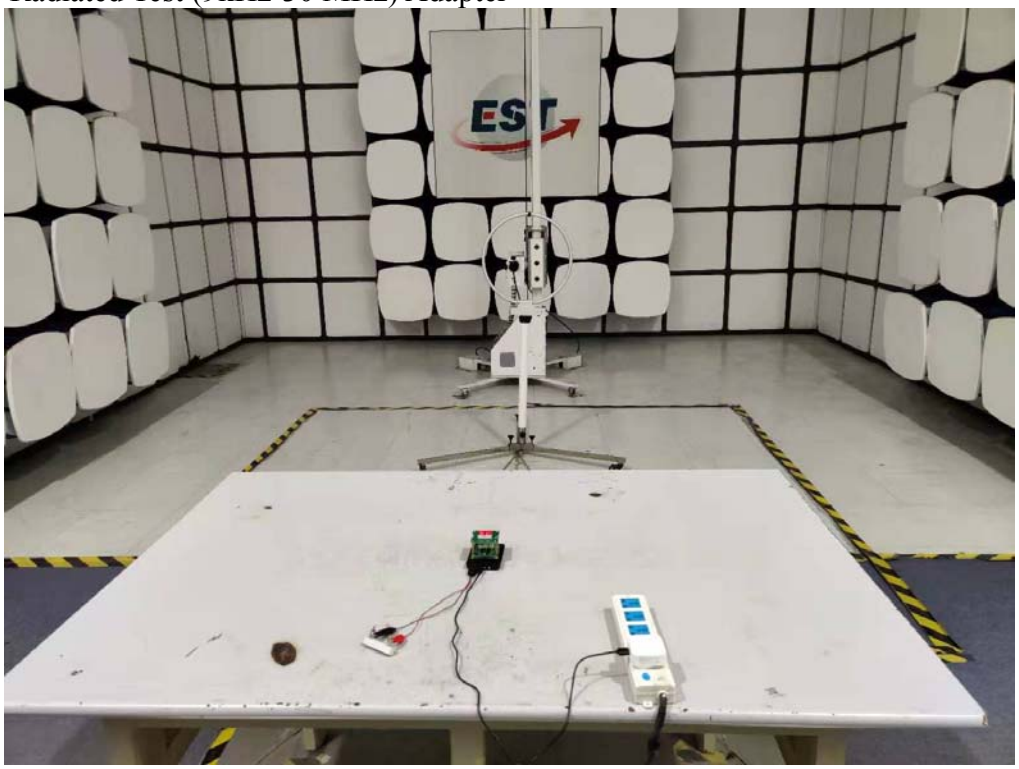
5 TEST SETUP PHOTO

Conducted Test

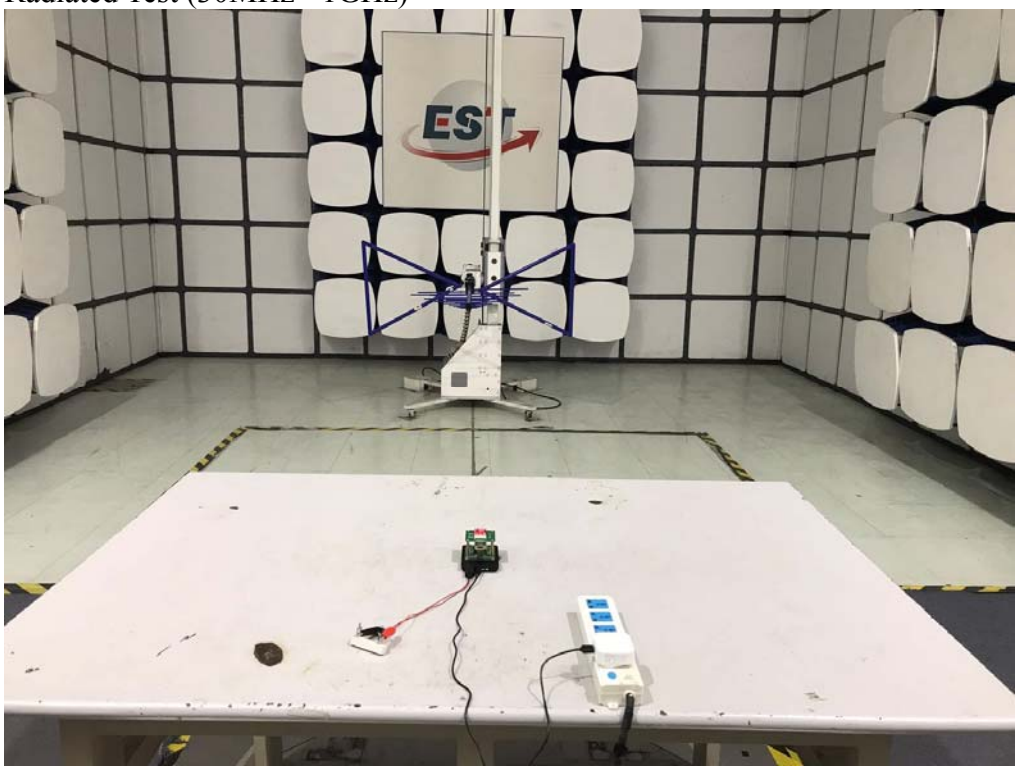




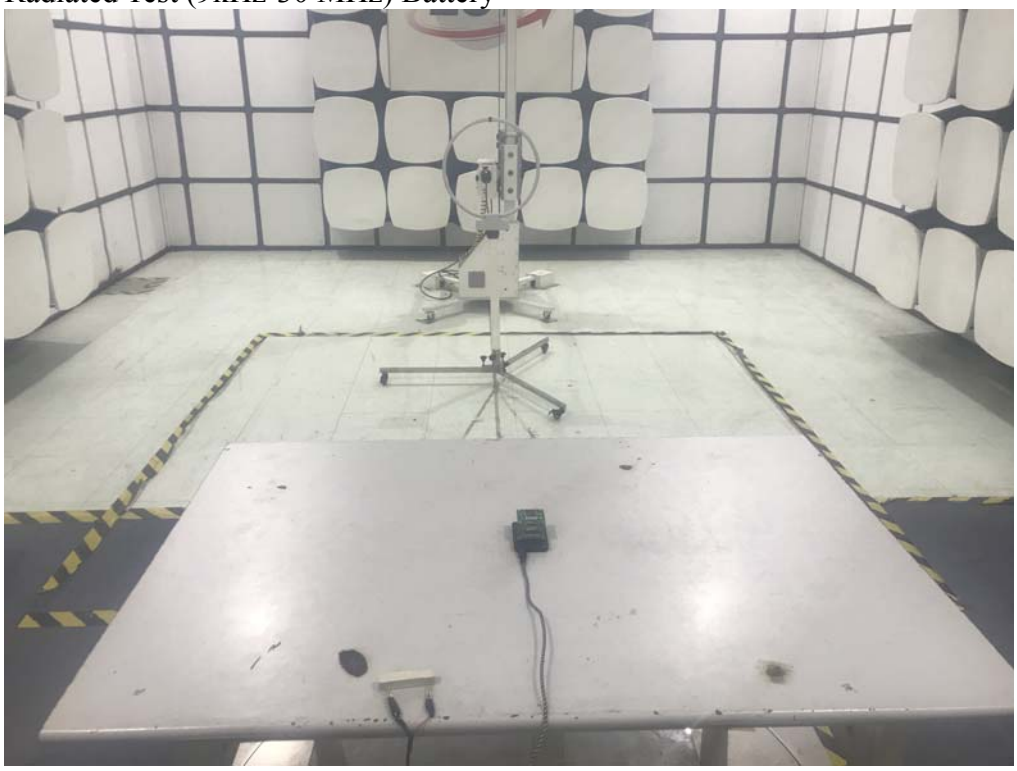
Radiated Test (9kHz-30 MHz) Adapter



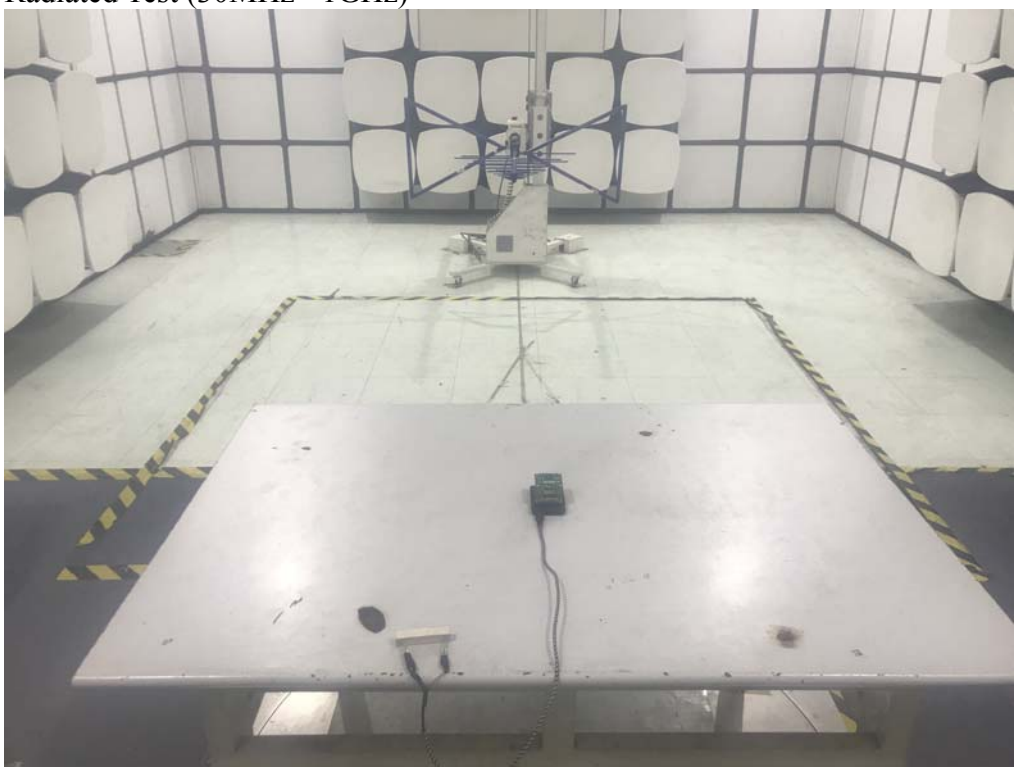
Radiated Test (30MHz - 1GHz)



Radiated Test (9kHz-30 MHz) Battery



Radiated Test (30MHz - 1GHz)



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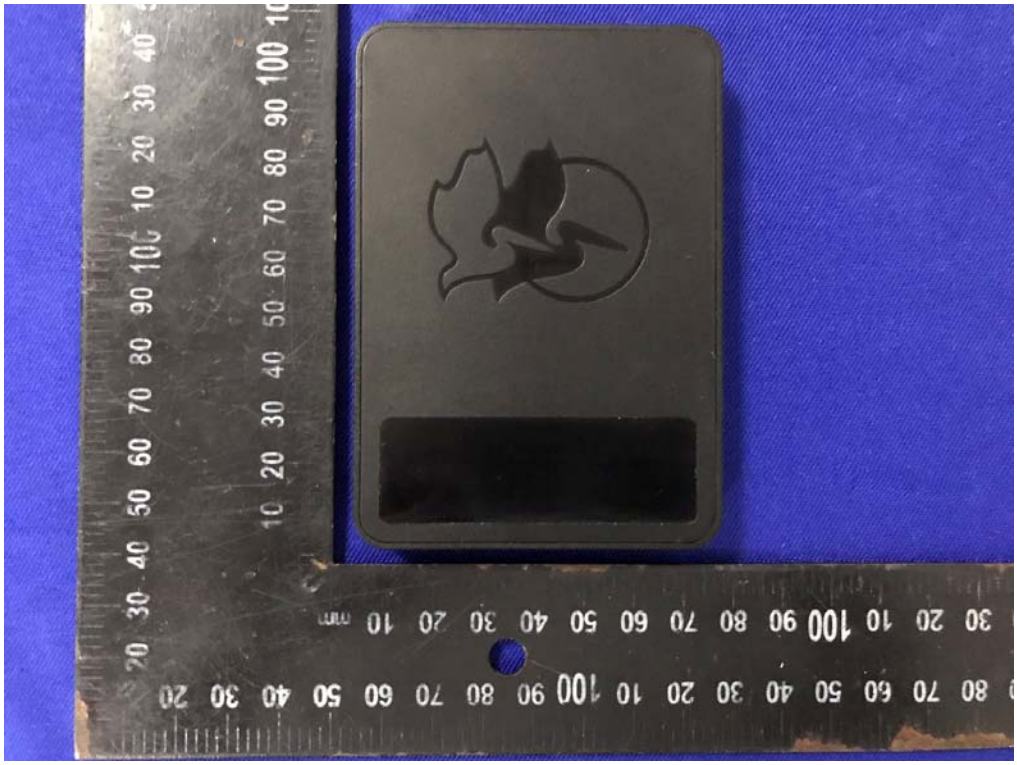
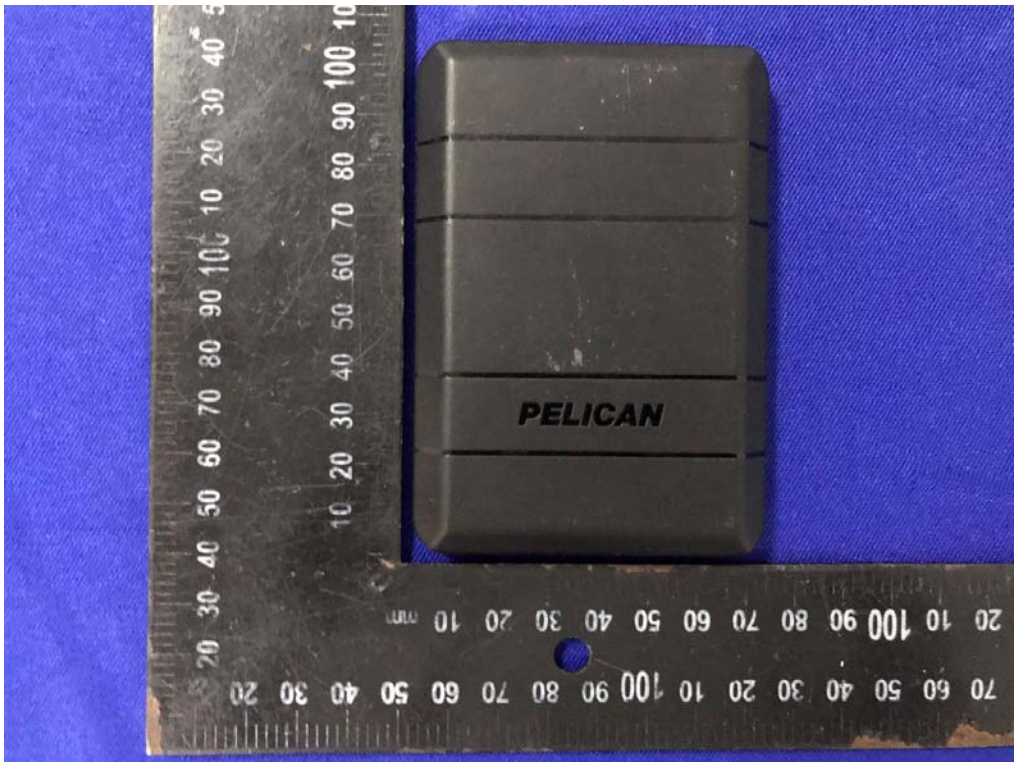
External Photos

M/N: C00220





External Photos

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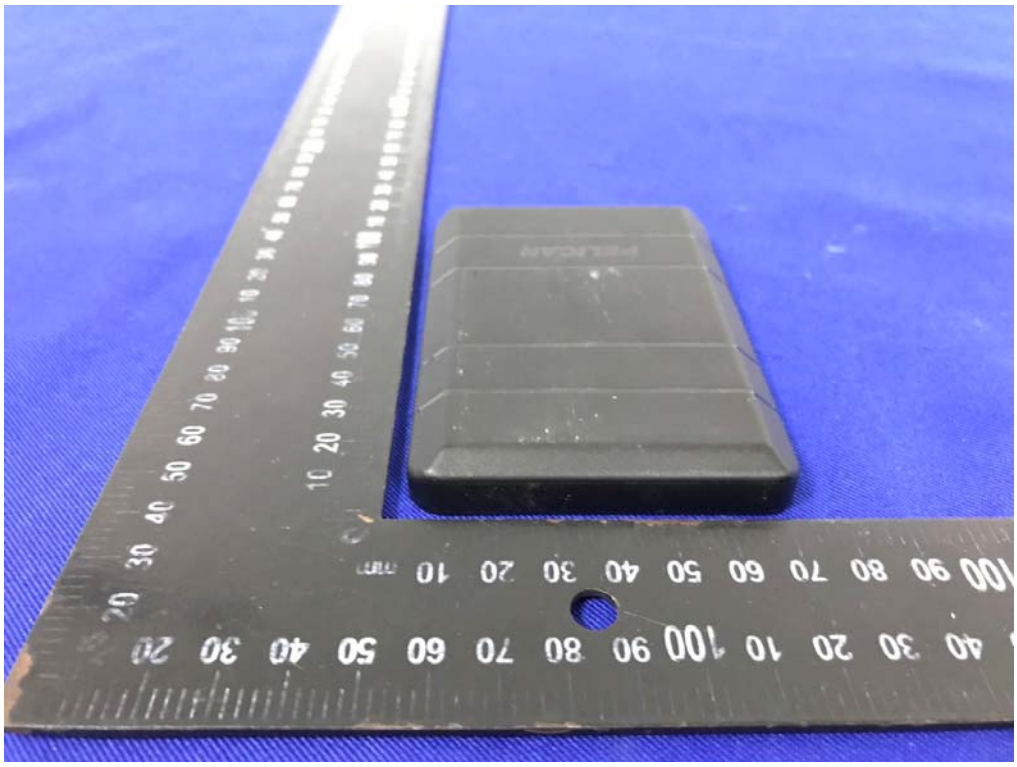

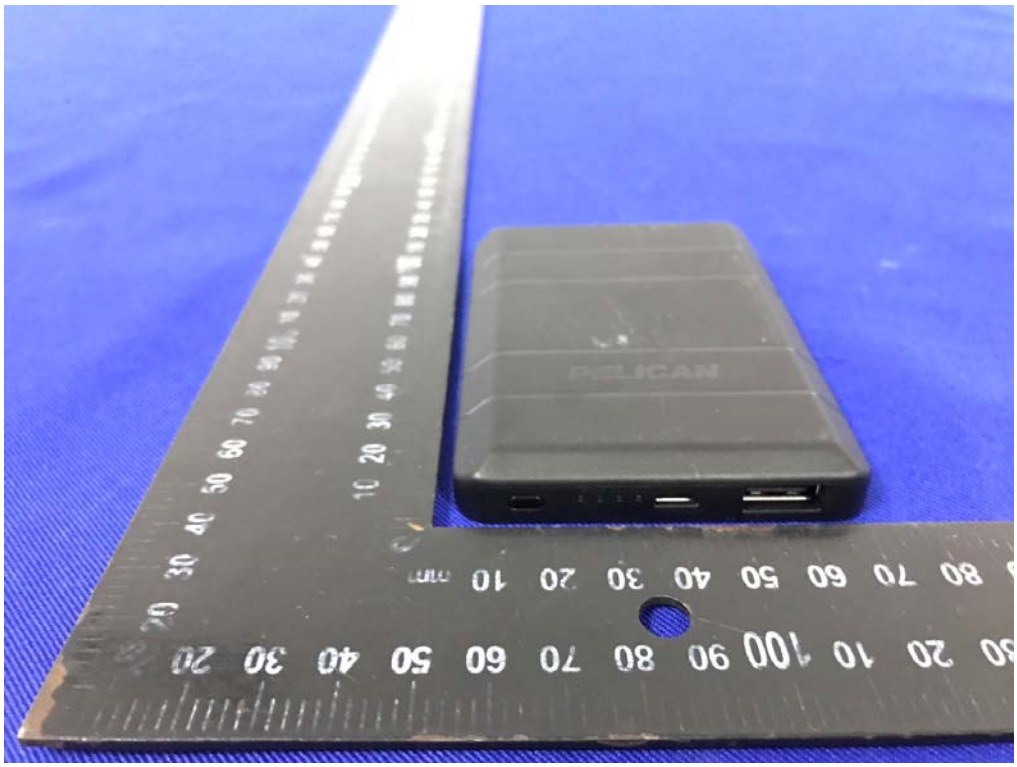

External Photos

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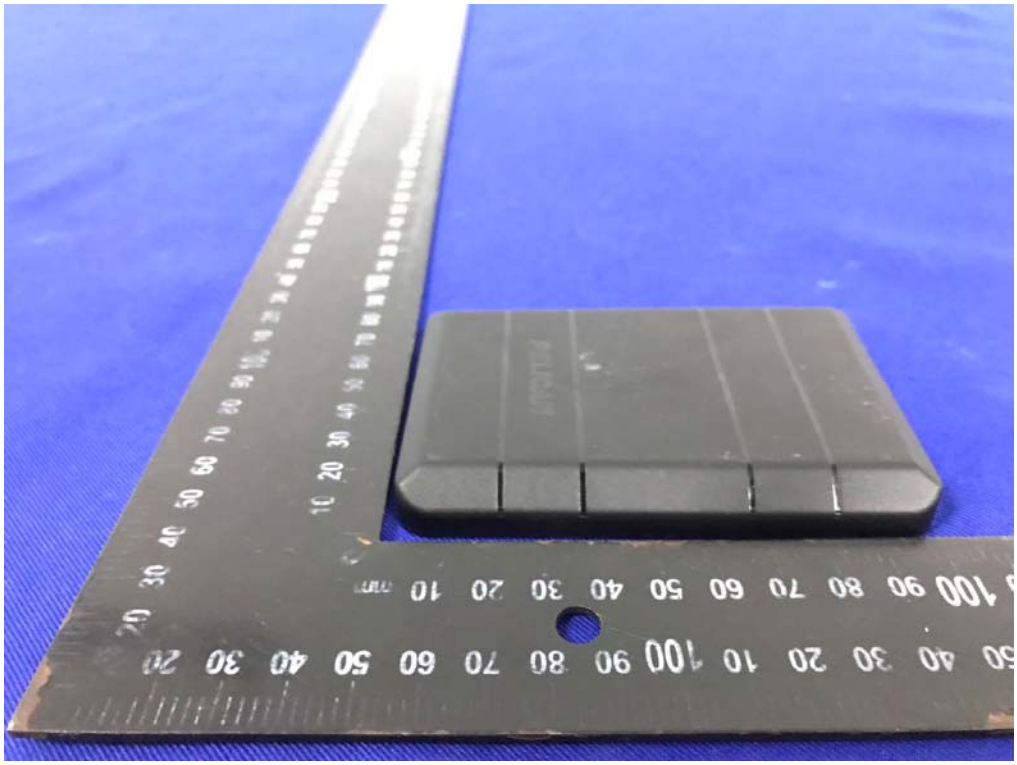
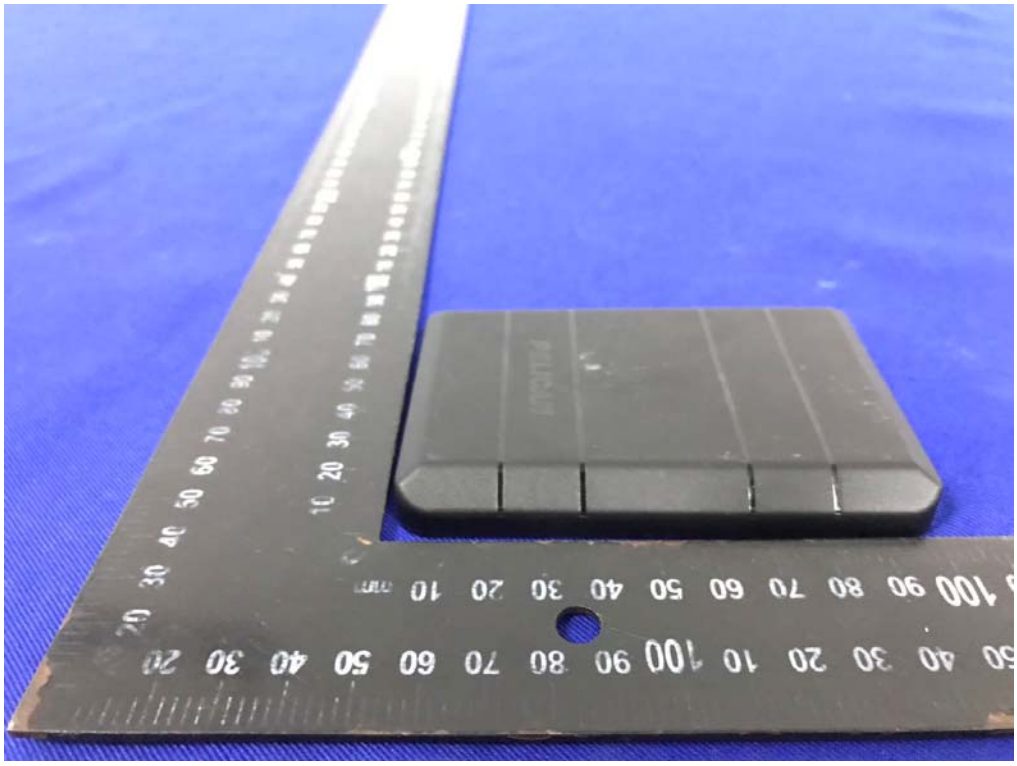
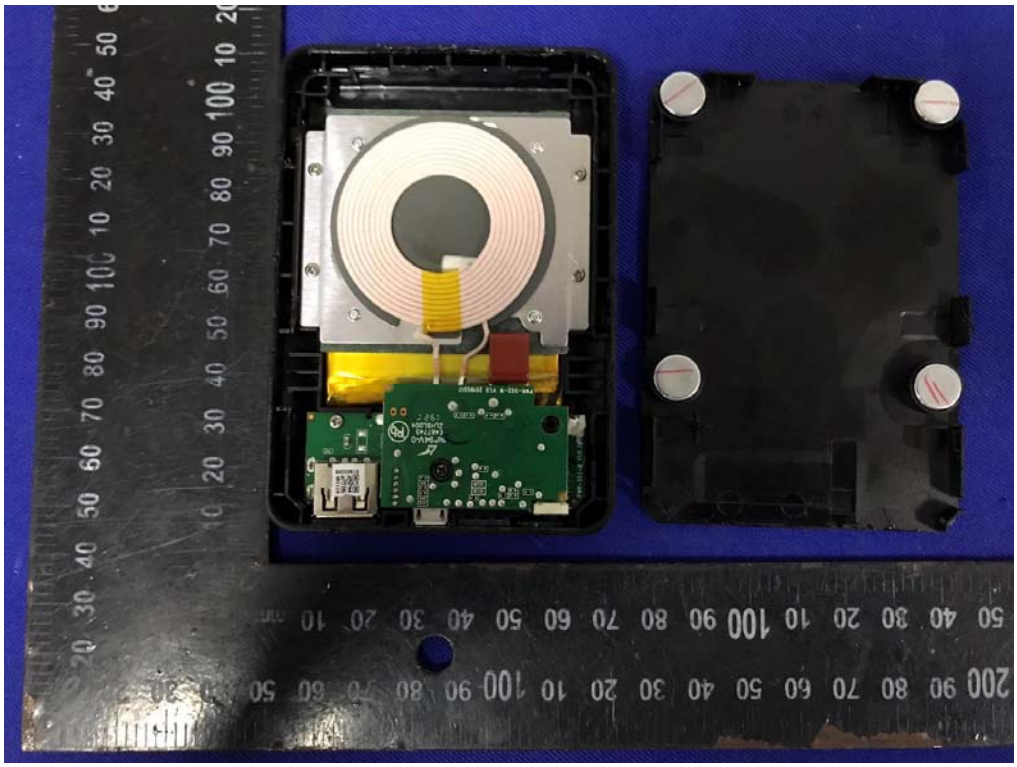
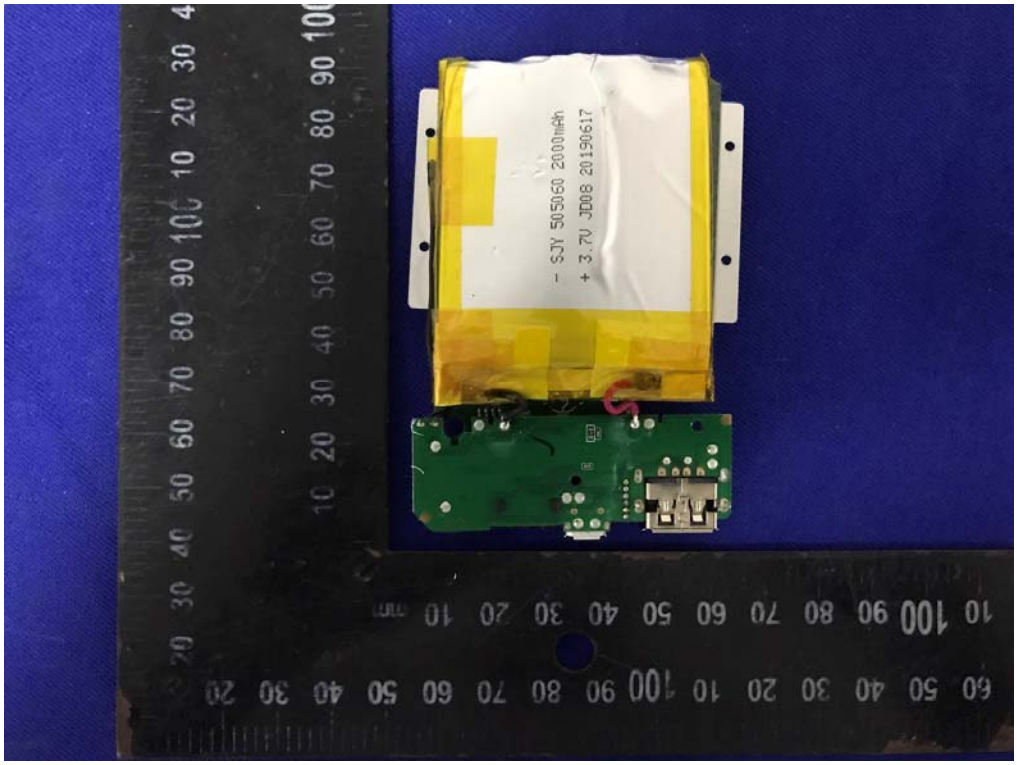




Internal Photos

M/N: C00220





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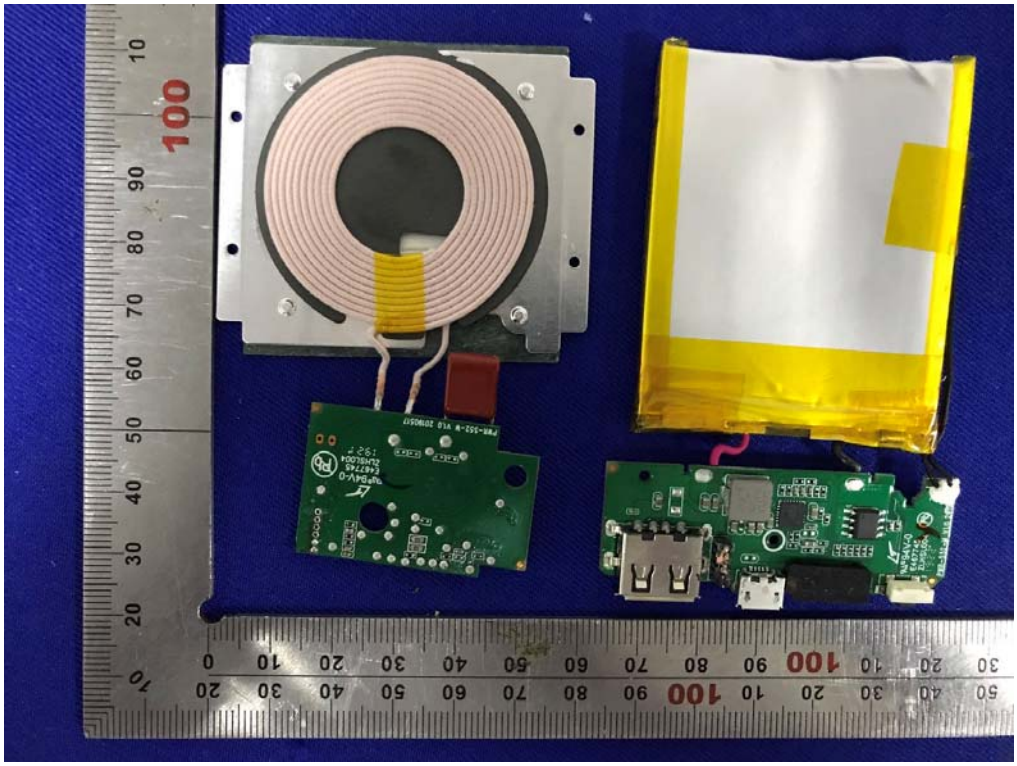

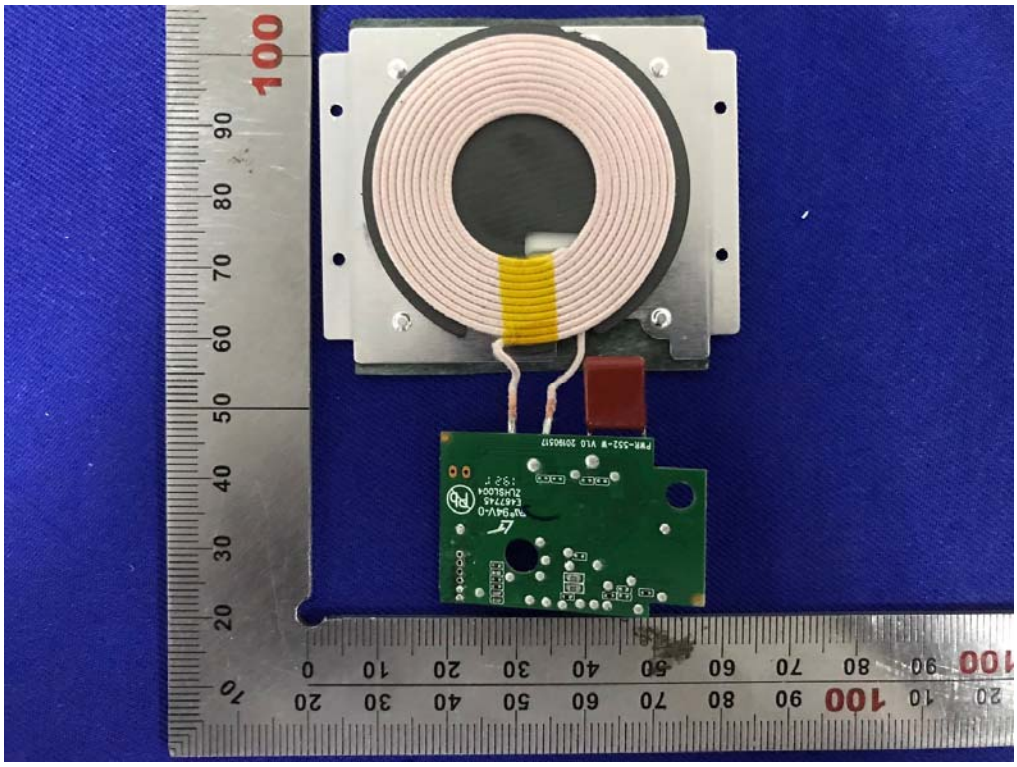

Internal Photos

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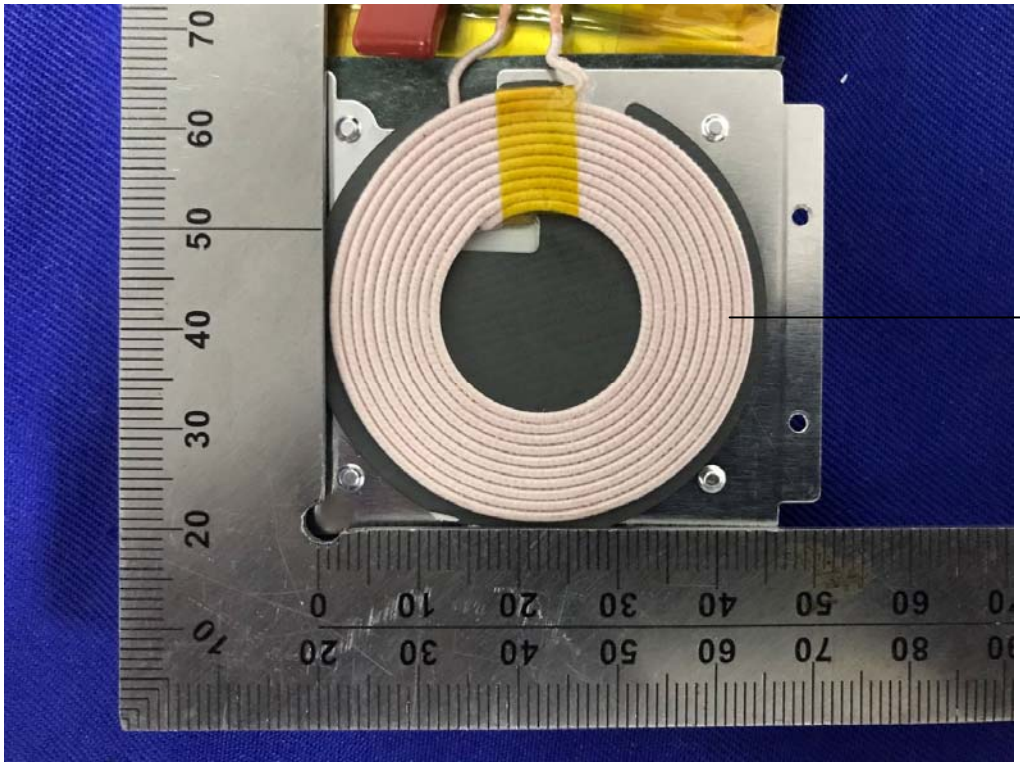

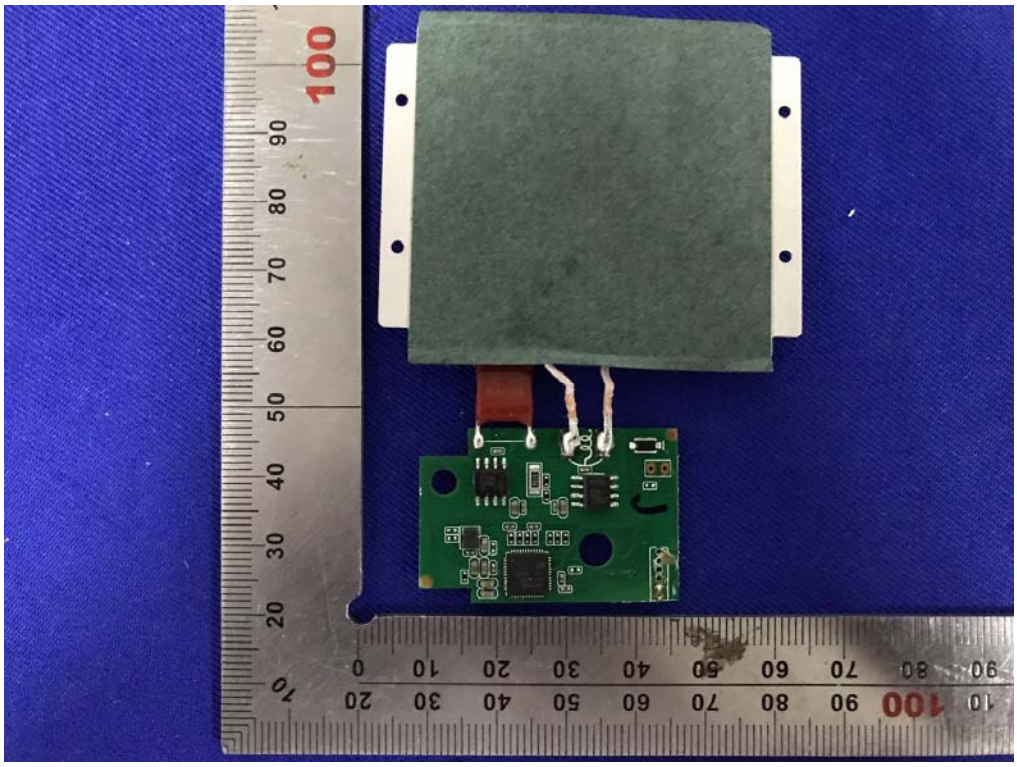

Internal Photos

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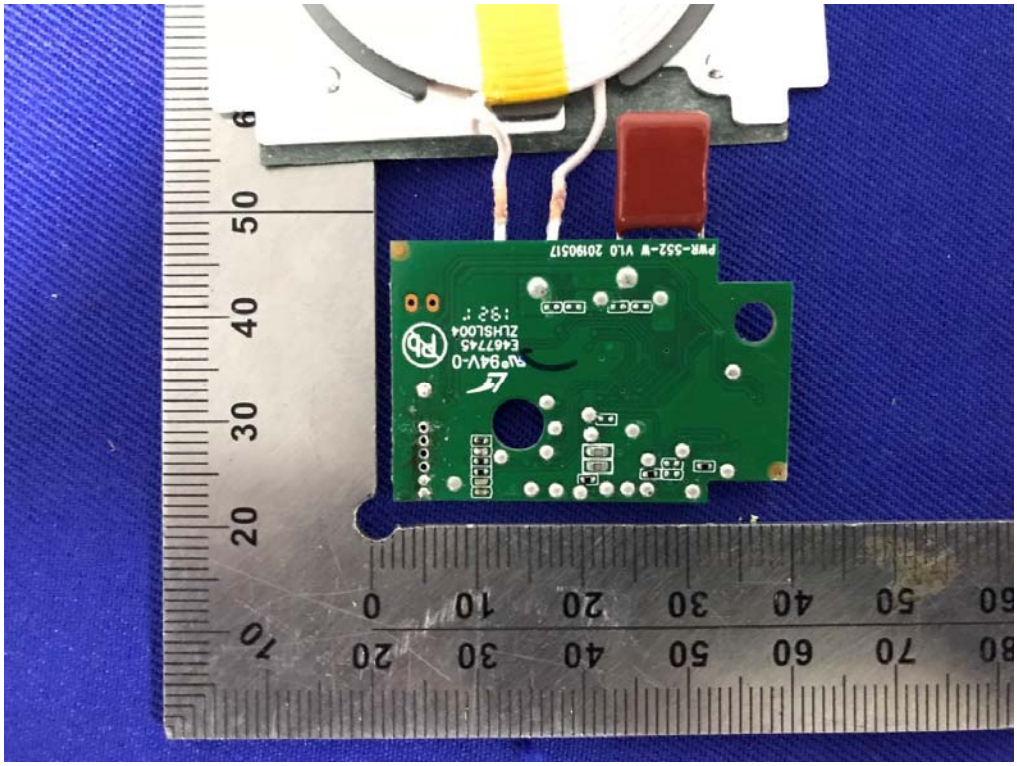
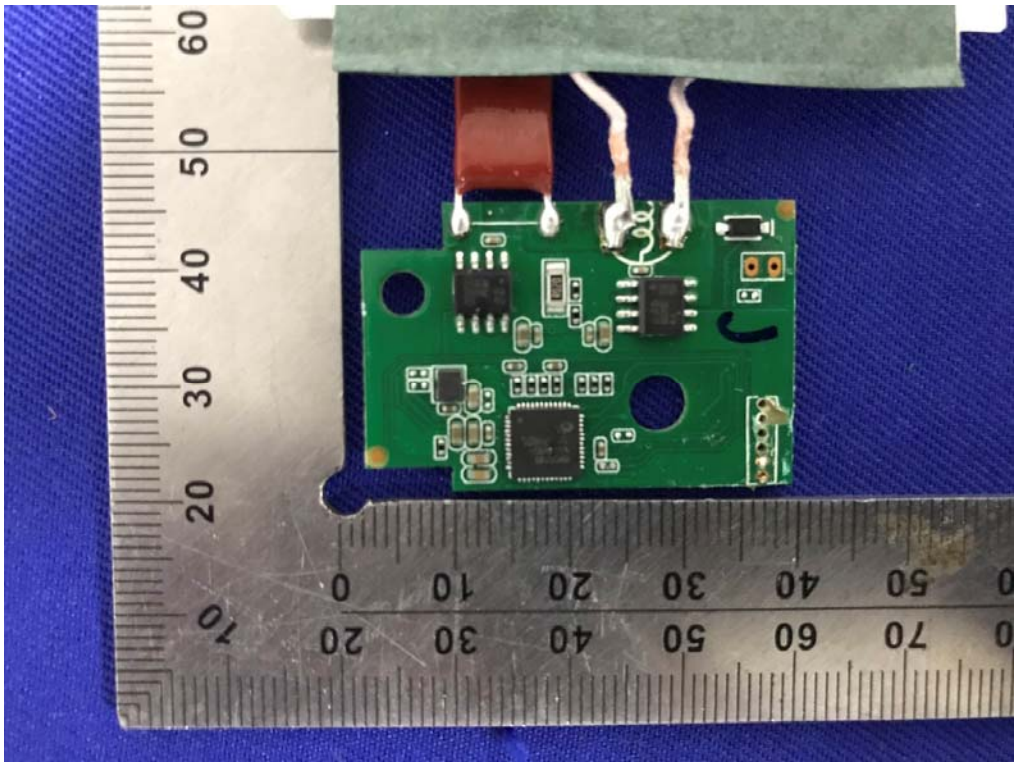
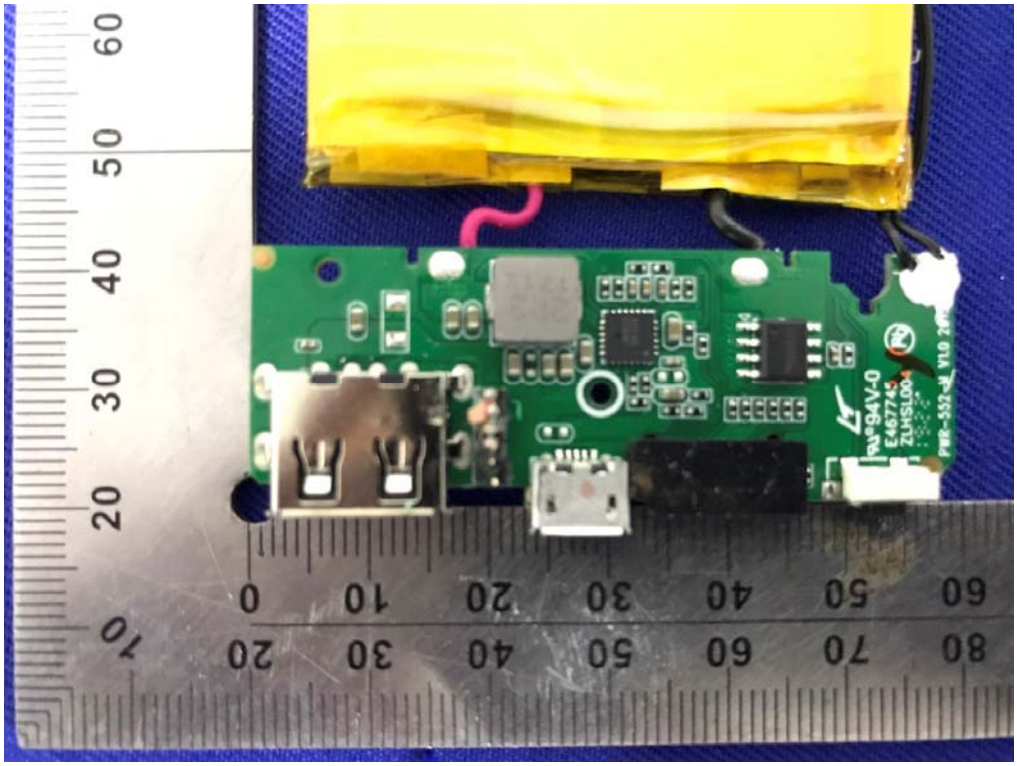
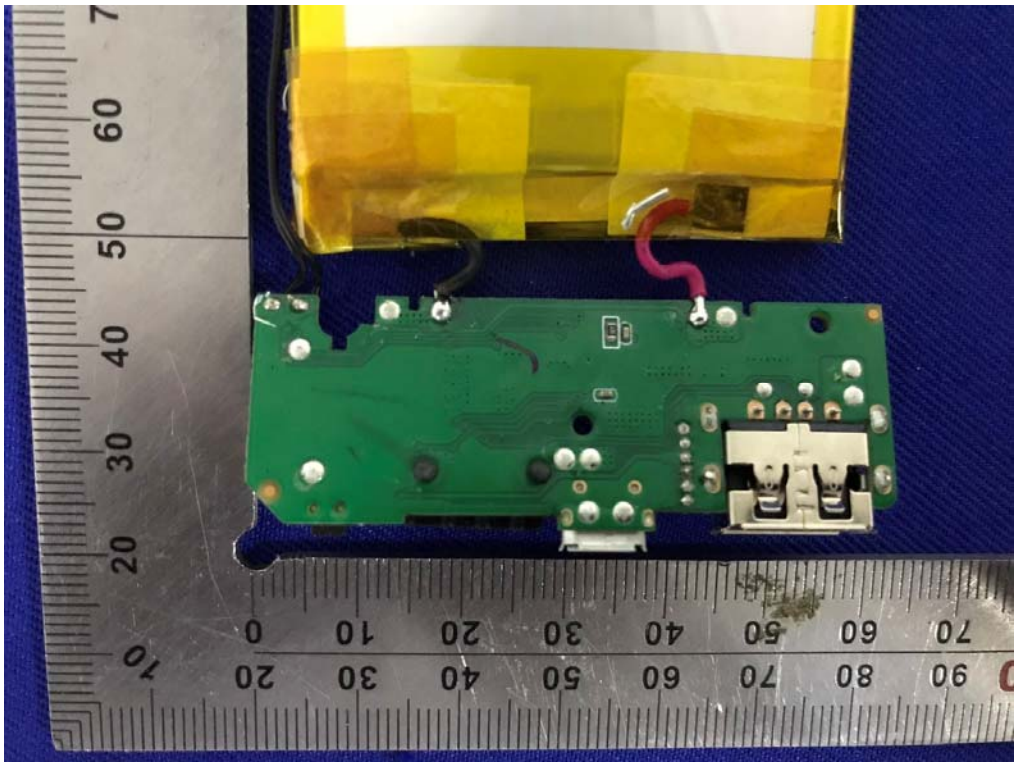




Internal Photos

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