Test Report

Product: 27000mAh solar power bank

Trade Mark: DEXNOR

Model Number: DEX-DC001

FCC ID: 2BA3T-DEX-DC001

Prepared for

Shenzhen Houlici Network Technology CO., Ltd

2606, West Tower, Galaxy Twin Towers, Yaxing Road 8, Nankeng Community, Bantian Street, Longgang District, Shenzhen

Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name	:	Shenzhen Houlici Network Technology CO., Ltd
Address	:	2606, West Tower, Galaxy Twin Towers, Yaxing Road 8, Nankeng Community, Bantian Street, Longgang District, Shenzhen
Manufacturer's Name	:	Shenzhen Houlici Network Technology CO., Ltd
Address	:	2606, West Tower, Galaxy Twin Towers, Yaxing Road 8, Nankeng Community, Bantian Street, Longgang District, Shenzhen

Product description

Product name	:	27000mAh solar power bank
Model Number	:	DEX-DC001
Standards	:	FCC Part 15C
Test procedure	:	IEEE/ANSI C63.10-2020

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.

Date of Test	:	
Date (s) of performance of tests	:	Mar. 17, 2025~ Mar. 26, 2025
Test Result	:	**Pass**

Testing Engineer : Zoe Su

(Z o e S u)

Technical Manager : Gary Lu

(G a r y L u)

Authorized Signatory : Leo Su

(L e o S u)

Revision History

Revised No.	Date of Issue	Description
01	Mar. 27, 2025	Original

1 General Description

1.1 Description of EUT

Product name:	27000mAh solar power bank
Model name:	DEX-DC001
Series Model:	N/A
Different of series model:	N/A
Operation frequency:	115kHz-205kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Hardware version:	V1.1
Software version:	V1.0
Battery:	Capacity: 22.2V 4500mAh/ 99.9Wh Li-ion Battery Cells Inside: 4500mAh*6pcs 3.7V Rated Capacity: 16200mAh (5V/1A)
Power supply:	Capacity: 22.2V 4500mAh/ 99.9Wh Li-ion Battery Cells Inside: 4500mAh*6pcs 3.7V Rated Capacity: 16200mAh (5V/1A) Type-C1 Input: 5V⎓3A, 9V⎓3A, 12V⎓3A, 15V⎓3A, 20V⎓2.25A (45W Max) Micro-B Input: 5V⎓2A (10W Max) Solar Panel Input: 5V⎓0.42A (2.1W Max) Type C1 Output: 5V⎓3A, 9V⎓3A, 12V⎓3A, 15V⎓3A, 20V⎓3.25A (65W Max) PPS: 3.3-11V⎓3A, 3.3-21V⎓3A Type-C2 Output: 5V⎓3A, 9V⎓2.22A (20W Max) PPS: 3.3-11V⎓2A (22W Max) USB-A Output: 5V⎓3A, 9V⎓2A, 12V⎓1.5A (18W Max) Wireless Output: 5W/7.5W/10W/15W A1+C2 Output: 15W C1+A1/C2 Output:45W+18W/20W A1/C2+Wireless Charging Output: 18W/20W+15W C1+Wireless Charging Output: 45W+15W (A1+C2)+Wireless Charging Output: 15W+15W C1+(A1+C2)+Wireless Charging Output: 30W+15W+15W
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	AC/DC Adapter + Wireless Output: 5W
2	AC/DC Adapter + Wireless Output: 7.5W
3	AC/DC Adapter + Wireless Output: 10W
4	AC/DC Adapter + Wireless Output: 15W
5	Battery + Wireless Output: 5W
6	Battery + Wireless Output: 7.5W
7	Battery + Wireless Output: 10W
8	Battery + Wireless Output: 15W

Test Item	Final Test Mode
Conducted Emissions	4
Radiated Emissions	4/8
20dB bandwidth	8

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Power setting configuration parameters

Test Software Version	N/A		
Frequency	115kHz-205kHz		
Parameters	Default		
RF cable			
Description	Connector	Length	Supplied by
Antenna Cable	SMA	10cm	Applicant

Note: Disclaimer: the loss of RF cable is too small and can be ignored.

1.5 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Adapter	CD289	35810	Ugreen Group Limited
Load	YBZ3.1	/	YBZ

2 Summary of Test Result

Test procedures according to the technical standards:

FCC Part 15C				
No.	Standard Section	Test Item	Result	Remark
1	FCC Part 15.203	Antenna Requirement	Pass	
2	FCC Part 15.207	Conducted Emission	Pass	
3	FCC Part 15.209	Radiated Emission	Pass	
4	FCC Part 15.215	20dB Bandwidth	Pass	

Note:
1. “N/A” means the test case does not apply to the test object.

3 Test Facilities and Accreditations

3.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

3.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15ºC~35ºC
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

3.3 Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.
The data and results quoted in this document are true and accurate values, and uncertainties are not involved in the calculations.
In addition, components and mass production processes that are similar to testing equipment may introduce additional deviations, and the manufacturer is solely responsible for the continued compliance of the equipment.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2x 10^{-5}	
RF power, conducted	± 0.57 dB	
Conducted emission(150kHz~30MHz)	± 2.5 dB	
Radiated emission(9kHz-30MHz)	± 2.5 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Occupied Bandwidth	±3%	
Temperature	±1 degree	
Humidity	± 5 %	

3.4 Test Software

Software name	Manufacturer	Model	Version
Conducted Emission test Software	Farad	EZ-EMC	EMC-CON 3A1.1+
Radiated Emission test Software	Farad	EZ-EMC	FA-03A2
RF Test System	MWRF	MTS 8310	2.0.0.0

4 List of Test Equipment

Radiation emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E001	Horn Antenna	Schwarzbeck	BBHA 9120D	02592	2024-05-18	2026-05-17
2	HB-E002	Biconical log-periodic composite antenna	Schwarzbeck	VULB 9168	01340	2024-05-18	2026-05-17
3	HB-E003	SHF-EHF Horn	Schwarzbeck	BBHA 91270	01193	2024-05-18	2026-05-17
4	HB-E005	Preamplifier	Noyetec	LAN-0118	NYCM1420102	2024-05-17	2025-05-16
5	HB-E006	Preamplifier	Noyetec	LAN-1840	NYCM1420103	2024-05-17	2025-05-16
6	HB-E007	EMI TEST RECEIVER	R&S	ESR7	102520	2024-05-17	2025-05-16
7	HB-E009	POSITINAL COTROLLER	Noyetec	N/A	N/A	/	/
8	HB-E013	RF switch	Noyetec	NY-RF4	NY0CM1420204	/	/
9	HB-E066	Illuminance Tester	TASI	TA8121	N/A	2024-05-21	2025-05-20
10	HB-E075	Active loop antenna	Schwarzbeck	FMZB 1519B	1519B-245	2024-05-18	2026-05-17
11	HB-E076	Preamplifier	Hewlett Packard	8447D	1937A02278	2024-05-17	2025-05-16
Conduction emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E014	4 Path V-LISN	Schwarzbeck	NNLK 8121	00770	2024-05-17	2025-05-16
2	HB-E015	Pulse Limiter	Schwarzbeck	VTSD 9561-F	00949	2024-05-17	2025-05-16
3	HB-E016	ZN23201	Noyetec	ZN23201	N/A	2024-05-21	2025-05-20
4	HB-E059	Attenuator	Xianghua	TS2-6-1	220215166	2024-05-17	2025-05-16
5	HB-E069	EMI TEST RECEIVER	R&S	ESCI	N/A	2024-05-17	2025-05-16

RF							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E041	MXG Anaiog Signal Generator	Agilent	N5181A	MY47070421	2024-05-17	2025-05-16
2	HB-E042	WIDEBAND RADIO COMMUNICA	R&S	CMW500	132108	2024-05-17	2025-05-16

		TION TESTER					
3	HB-E043	MXG Anaiog Signal Generator	Agilent	N5182A	US46240335	2024-05-17	2025-05-16
4	HB-E044	Signal& spectrum Analyzer	R&S	FSV3044	101264	2024-05-17	2025-05-16
5	HB-E045	RF Control Box	Noyetec	NY100-R FCB	N/A	/	/
6	HB-E058	Thermometer Clock Humidity Monitor	N/A	HTC-1	N/A	/	/

Note: the calibration interval of the above test instruments is 12&24 months and the calibrations are traceable to international system unit (SI).

5 Test Item And Results

5.1 Antenna Requirement

5.1.1 Standard Requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device

5.1.2 Test Result

The EUT antenna is Coil Antenna. It comply with the standard requirement. In case of replacement of broken antenna the same antenna type must be used.

5.2 Conducted Emission

5.2.1 Limits

Limits – Class A		
Frequency (MHz)	Limit (dBμV)	
	Quasi-Peak	Average
0.15 to 0.5	79	66
0.5 to 30	73	60
Limits – Class B		
Frequency (MHz)	Limit (dBμV)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

Note:
1. the tighter limit applies at the band edges.
2. the limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

5.2.2 Test Procedures

a) The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

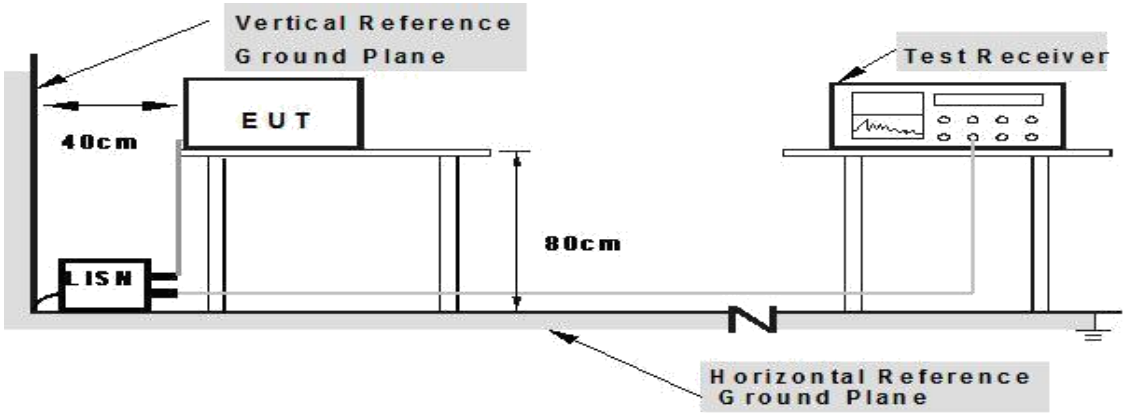
b) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

d) LISN is at least 80 cm from nearest part of EUT chassis.

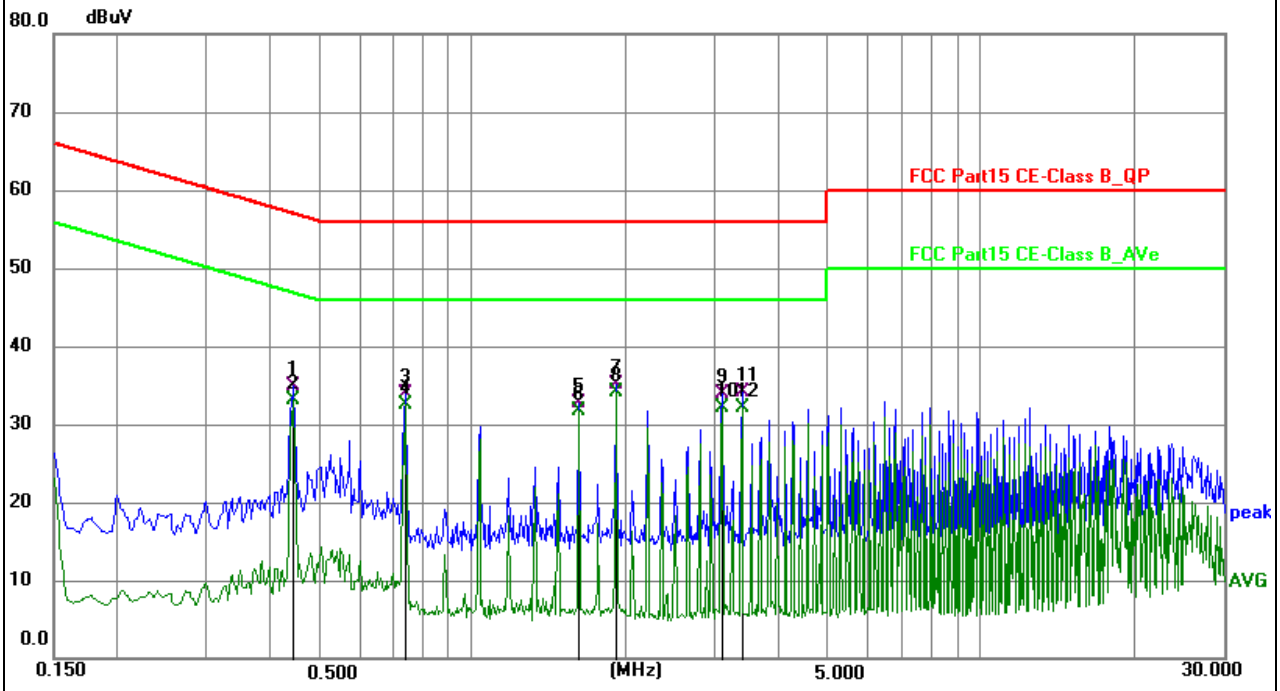
e) For the actual test configuration, please refer to the related Item – photographs of the test setup.

5.2.3 Test setup



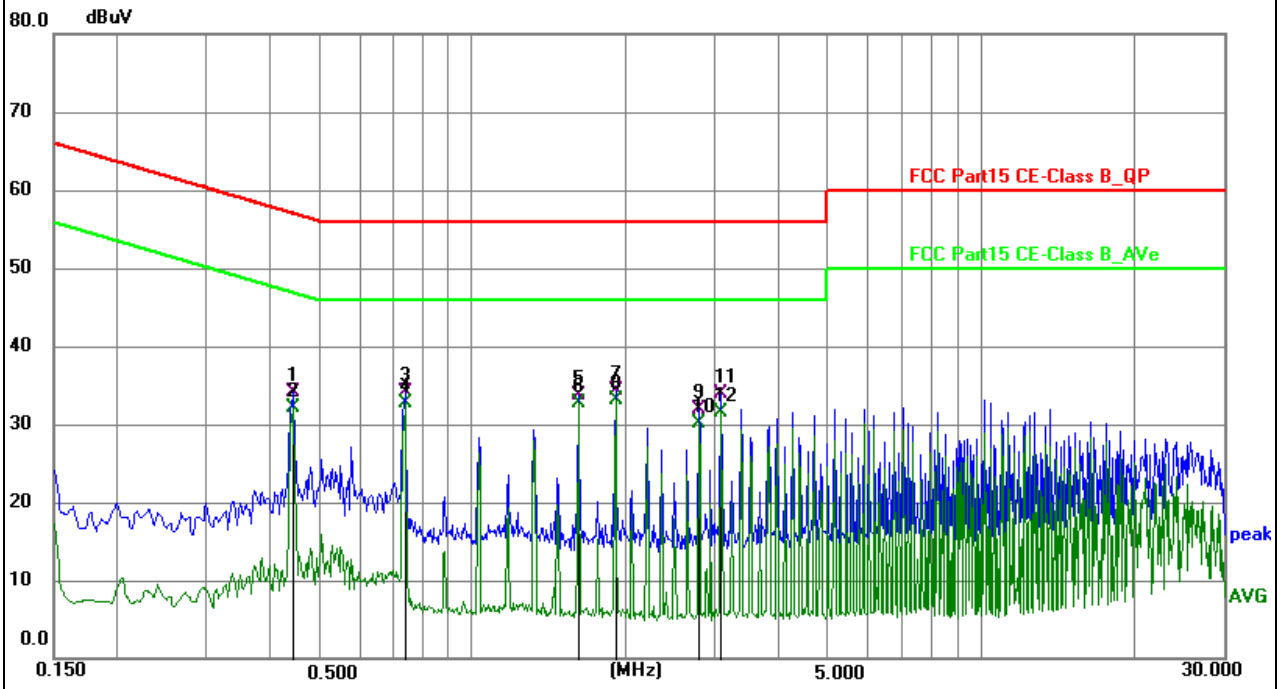
5.2.4 Test Result

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 4	Phase:	L
Test Voltage:	DC 20V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.442500	24.43	10.50	34.93	57.01	-22.08	QP
2	0.442500	22.59	10.50	33.09	47.01	-13.92	AVG
3	0.735000	23.39	10.50	33.89	56.00	-22.11	QP
4	0.735000	22.06	10.50	32.56	46.00	-13.44	AVG
5	1.621500	22.26	10.46	32.72	56.00	-23.28	QP
6	1.621500	21.24	10.46	31.70	46.00	-14.30	AVG
7	1.914000	24.65	10.48	35.13	56.00	-20.87	QP
8 *	1.914000	23.54	10.48	34.02	46.00	-11.98	AVG
9	3.093000	23.29	10.53	33.82	56.00	-22.18	QP
10	3.093000	21.56	10.53	32.09	46.00	-13.91	AVG
11	3.385500	23.67	10.49	34.16	56.00	-21.84	QP
12	3.385500	21.56	10.49	32.05	46.00	-13.95	AVG

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 4	Phase:	N
Test Voltage:	DC 20V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.442500	23.58	10.43	34.01	57.01	-23.00	QP
2	0.442500	21.67	10.43	32.10	47.01	-14.91	AVG
3	0.735000	23.64	10.38	34.02	56.00	-21.98	QP
4	0.735000	22.29	10.38	32.67	46.00	-13.33	AVG
5	1.617000	23.40	10.35	33.75	56.00	-22.25	QP
6	1.617000	22.30	10.35	32.65	46.00	-13.35	AVG
7	1.909500	23.94	10.35	34.29	56.00	-21.71	QP
8 *	1.909500	22.78	10.35	33.13	46.00	-12.87	AVG
9	2.791500	21.55	10.43	31.98	56.00	-24.02	QP
10	2.791500	19.70	10.43	30.13	46.00	-15.87	AVG
11	3.084000	23.43	10.45	33.88	56.00	-22.12	QP
12	3.084000	21.15	10.45	31.60	46.00	-14.40	AVG

5.3 Radiated Emission

5.3.1 Limits

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

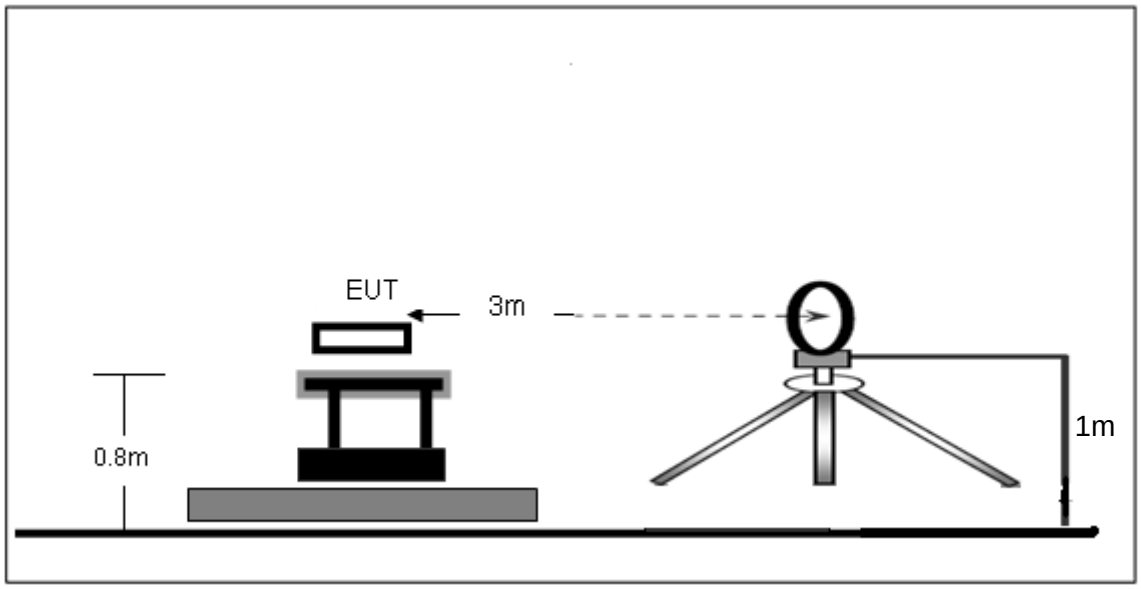
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

5.3.2 Test Procedures

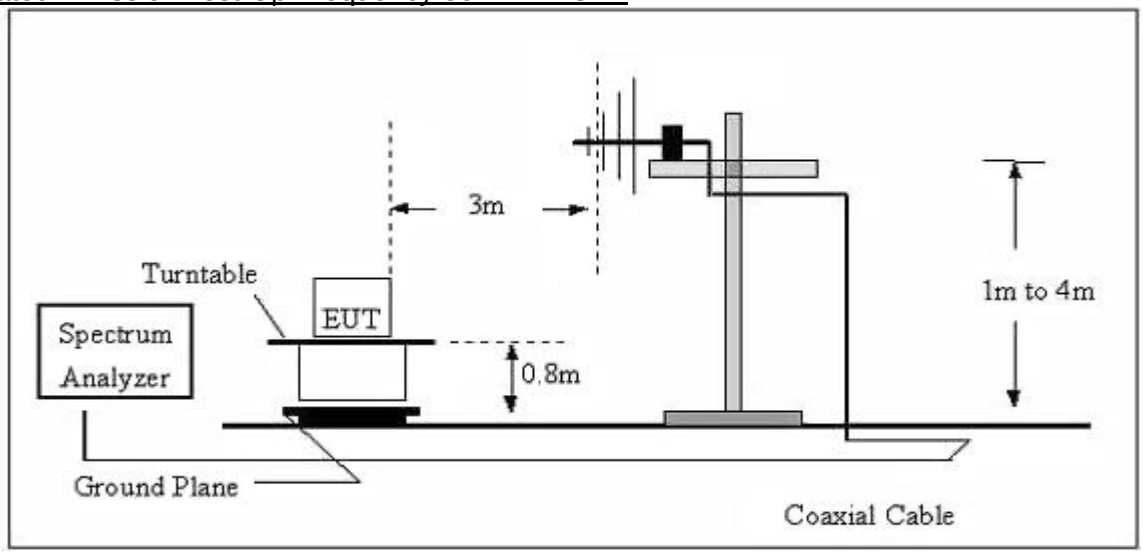
a) The radiated emission tests were performed in the 3 meters.
b) The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
c) The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d) If the peak mode measured value compliance with and lower than quasi peak mode limit, the EUT shall be deemed to meet QP limits and then no additional QP mode measurement performed.
e) If the peak mode measured value compliance with and lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.
f) For the actual test configuration, please refer to the related item – EUT test photos.

5.3.3 Test Setup

Radiated Emission Test-Up Frequency Below 30MHz



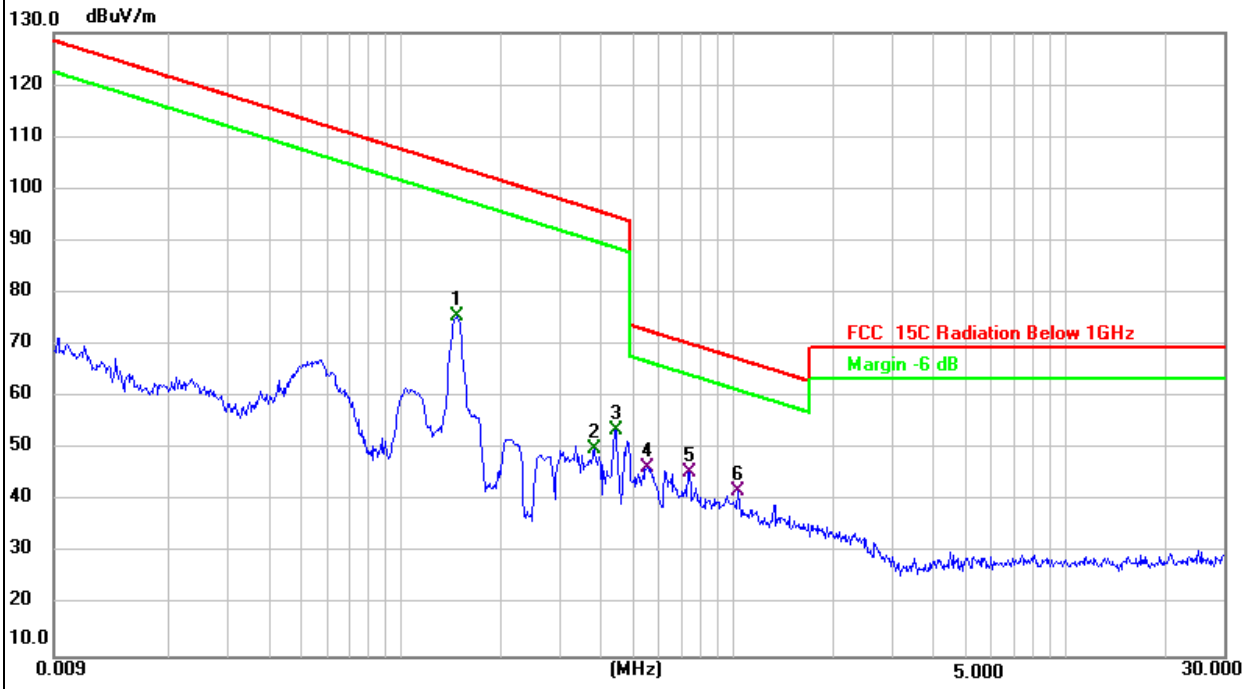
Radiated Emission Test-Up Frequency 30MHz~1GHz



5.3.4 Test Result

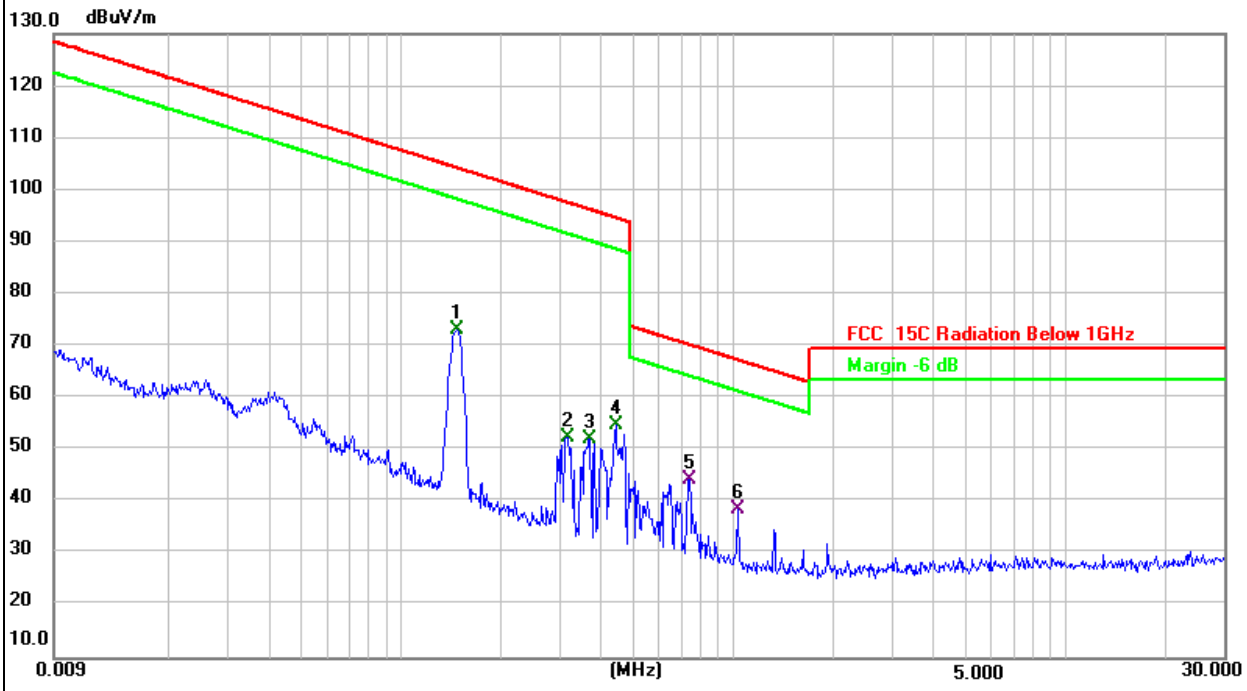
Frequency range (9kHz – 30MHz)

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 4	Phase:	Coaxial
Test Voltage:	DC 20V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1466	55.37	20.19	75.56	104.30	-28.74	AVG
2	0.3818	30.05	20.06	50.11	95.97	-45.86	AVG
3	0.4418	33.66	20.05	53.71	94.70	-40.99	AVG
4	0.5500	26.41	20.07	46.48	72.80	-26.32	QP
5 *	0.7365	23.99	21.61	45.60	70.27	-24.67	QP
6	1.0271	21.76	20.24	42.00	67.39	-25.39	QP

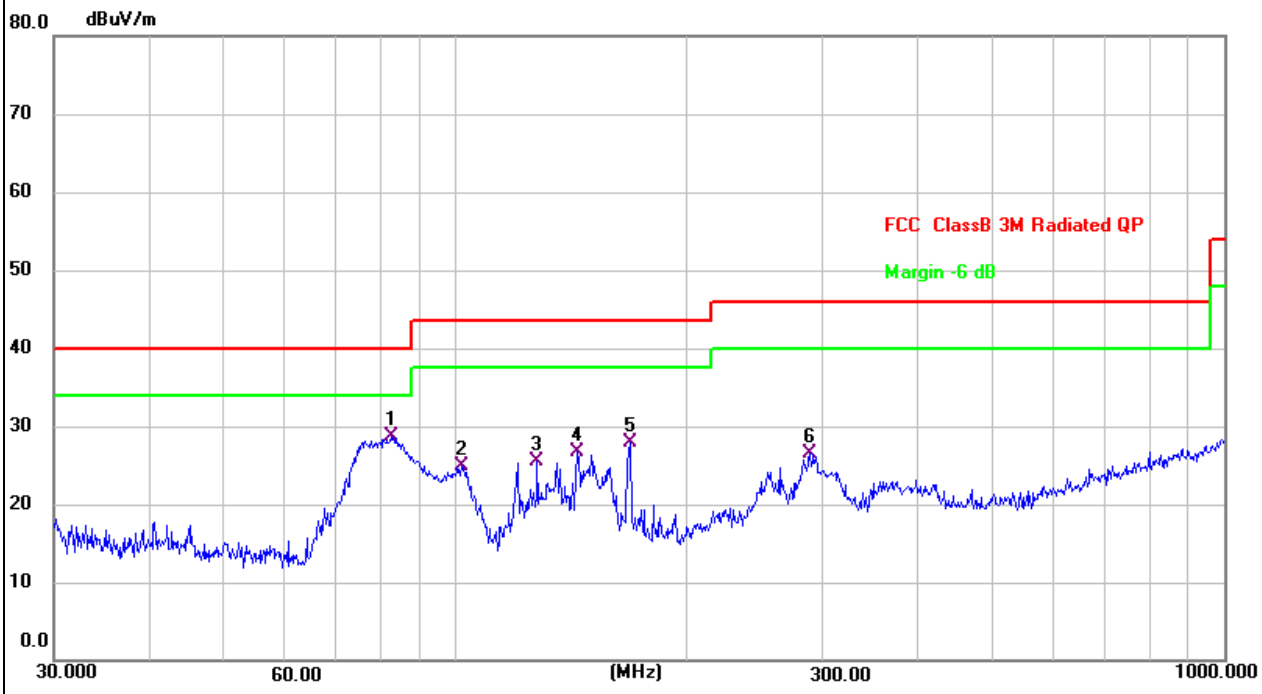
EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 8	Phase:	Coaxial
Test Voltage:	DC 22.2V from battery		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1478	52.99	20.17	73.16	104.23	-31.07	AVG
2	0.3168	32.42	20.09	52.51	97.60	-45.09	AVG
3	0.3696	32.22	20.07	52.29	96.25	-43.96	AVG
4	0.4418	34.82	20.05	54.87	94.70	-39.83	AVG
5 *	0.7365	22.67	21.61	44.28	70.27	-25.99	QP
6	1.0271	18.51	20.24	38.75	67.39	-28.64	QP

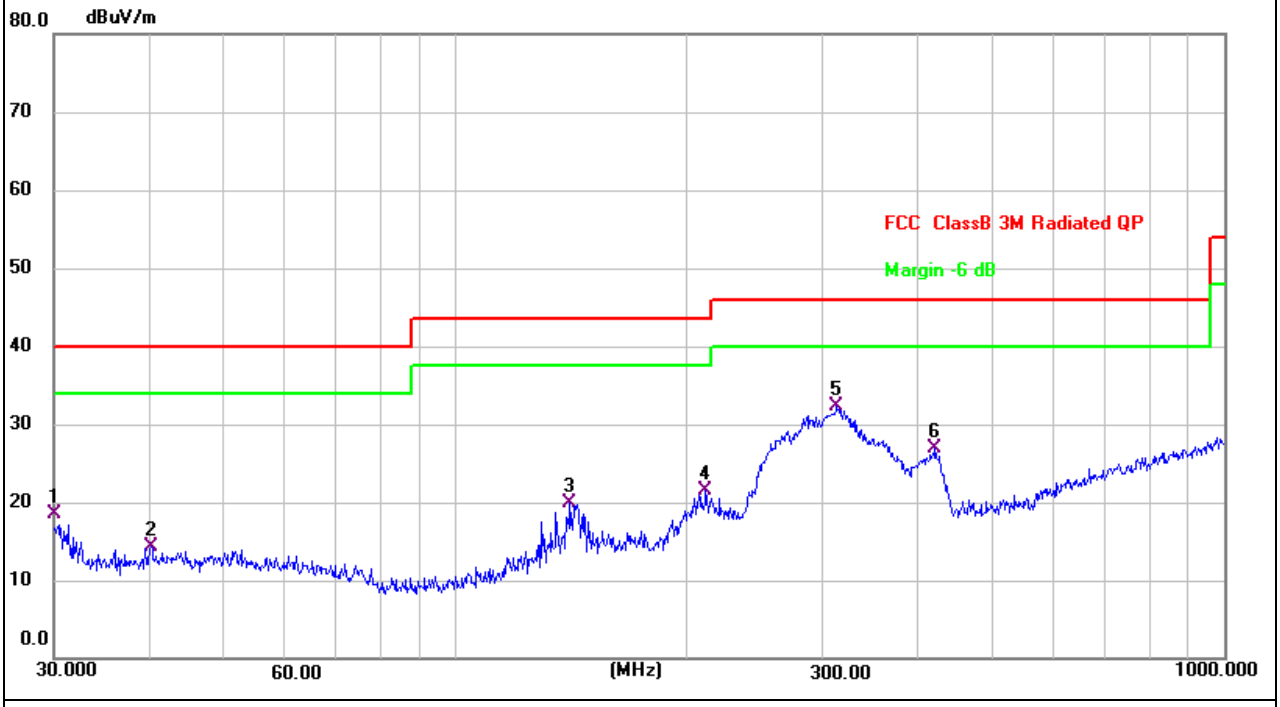
Frequency range (30MHz – 1GHz)

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 8	Phase:	Vertical
Test Voltage:	DC 22.2V from battery		



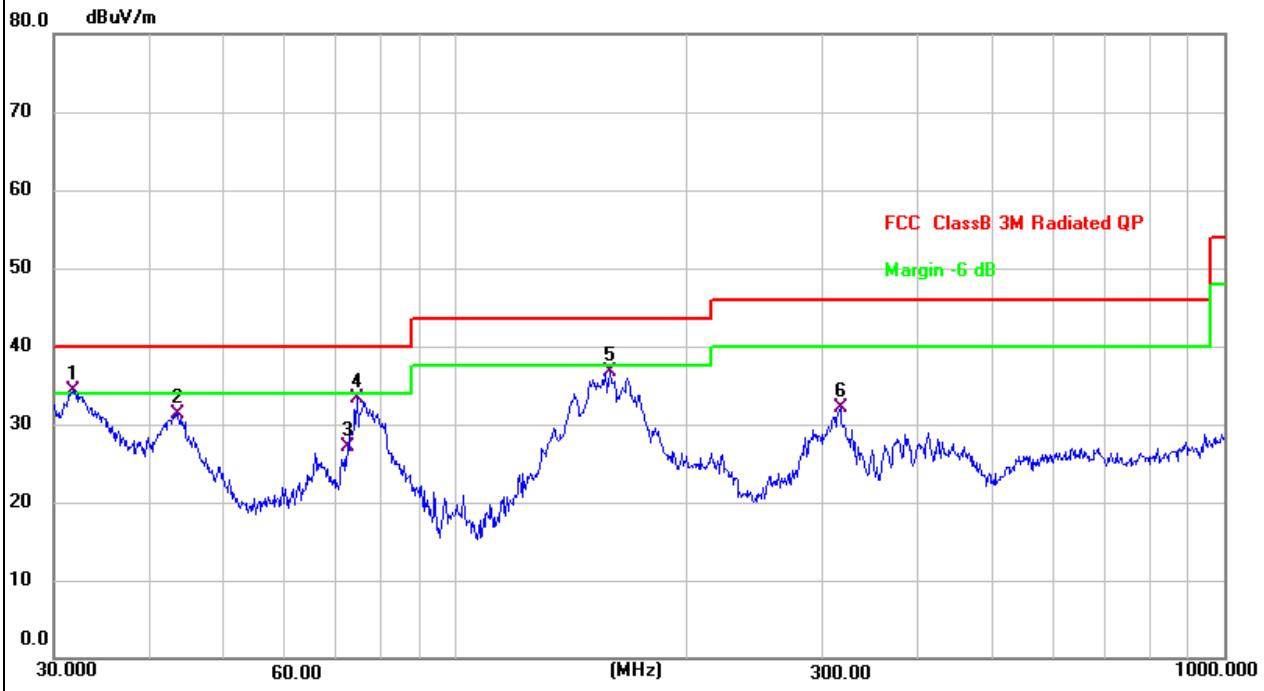
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	82.3588	46.83	-18.15	28.68	40.00	-11.32	QP
2	101.6443	42.47	-17.56	24.91	43.50	-18.59	QP
3	127.6645	40.55	-15.09	25.46	43.50	-18.04	QP
4	143.8295	40.58	-13.87	26.71	43.50	-16.79	QP
5	169.0054	41.71	-13.71	28.00	43.50	-15.50	QP
6	289.0021	39.56	-12.98	26.58	46.00	-19.42	QP

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 8	Phase:	Horizontal
Test Voltage:	DC 22.2V from battery		



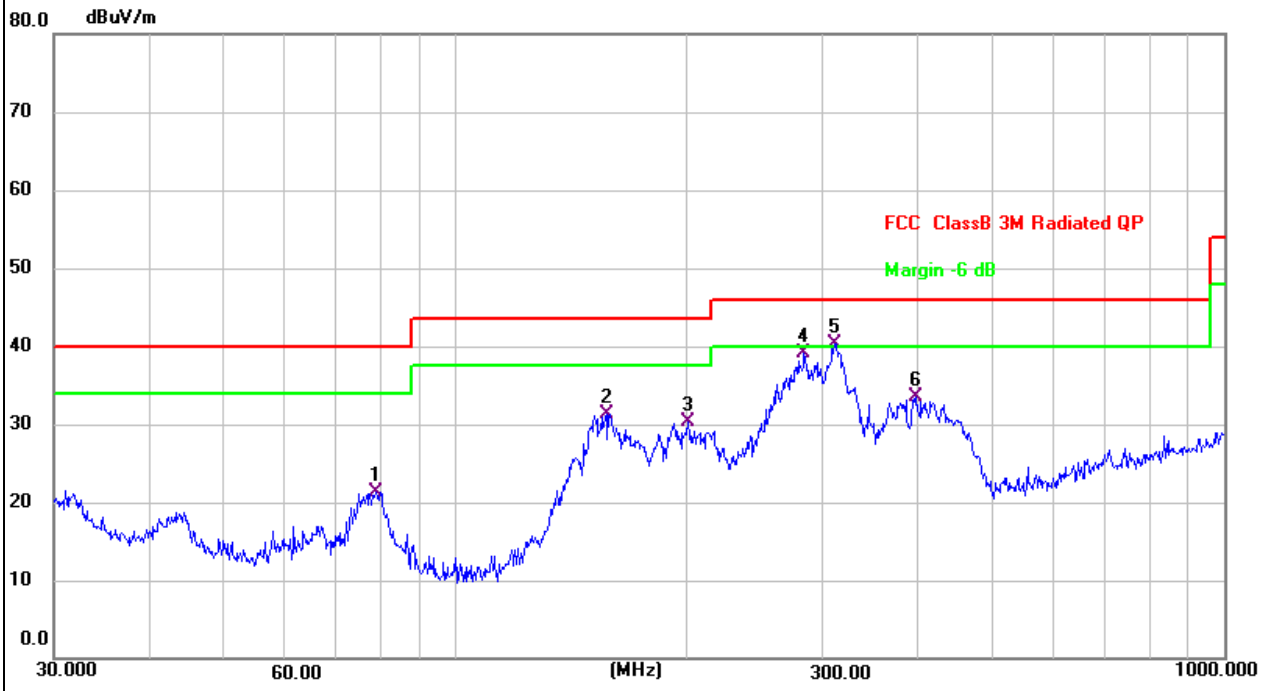
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.0000	33.84	-15.35	18.49	40.00	-21.51	QP
2	40.1347	28.25	-14.01	14.24	40.00	-25.76	QP
3	140.8351	34.01	-14.20	19.81	43.50	-23.69	QP
4	211.5265	38.36	-16.85	21.51	43.50	-21.99	QP
5 *	313.2760	44.60	-12.24	32.36	46.00	-13.64	QP
6	420.5803	35.92	-8.96	26.96	46.00	-19.04	QP

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 4	Phase:	Vertical
Test Voltage:	DC 20V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	31.8427	49.44	-15.13	34.31	40.00	-5.69	QP
2	43.5057	45.55	-14.17	31.38	40.00	-8.62	QP
3	72.3376	43.36	-16.27	27.09	40.00	-12.91	QP
4	74.3955	49.87	-16.60	33.27	40.00	-6.73	QP
5	158.6677	49.99	-13.36	36.63	43.50	-6.87	QP
6	316.5890	44.21	-12.19	32.02	46.00	-13.98	QP

EUT:	27000mAh solar power bank	Model Name:	DEX-DC001
Test Mode:	Mode 4	Phase:	Horizontal
Test Voltage:	DC 20V from adapter AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	78.6888	38.72	-17.44	21.28	40.00	-18.72	QP
2	157.0074	44.67	-13.32	31.35	43.50	-12.15	QP
3	200.6881	46.93	-16.71	30.22	43.50	-13.28	QP
4	283.9791	52.23	-13.13	39.10	46.00	-6.90	QP
5 *	311.0867	52.63	-12.28	40.35	46.00	-5.65	QP
6	397.6334	43.10	-9.67	33.43	46.00	-12.57	QP

5.4 Occupied Bandwidth

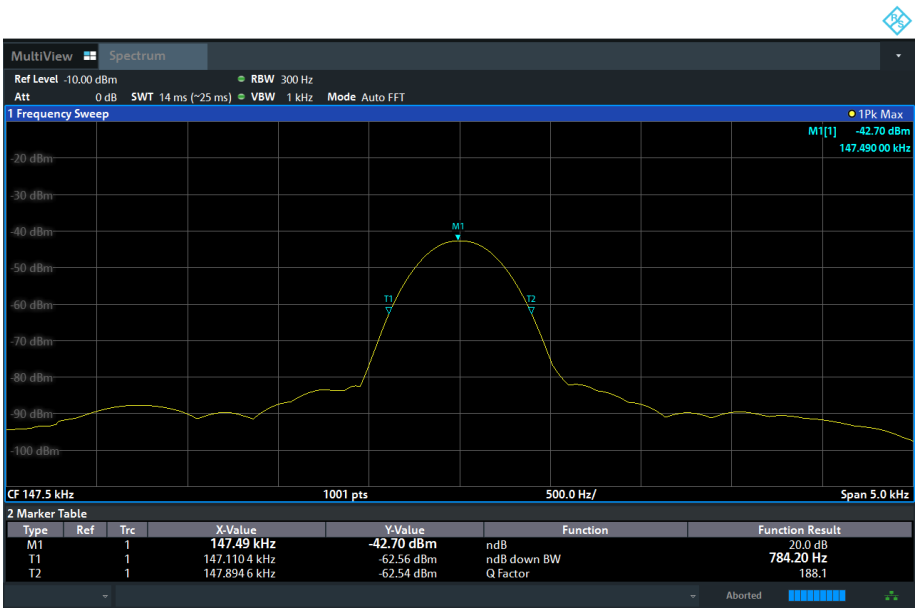
5.4.1 Test method

Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW ≥1% of the 20 dB bandwidth
VBW ≥RBW
Sweep = auto
Detector function = peak
Trace = max hold
The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth and 99% occupied bandwidth of the emission.

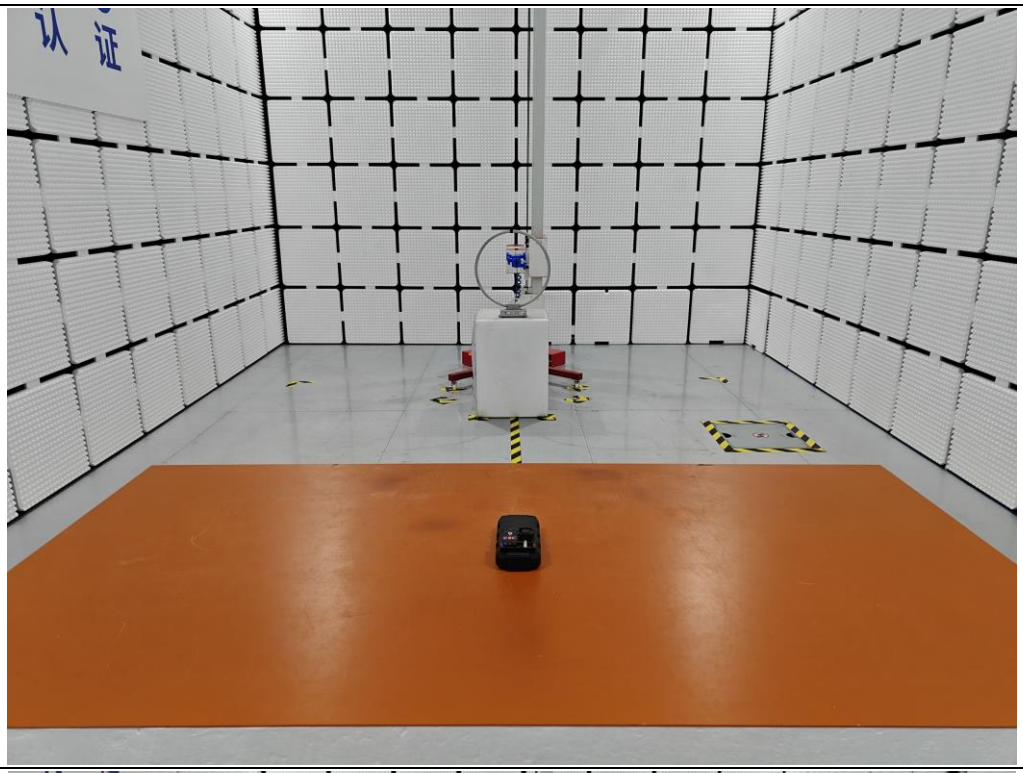
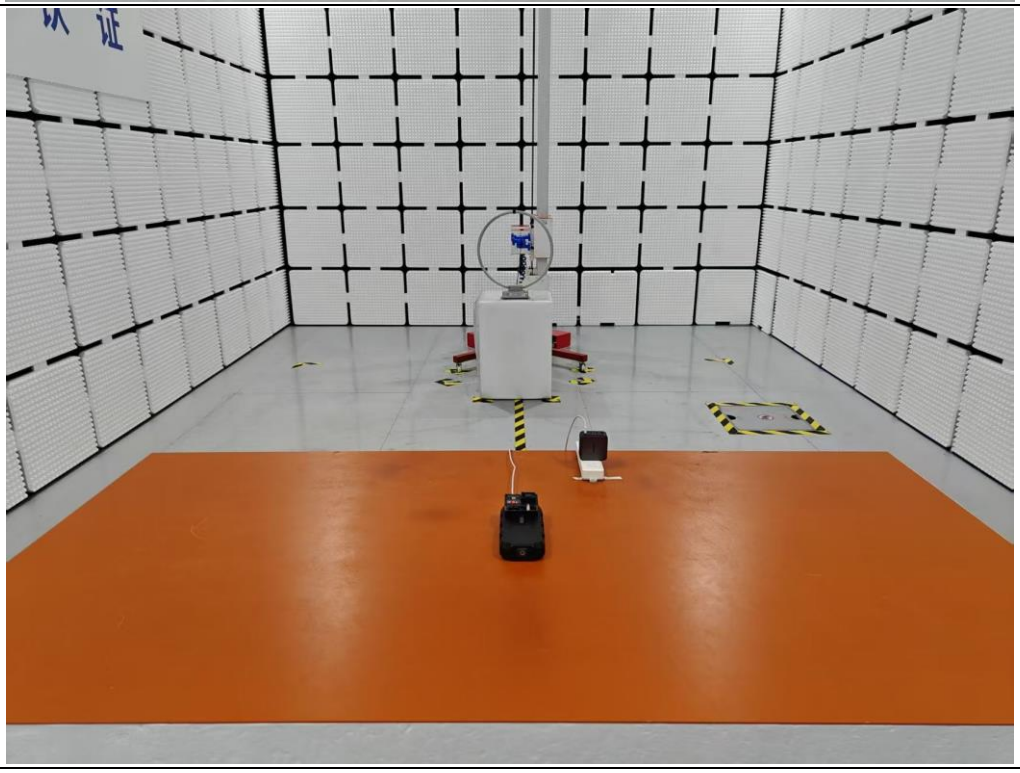
5.4.2 Test result

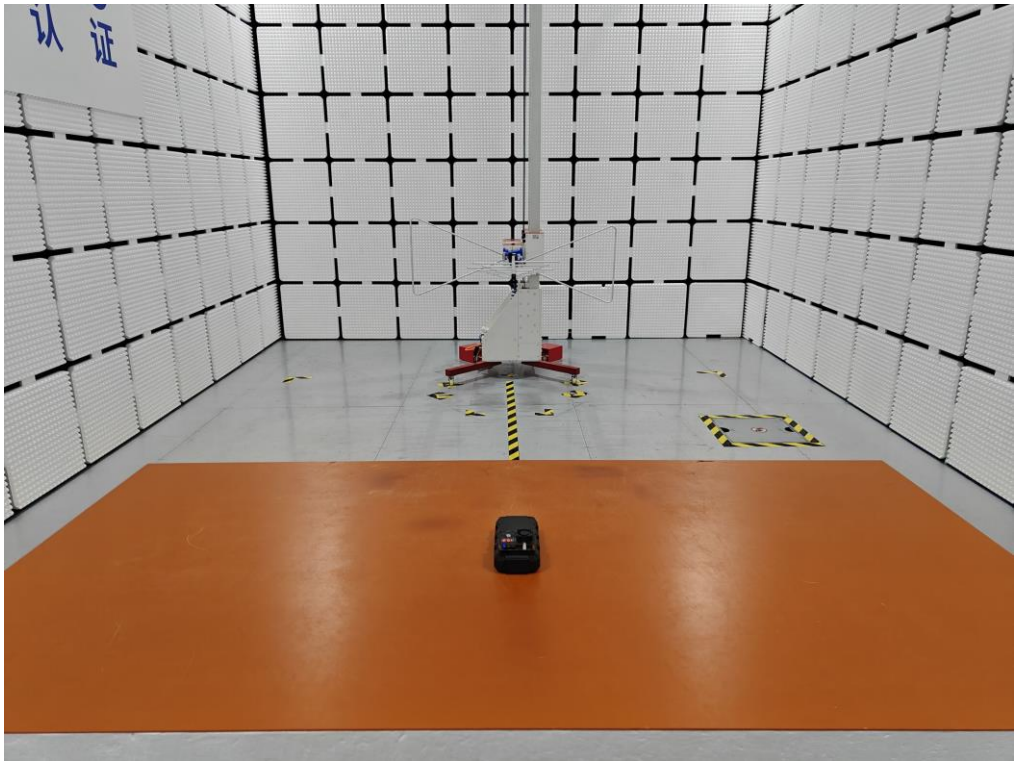
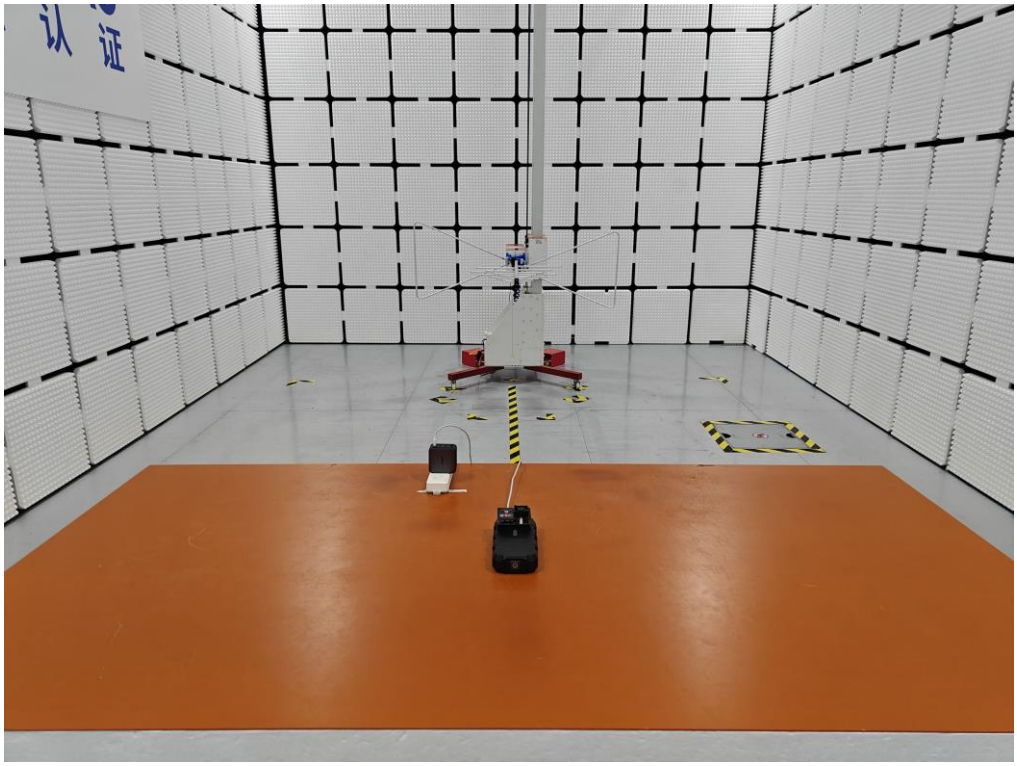
Frequency (kHz)	20dB emission bandwidth (Hz)
147.5	784.20

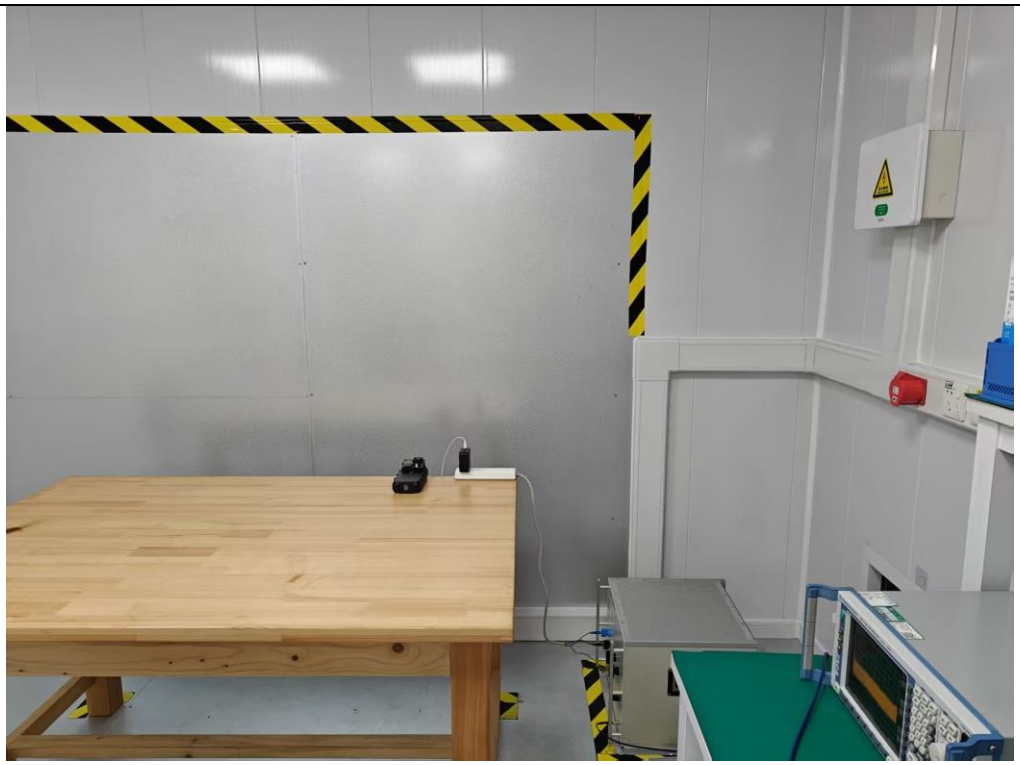
Test plots as below:



6 Photographs of the Test Setup

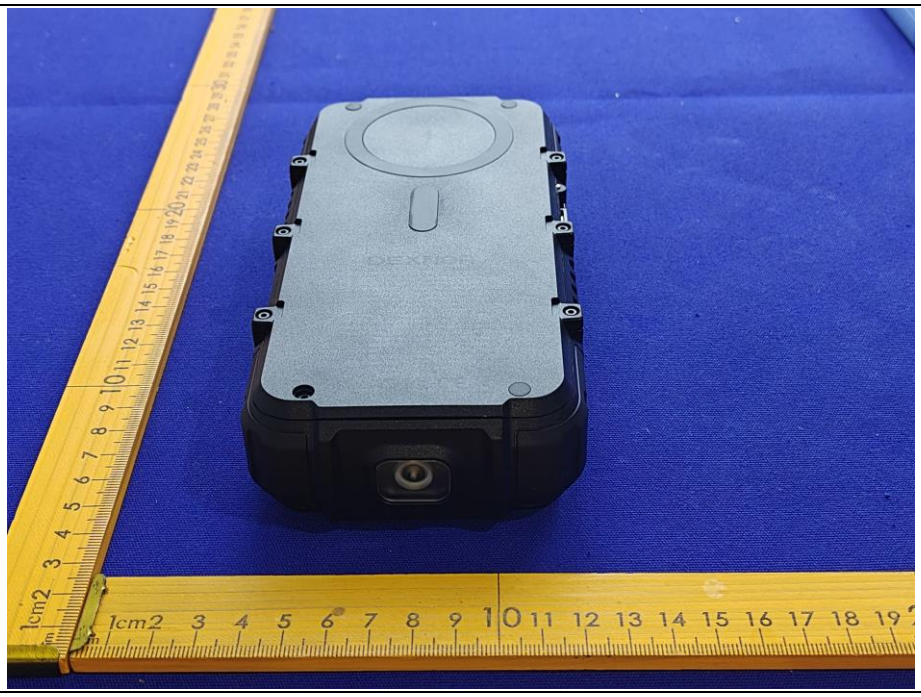
Radiated Emission Below 30MHz



Radiated Emission Above 30MHz



Conducted Emission


7 Photographs of the EUT

Photo 1
Photo 2

Photo 3

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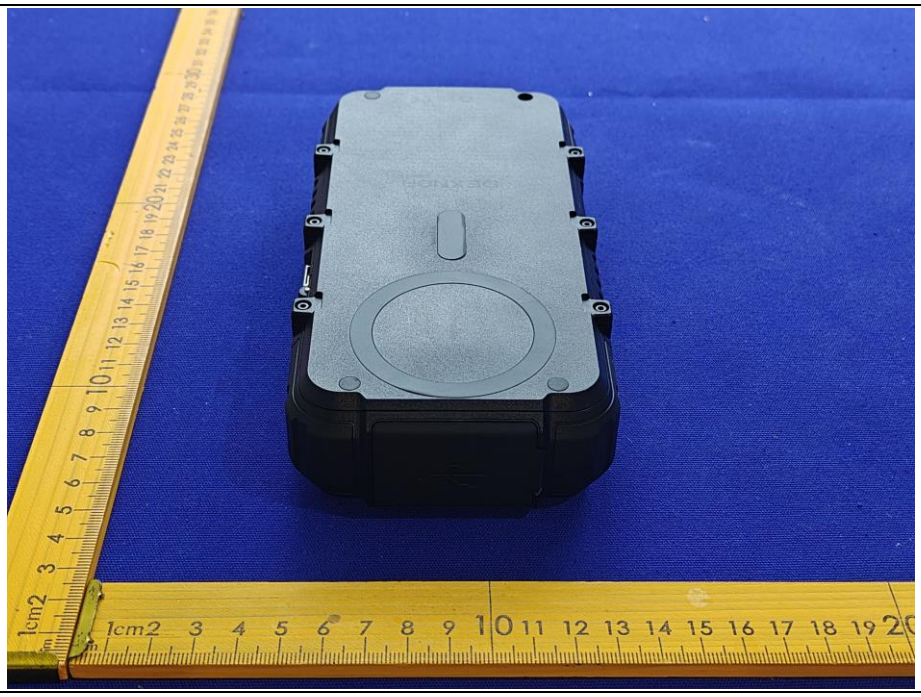

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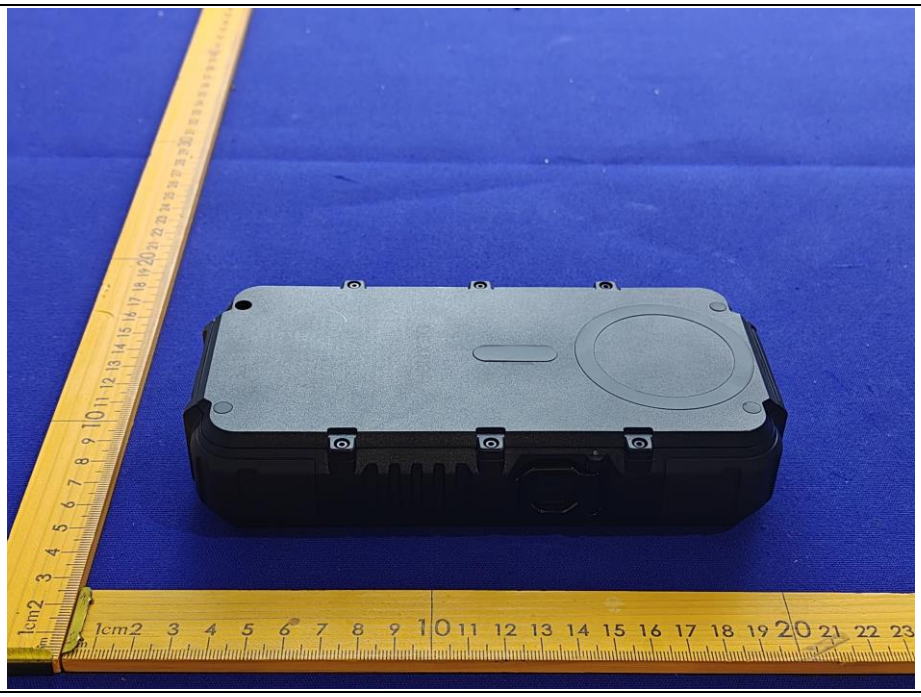
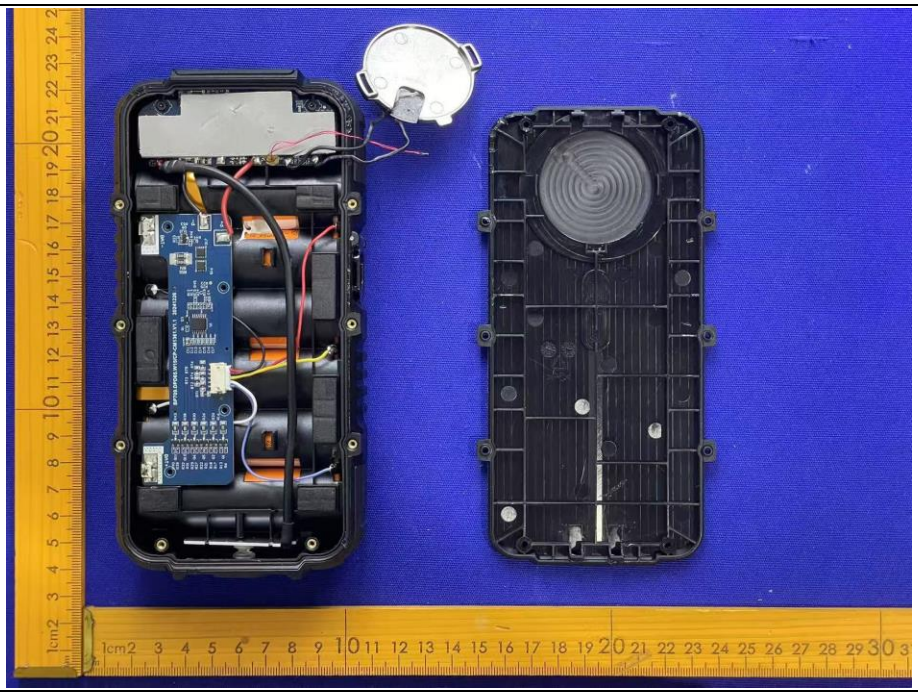


Photo 6

Photo 7

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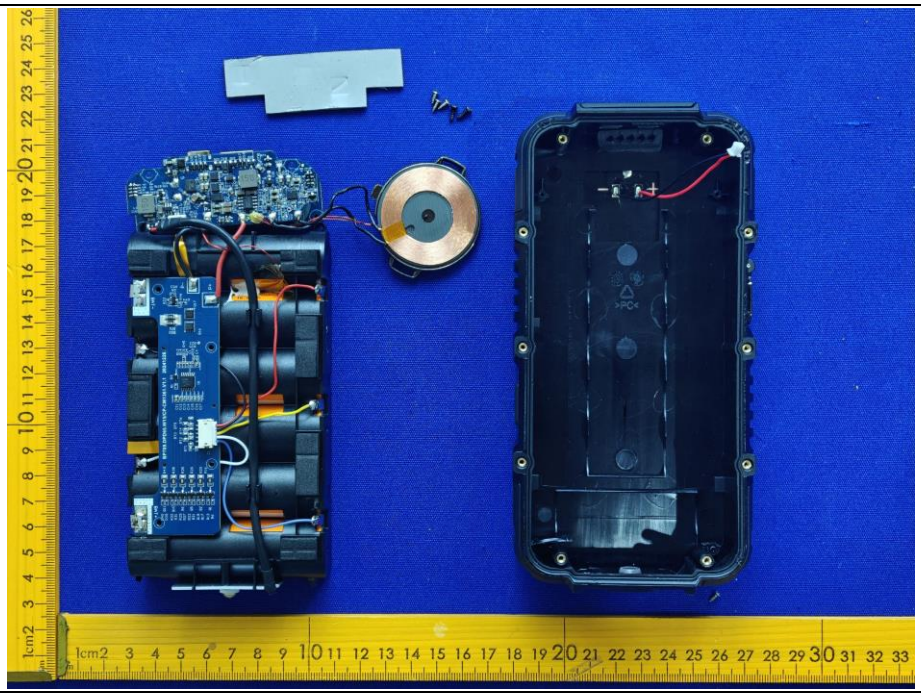

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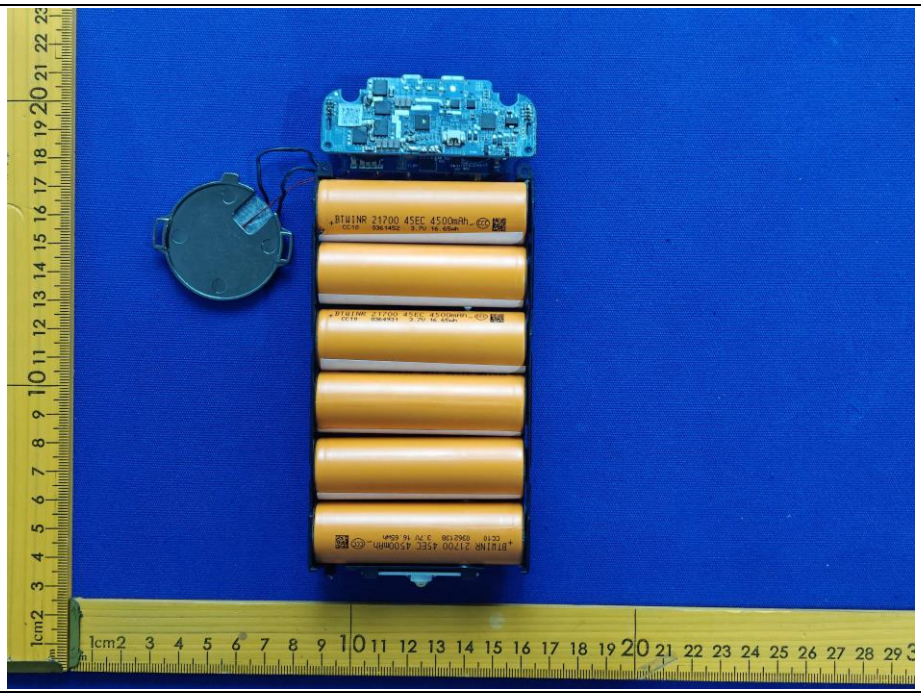
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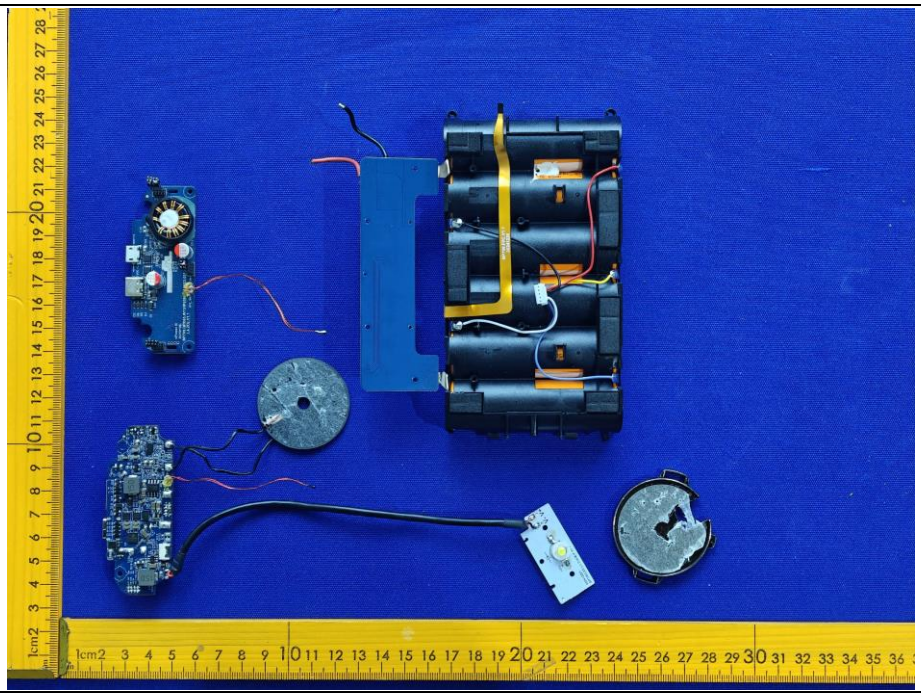
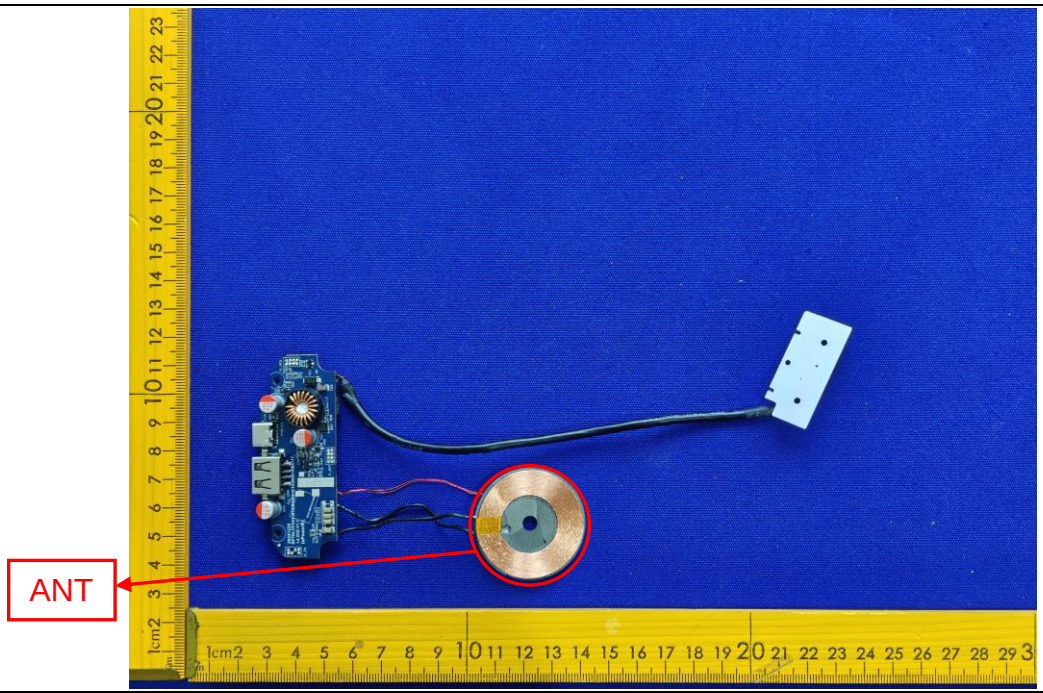


Photo 11



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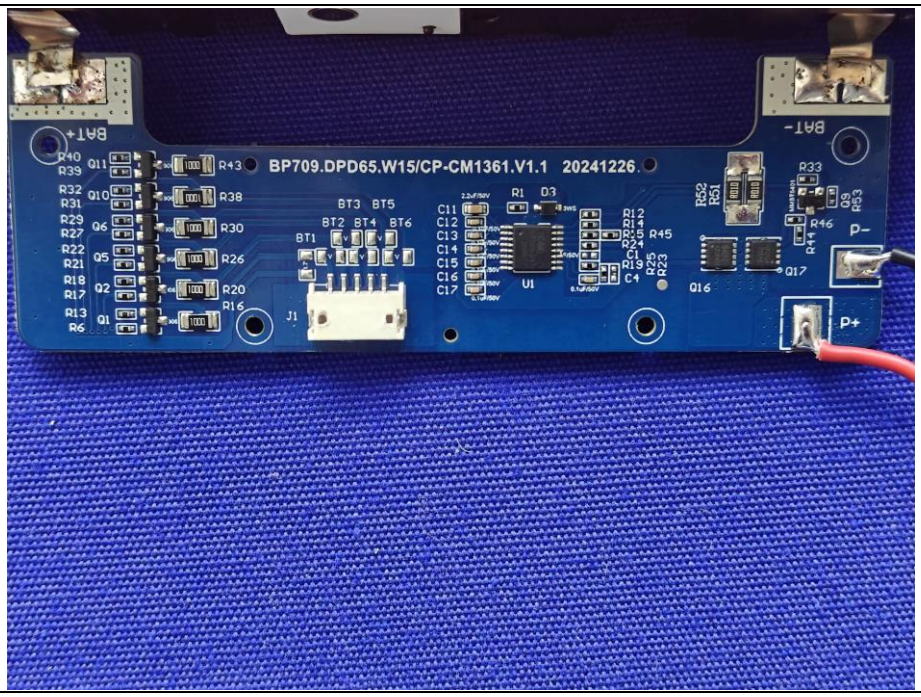

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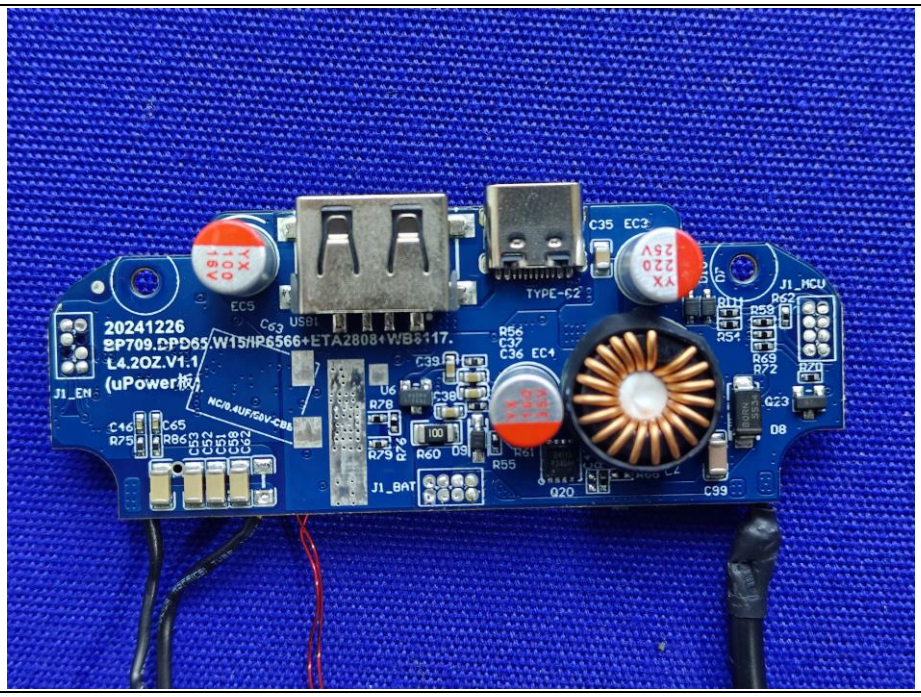
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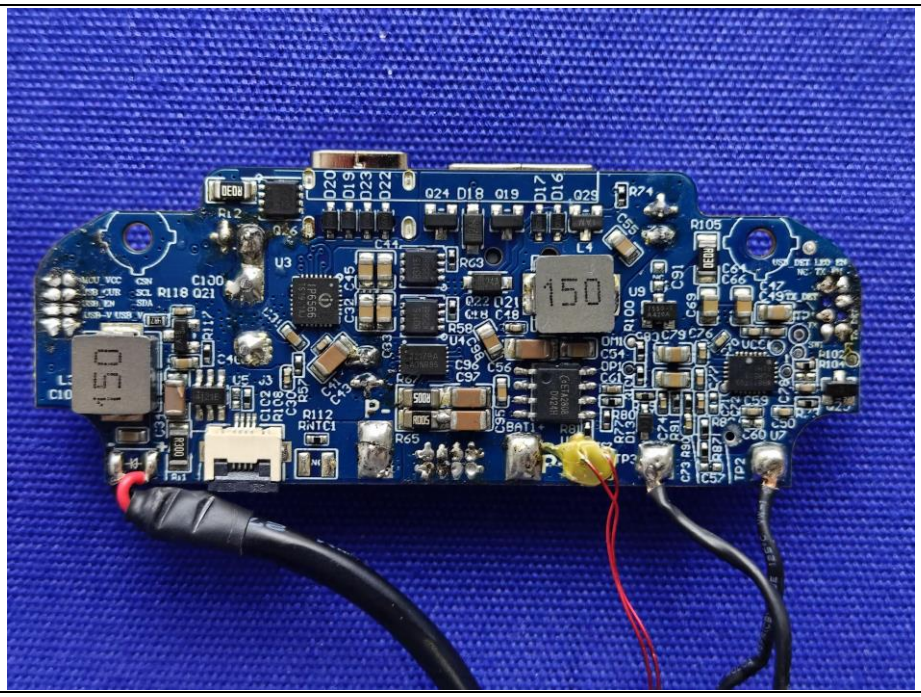

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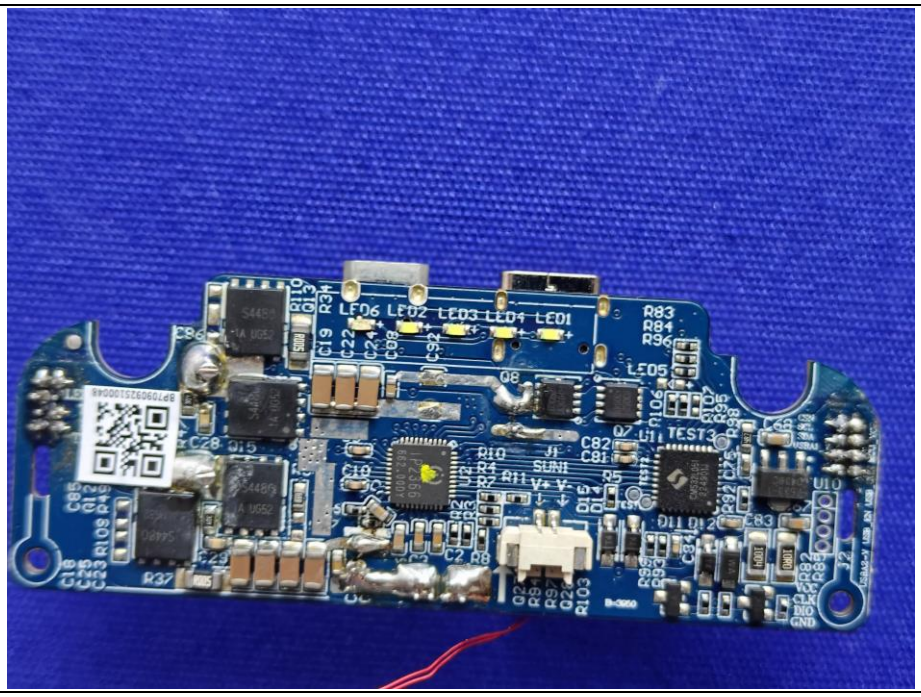
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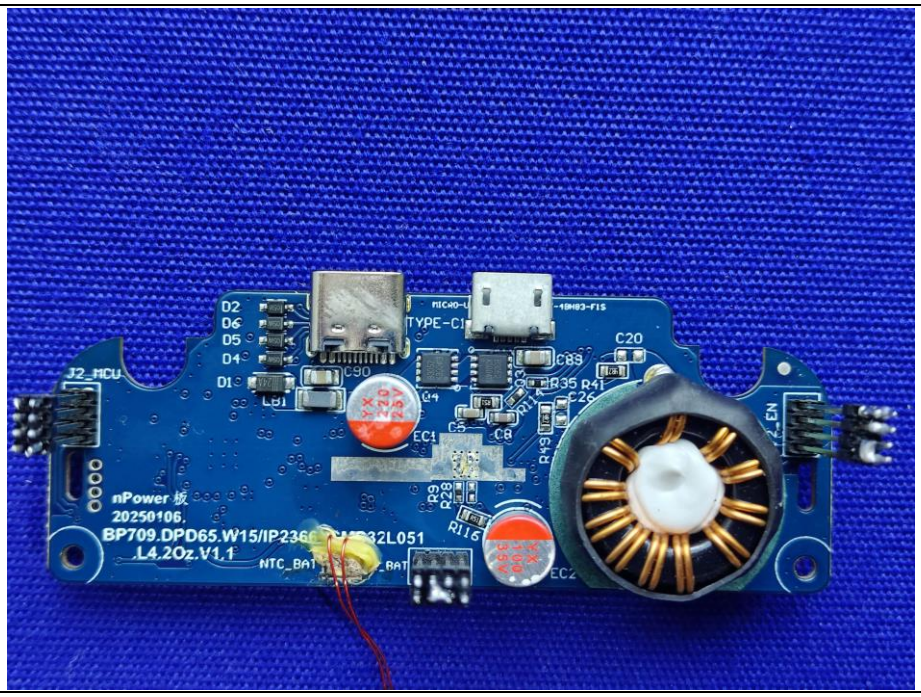

******** END OF REPORT ********