

RF EXPOSURE REPORT

Applicant / Manufacturer : Shenzhen Growatt New Energy Co., Ltd.

Address : 4-13/F, BuildingA, Sino-German (Europe) Industrial Park, Hangcheng Ave, BAO'AN District, Shenzhen, China

Factory : Guangdong Growatt New EnergyCo., Ltd

Address : Growatt Industrial Park, No.17 Pingheng Road Pingtan Town, Huiyang District, Huizhou, Guangdong, China

E.U.T. : Portable Power Station

Brand Name : GROWATT

Model No. : Infinity1500

FCC ID : 2AAJ9-INFINITY1500

Measurement Standard : Mobile exposure requirements in Section 2.1091 and KDB 680106 D01 RF Exposure wireless charging Apps v03r01

Date of Receiver : June 02, 2022

Date of Test : June 08, 2022 to July 15, 2022

Date of Report : July 18, 2022

In the configuration tested, the EUT complied with the standards specified above.

This test report is for the customer shown above and their specific product only. This report applies to above tested sample only and shall not be reproduced in part without written approval of Dongguan Nore Testing Center Co., Ltd.

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test

Product Name : Portable Power Station
Main Model : Infinity1500
Additional Model : N/A
Model Difference : N/A
Power Supply : AC 100-120V, 60Hz, 1500W Max
DC 12-24V, 12A Max
DC 50.4V from internal battery
Adapter : N/A
Test voltage : AC 120V 60Hz
Cable : N/A
Software Version : Not Stated
Hardware Version : Not Stated
Note : This report only applies to wireless charging function.
Remark : N/A
Frequency Range : 110.5-205KHz
Test frequency : 133.9KHz
Output power for each coil : 5/7.5/10/15W

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2AAJ9-INFINITY1500 filing to comply with Mobile exposure requirements in Section 2.1091 and KDB 680106 D01 RF Exposure wireless charging Apps v03r01

1.3 Test Facility and Location

Site Description

EMC Lab : Listed by CNAS, August 13, 2018
The certificate is valid until August 13, 2024
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01
The Certificate Registration Number is L5795.

Listed by A2LA, November 01, 2017
The Laboratory has been assessed and proved to be in compliance with ISO17025
The Certificate Registration Number is 4429.01

Listed by FCC, November 06, 2017
The Designation Number is CN1214
Test Firm Registration Number: 907417

Listed by Industry Canada, June 08, 2017
The Certificate Registration Number. Is 46405-9743

Name of Firm : Dongguan Nore Testing Center Co., Ltd.
(Dongguan NTC Co., Ltd.)

Site Location : Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

2. Measurement Uncertainty

Measurement Uncertainty for a Level of Confidence of 95%, $U=2\times U_{\text{C}}(y)$

H-field strength	$\pm 3.10\text{dB}$
E-Field strength	$\pm 3.00\text{dB}$

3. Method of measurement

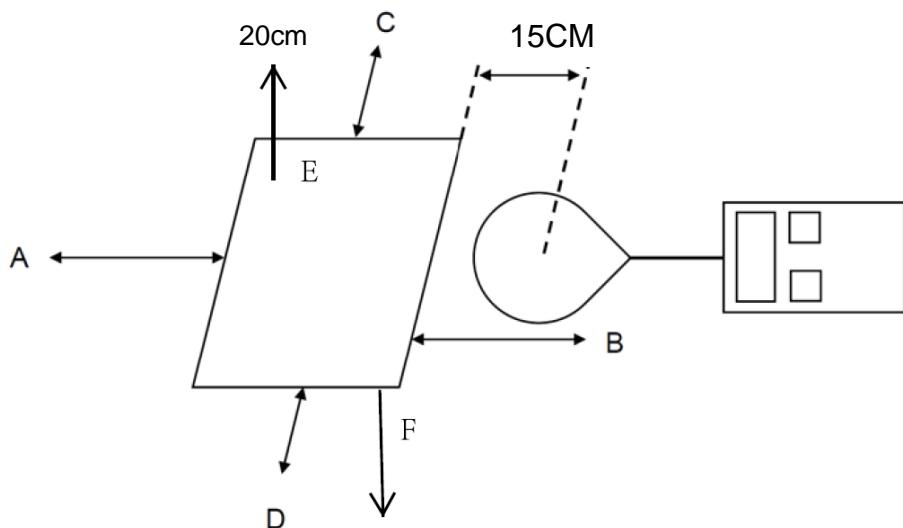
3.1 Applicable standard

According to 1.1307(b)(1), system operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidelines.

According to 1.1310 and 2.1091 RF exposure is calculated.

According to KDB680106 D01 v03r01: RF exposure wireless charging apps v03r01.

3.2 Test Setup



3.3 Test procedure

1. The RF exposure test was performed on 360 degree turn table in anechoic chamber;
2. The measurement probe was placed at test distance 15cm which is between the edge of the charger and 20cm between top of the charger and the geometric centre of probe.
3. The turn table was rotated 360 degrees to search of highest strength.
4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A,B,C,D,E) were completed.
5. The EUT were measured according to the dictates of KDB 680106D01 v03r01

3.4 Equipment approval considerations

1. The EUT dose comply with item 5.2 of KDB 680106D01V03
 - a, Power transfer frequency is less than 1MHz.
YES; the device operated in the frequency range from 110.5-205KHz.
 - b, Output power from each primary coil is less than or equal to 15 watts
YES; the maximum output power of each primary coil is 15 watts, less than 15 watts.
 - c, The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
YES; there is only one primary coil.
 - d, Client device is placed directly in contact with the transmitter.
YES; Client device is placed directly in contact with the transmitter.
 - e, Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
YES;
 - f, The aggregate H-field strengths at 15cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
YES; The EUT field strength levels are less than 50% x MPE limits.

3.5 E and H field strength Limit

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
 *=Plane-wave equivalent power density
 RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Test Result

Mobile phone has been charge at zero charge, intermediate charge, and full charge. Please refer to the following data of the worst case: Full charge (15W).

Electric Field Emissions

Operation frequency	Test Position	Test Distance (cm)	Probe Measure Result(V/m)			Limit (V/m)	50% Limit (V/m)
			zero charge	intermediate charge	full charge		
133.9KHz	Side A	15	0.732	0.731	0.733	614	307
	Side B	15	0.355	0.356	0.358	614	307
	Side C	15	0.635	0.634	0.636	614	307
	Side D	15	0.607	0.609	0.611	614	307
	Side E	20	3.005	3.006	3.008	614	307

Magnetic Field Emissions

Operation frequency	Test Position	Test Distance (cm)	Probe Measure Result(A/m)			Limit (A/m)	50% Limit (A/m)
			zero charge	intermediate charge	full charge		
133.9KHz	Side A	15	0.19	0.19	0.19	1.63	0.815
	Side B	15	0.19	0.19	0.19	1.63	0.815
	Side C	15	0.19	0.19	0.19	1.63	0.815
	Side D	15	0.19	0.19	0.19	1.63	0.815
	Side E	20	0.23	0.23	0.24	1.63	0.815

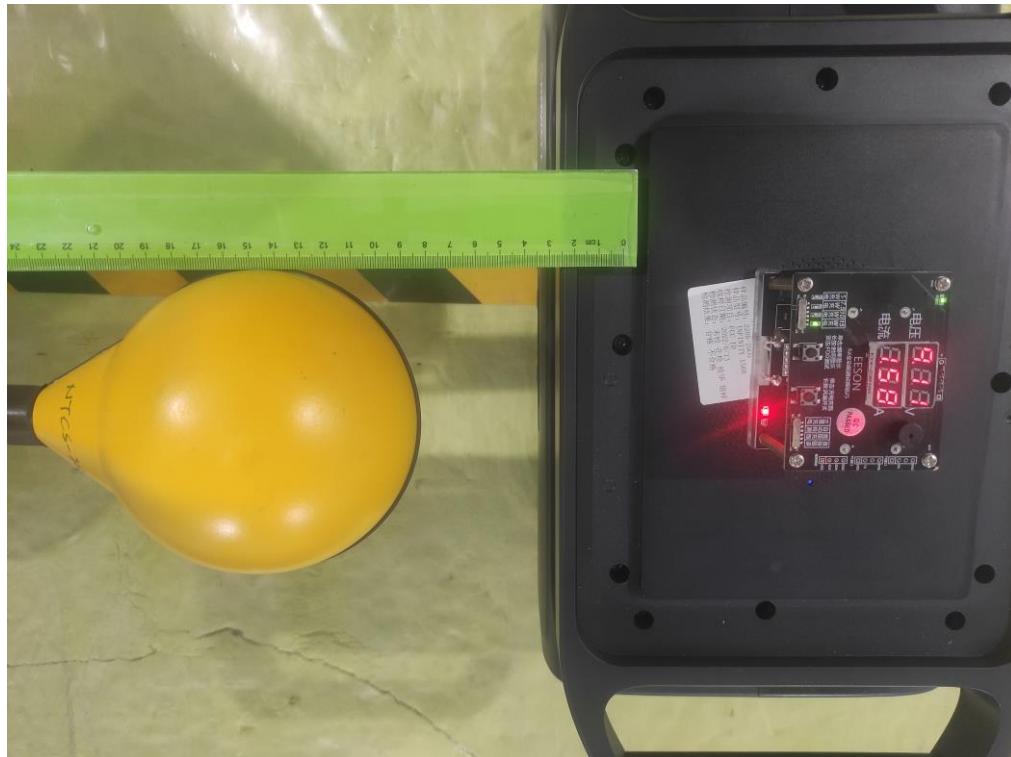
When WIFI, Bluetooth and WPT work together:

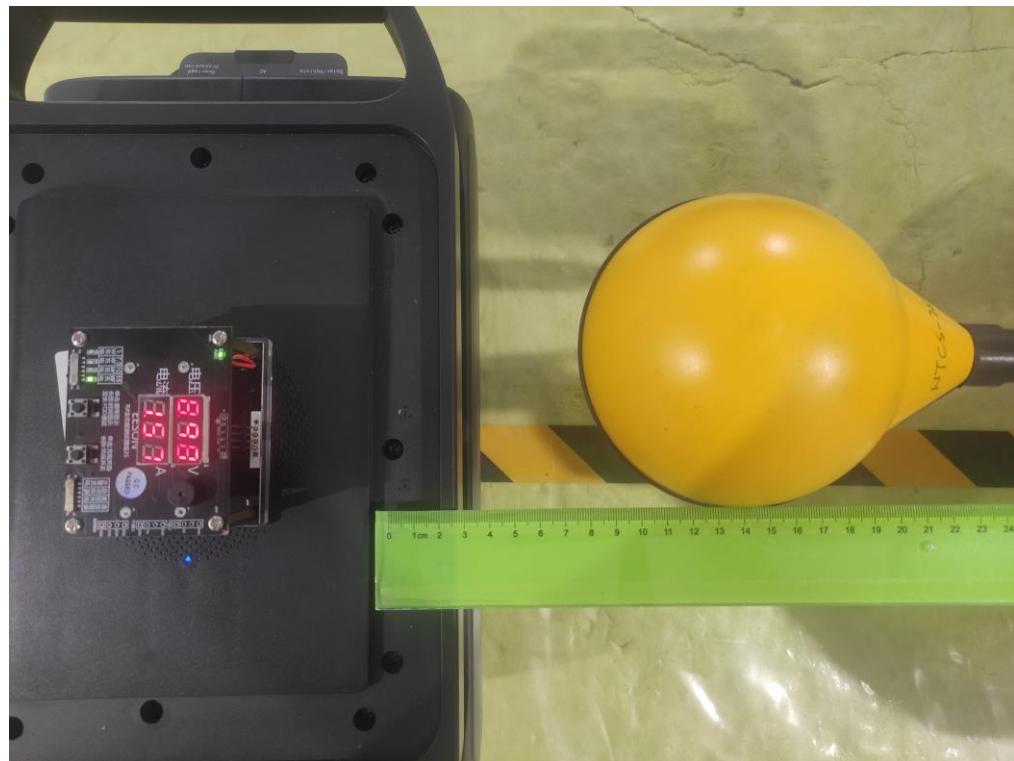
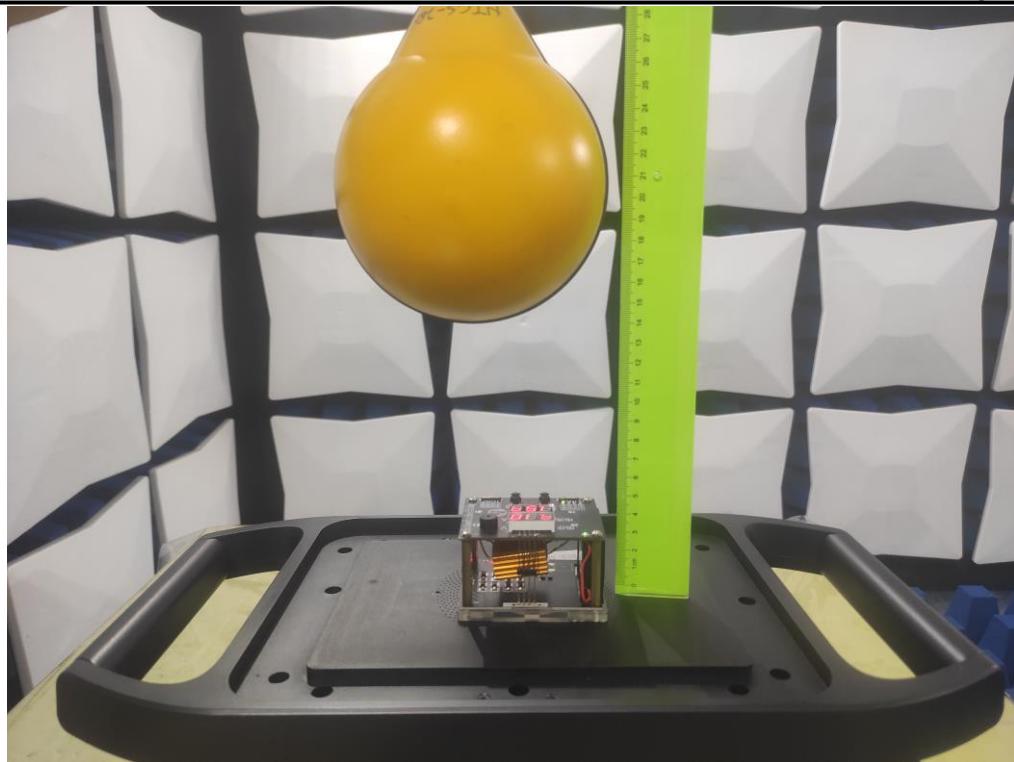
Ratio WIFI	Ratio BT	Ratio WPT	Ratio Total	Ratio Limits
0.0047247	0.0000635	0.14724	0.1520282	1

3.6 Test equipment list

Description	Manufacturer	Model Number	Serial Number	Calibration Date	Calibration Due Date
Magnetic field probe 100cm ²	Narda	ETL Probe 1Hz-400KHz	M-1587	June 27, 2022	June 26, 2023
E-Field Probe	Narda	EP-601	N/A	Mar. 23, 2022	Mar. 22, 2023
Exposure lever tester	Narda	ETL- 400	O-0167	June 27, 2022	June 26, 2023

3.7 Test Photo





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