



# RF Exposure Report

For

**Applicant Name:**

**NINGBO ECHO INT'L TRADE CO.,LTD**

Address:

2FL, 7 Building, NO.688 Jinda Road, Yinzhou Investment  
Business Centre, Ningbo China 315104

EUT Name:

5000MAH 5K Power Bank Magsafe

Brand Name:

N/A

Model Number:

520M

## Issued By

**Company Name:**

**BTF Testing Lab (Shenzhen) Co., Ltd.**

Address:

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,  
Tantou Community, Songgang Street, Bao'an District, Shenzhen,  
China

Report Number:

BT240118R00601

Test Standards:

47 CFR Part 1 Subpart I Section 1.1310

FCC ID:

2A2YZ-520M

Test Conclusion:

Pass

Test Date:

2024-01-18 to 2024-01-24

Date of Issue:

2024-01-24

Prepared By:

Chris Liu

Chris Liu / Project Engineer

Date:

2024-01-24

Approved By:

Ryan.CJ

Ryan.CJ / EMC Manager

Date:

2024-01-24



*Note: All the test results in this report only related to the testing samples. Which can be duplicated completely for the legal use with approval of applicant; it shall not be reproduced except in full without the written approval of BTF Testing Lab (Shenzhen) Co., Ltd., All the objections should be raised within thirty days from the date of issue. To validate the report, you can contact us.*



Revision History		
Version	Issue Date	Revisions Content
R_V0	2024-01-24	Original
<i>Note:</i>	<i>Once the revision has been made, then previous versions reports are invalid.</i>	

## Table of Contents

1.	Introduction.....	4
1.1	Identification of Testing Laboratory .....	4
1.2	Identification of the Responsible Testing Location.....	4
1.3	Laboratory Condition .....	4
1.4	Announcement.....	4
2.	Product Information.....	5
2.1	Application Information .....	5
2.2	Manufacturer Information.....	5
2.3	Factory Information .....	5
2.4	General Description of Equipment under Test (EUT).....	5
2.5	Test Auxiliary Equipment .....	5
2.6	Test Mode .....	6
1.	Test Requirement.....	7
1.1	Assessment Result .....	9
1.2	Test Set-up Photo .....	15

## 1. Introduction

### 1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

### 1.2 Identification of the Responsible Testing Location

Test Location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Description:	All measurement facilities used to collect the measurement data are located at F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
FCC Registration Number:	518915
Designation Number:	CN1330

### 1.3 Laboratory Condition

Ambient Temperature:	20°C to 25°C
Ambient Relative Humidity:	45% to 55%
Ambient Pressure:	100 kPa to 102 kPa

### 1.4 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

## 2. Product Information

### 2.1 Application Information

Company Name:	NINGBO ECHO INT'L TRADE CO.,LTD
Address:	2FL, 7 Building, NO.688 Jinda Road, Yinzhou Investment Business Centre, Ningbo China 315104

### 2.2 Manufacturer Information

Company Name:	NINGBO ECHO INT'L TRADE CO.,LTD
Address:	2FL, 7 Building, NO.688 Jinda Road, Yinzhou Investment Business Centre, Ningbo China 315104

### 2.3 Factory Information

Company Name:	NINGBO ECHO INT'L TRADE CO.,LTD
Address:	2FL, 7 Building, NO.688 Jinda Road, Yinzhou Investment Business Centre, Ningbo China 315104

### 2.4 General Description of Equipment under Test (EUT)

EUT Name	5000MAH 5K Power Bank Magsafe
Under Test Model Name	520M
Hardware Version	N/A

### 2.5 Test Auxiliary Equipment

Description	Manufacturer	Model	Serial No.	Length	Description	Use
Adapter	HUAWEI	HW-095200CHQ	/	/	Input:100~240V~50/60Hz Output:9V=2A Rated power:Max 40W	<input checked="" type="checkbox"/>
Wireless load	YBZ	/.	/	/	Rated power: Max 5W	<input checked="" type="checkbox"/>

## 2.6 Test Mode

Test item	Test mode	Description
Radiated &Conducted Test cases	ANT1	<i>Mode 1: AC/DC Adapter + EUT + Wireless load (Full Load) Mode 2: AC/DC Adapter + EUT + Wireless load ( Half Load ) Mode 3: AC/DC Adapter + EUT + Wireless load ( Null Load )</i>

*Note: All modes have been tested, and only the worst case ANT1 \_Mode 1 shown in the report.*

## 1. Test Requirement

KDB 680106 D01 RF Exposure Wireless Charging App v03

Human exposure to RF Low frequency emissions from portable devices (47 CFR § 2.1093) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density.

According to the item 5.2 of KDB 680106 D01v03:

TCB Workshop and combine the actual situation of the EUT, For the portable wireless charger, RF exposure evaluation should be made from all sides(six sides) of EUT, with the 0cm to 20cm measured from the center of the probe to the edge of the EUT, in 2cm minimum increment.

E and H field strength measurements or numerical modelling may be used to demonstrate compliance.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

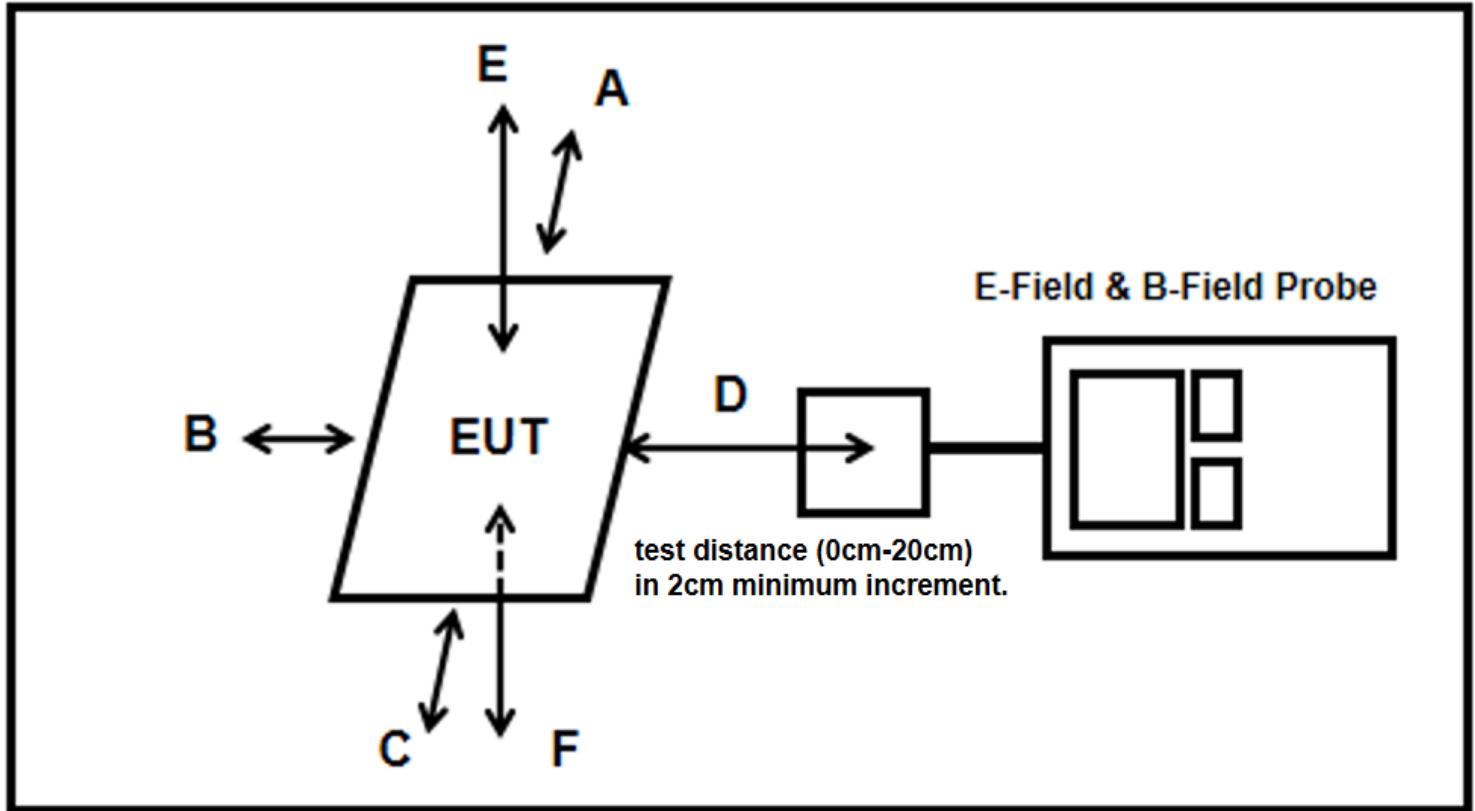
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

### Test Equipment List

Test Equipment	Manufacturer	Model No.	Serial No.	Demensions	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)
Electric and Magnetic Field Analyzer	Narda	EHP-200A	180ZX11001	92*92*109mm	2023.3.29	2024.3.28

## Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, the test distance of A, B, C, D, E, F side is 0cm to 20cm.

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- 3) The EUT was measured according to the dictates of KDB 680106 D01 v03.

## 1.1 Assessment Result

Note:1. Empty load, half load and full load have been tested, and only the worst cast of full load mode are in the report.

0cm

Note: The dimensions of the probe is 92\*92\*109mm and The sensitive elements are located approximately 8 mm below the external surface.

*We tested the values for distances of 2 cm and 4 cm, and we assessed that the attenuation from 4 cm to 2 cm was the same as the attenuation from 2 cm to 0 cm.*

Measured Value (0cm)= Measured Value (2cm)+ (Measured Value (2cm)- Measured Value (4cm))

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	0	0.6205	1.63
Bottom	0	0.6582	1.63
Front	0	0.3747	1.63
Rear	0	0.4903	1.63
Left	0	0.4975	1.63
Right	0	1.4656	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	0	7.3583	614
Bottom	0	10.378	614
Front	0	4.7546	614
Rear	0	3.292	614
Left	0	4.4846	614
Right	0	5.0544	614

2cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	2	0.4377	1.63
Bottom	2	0.5421	1.63
Front	2	0.2279	1.63
Rear	2	0.3058	1.63
Left	2	0.2977	1.63
Right	2	0.8495	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	2	4.5955	614
Bottom	2	6.5245	614
Front	2	3.1364	614
Rear	2	2.0948	614
Left	2	2.9029	614
Right	2	3.2521	614

4cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	4	0.2549	1.63
Bottom	4	0.426	1.63
Front	4	0.0811	1.63
Rear	4	0.1213	1.63
Left	4	0.0979	1.63
Right	4	0.2334	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	4	1.8327	614
Bottom	4	2.671	614
Front	4	1.5182	614
Rear	4	0.8976	614
Left	4	1.3212	614
Right	4	1.4498	614

6cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	6	0.2094	1.63
Bottom	6	0.3425	1.63
Front	6	0.0688	1.63
Rear	6	0.0826	1.63
Left	6	0.0897	1.63
Right	6	0.1752	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	6	1.514	614
Bottom	6	2.0949	614
Front	6	1.4116	614
Rear	6	0.7706	614
Left	6	1.1602	614
Right	6	1.2399	614

8cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	8	0.1402	1.63
Bottom	8	0.2156	1.63
Front	8	0.056	1.63
Rear	8	0.0616	1.63
Left	8	0.0715	1.63
Right	8	0.1085	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	8	1.1008	614
Bottom	8	1.373	614
Front	8	1.0253	614
Rear	8	0.5756	614
Left	8	0.9087	614
Right	8	0.8797	614

10cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	10	0.0908	1.63
Bottom	10	0.1257	1.63
Front	10	0.0411	1.63
Rear	10	0.043	1.63
Left	10	0.0511	1.63
Right	10	0.067	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	10	0.7295	614
Bottom	10	1.0085	614
Front	10	0.6731	614
Rear	10	0.4029	614
Left	10	0.6991	614
Right	10	0.5931	614

12cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	12	0.063	1.63
Bottom	12	0.0806	1.63
Front	12	0.0376	1.63
Rear	12	0.0389	1.63
Left	12	0.0372	1.63
Right	12	0.0436	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	12	0.6421	614
Bottom	12	0.6711	614
Front	12	0.5566	614
Rear	12	0.3117	614
Left	12	0.5335	614
Right	12	0.4619	614

14cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	14	0.0472	1.63
Bottom	14	0.0556	1.63
Front	14	0.0303	1.63
Rear	14	0.0269	1.63
Left	14	0.0328	1.63
Right	14	0.0337	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	14	0.5061	614
Bottom	14	0.4606	614
Front	14	0.4411	614
Rear	14	0.2451	614
Left	14	0.4069	614
Right	14	0.3766	614

16cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	16	0.0398	1.63
Bottom	16	0.0494	1.63
Front	16	0.0293	1.63
Rear	16	0.0285	1.63
Left	16	0.0311	1.63
Right	16	0.0349	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	16	0.4029	614
Bottom	16	0.4225	614
Front	16	0.3843	614
Rear	16	0.2264	614
Left	16	0.3597	614
Right	16	0.3010	614

18cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	18	0.0332	1.63
Bottom	18	0.0378	1.63
Front	18	0.0261	1.63
Rear	18	0.0271	1.63
Left	18	0.0254	1.63
Right	18	0.0258	1.63

Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	18	0.3251	614
Bottom	18	0.3455	614
Front	18	0.3337	614
Rear	18	0.2237	614
Left	18	0.3144	614
Right	18	0.2742	614

20cm

Magnetic Field Strength Measurement

Test Position	Distance (cm)	Measured Value(A/m)	Limit(A/m)
Top	20	0.0281	1.63
Bottom	20	0.0309	1.63
Front	20	0.0236	1.63
Rear	20	0.0271	1.63
Left	20	0.0217	1.63
Right	20	0.0221	1.63

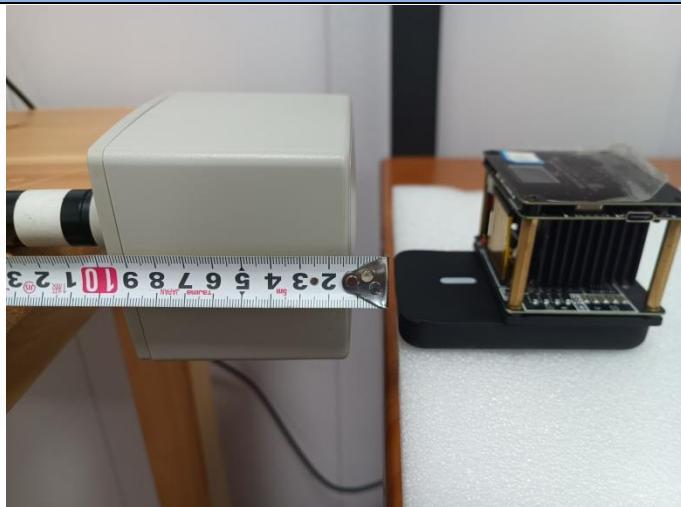
Test Position	Distance (cm)	Measured Value(V/m)	Limit(V/m)
Top	20	0.3210	614
Bottom	20	0.2817	614
Front	20	0.3006	614
Rear	20	0.1945	614
Left	20	0.2890	614
Right	20	0.2243	614

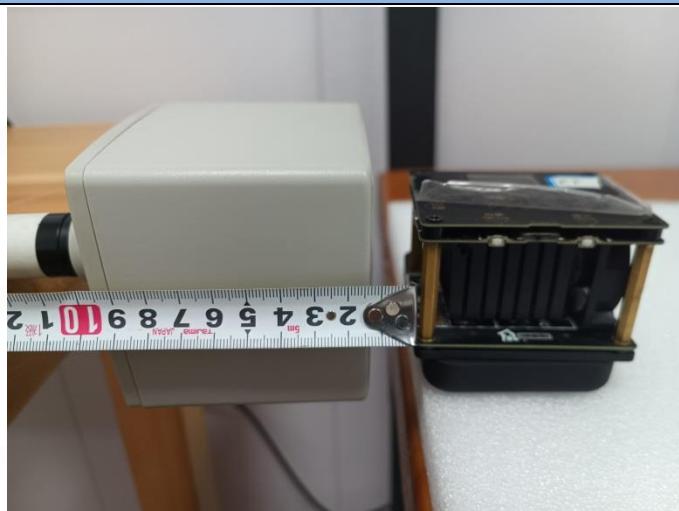
## 1.2 Test Set-up Photo

Front



Rear



**Left****Right**

Top



Below





Test Report Number: BTF240118R00601



BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street,  
Bao'an District, Shenzhen, China

[www.btf-lab.com](http://www.btf-lab.com)

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