

# Test Report

**Report No.:** MTi240507016-01E2

**Date of issue:** 2024-05-21

**Applicant:** Hong Kong Etech Groups Ltd.

**Product:** MAGNETIC POWERBANK

**Model(s):** EPB2606,2IHPP1002,2IHPP1002-BLK-G7,2IHPP1002-WHT-G7,  
2IHPP1002-BLU-G7,2IHPP1002-PPL-G7,2IHPP1002-LPT-G7

**FCC ID:** 2A3ZO-EPB2606

Shenzhen Microtest Co., Ltd.  
[http:// Web: www.mtitest.cn](http://www.mtitest.cn)


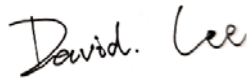
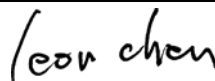
## Instructions

1. This test report shall not be partially reproduced without the written consent of the laboratory.
2. The test results in this test report are only responsible for the samples submitted
3. This test report is invalid without the seal and signature of the laboratory.
4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

# Contents

<b>1</b>	<b>General Description .....</b>	<b>5</b>
1.1	Description of the EUT .....	5
1.2	Description of test modes .....	5
1.3	Description of support units .....	6
<b>2</b>	<b>Measurement uncertainty .....</b>	<b>6</b>
<b>3</b>	<b>Test facilities and accreditations .....</b>	<b>7</b>
3.1	Test laboratory .....	7
<b>4</b>	<b>List of test equipment .....</b>	<b>8</b>
<b>5</b>	<b>Test result .....</b>	<b>9</b>
5.2	Test setup .....	10
5.3	Test Procedures .....	10
5.4	Information of test equipment .....	11
5.5	Test results .....	12
	<b>Photographs of the Test Setup .....</b>	<b>16</b>
	<b>Photographs of the EUT .....</b>	<b>16</b>

Test Result Certification	
<b>Applicant:</b>	Hong Kong Etech Groups Ltd.
<b>Address:</b>	16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area, Xixiang Road, Baoan District, Shenzhen, 518102 China
<b>Manufacturer:</b>	Hong Kong Etech Groups Ltd.
<b>Address:</b>	16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area, Xixiang Road, Baoan District, Shenzhen, 518102 China
<b>Product description</b>	
<b>Product name:</b>	MAGNETIC POWERBANK
<b>Trademark:</b>	N/A
<b>Model name:</b>	EPB2606
<b>Series Model:</b>	2IHPP1002, 2IHPP1002-BLK-G7, 2IHPP1002-WHT-G7, 2IHPP1002-BLU-G7, 2IHPP1002-PPL-G7, 2IHPP1002-LPT-G7
<b>Standards:</b>	FCC CFR 47 PART 1, § 1.1310
<b>Test method:</b>	KDB 680106 D01 Wireless Power Transfer v04
<b>Date of Test</b>	
<b>Date of test:</b>	2024-05-08 to 2024-05-20
<b>Test result:</b>	Pass

<b>Test Engineer</b>	:	
		(Maleah Deng)
<b>Reviewed By</b>	:	
		(David Lee)
<b>Approved By</b>	:	
		(Leon Chen)

## 1 General Description

### 1.1 Description of the EUT

Product name:	MAGNETIC POWERBANK
Model name:	EPB2606
Series Model:	2IHPP1002,2IHPP1002-BLK-G7,2IHPP1002-WHT-G7,2IHPP1002-BLU-G7,2IHPP1002-PPL-G7,2IHPP1002-LPT-G7
Model difference:	All the models are the same circuit and module, except the model name and color.
Electrical rating:	Input: DC 5V 2A Output: USB-C: DC 5V 2A Wireless Output: 5W Battery: DC 3.7V 5000mAh
Accessories:	Cable: USB-A to USB-C cable 30cm
Hardware version:	V1.0
Software version:	V1.0
Test sample(s) number:	MTi240507016-01S1001
<b>RF specification:</b>	
Operation frequency:	115-205KHz
Modulation type:	ASK
Antenna type:	Coil Antenna

### 1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Charging+Wireless Output(5W)
Mode2	Wireless Output(5W)
Mode3	Stand by

### 1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Smartphone	Huawei mate 30	/	HUAWEI
MI CHARGE	MDY-08-EH	YJ2808215006999	MI
Support cable list			
Description	Length (m)	From	To
/	/	/	/

## 2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurements(3kHz~10MHz)	$\pm 14.8\%$
Electric field measurements(3kHz~10MHz)	$\pm 17.5\%$

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

### 3 Test facilities and accreditations

#### 3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

#### 4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E143	Near-field Electric and Magnetic Field Sensor System	Speag	MAGPy-8H3D +ED3 V2	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.4	2.4.1	/	/



## 5 Test result

### 5.1.1 Requirement

§1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

**Table 1 to §1.1310(e)(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>(i) 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
300-1500			f/300	<6
1500-100000			5	<6
<b>(ii) 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
300-1500			f/1500	<30
1500-100000			1.0	<30

f = frequency in MHz

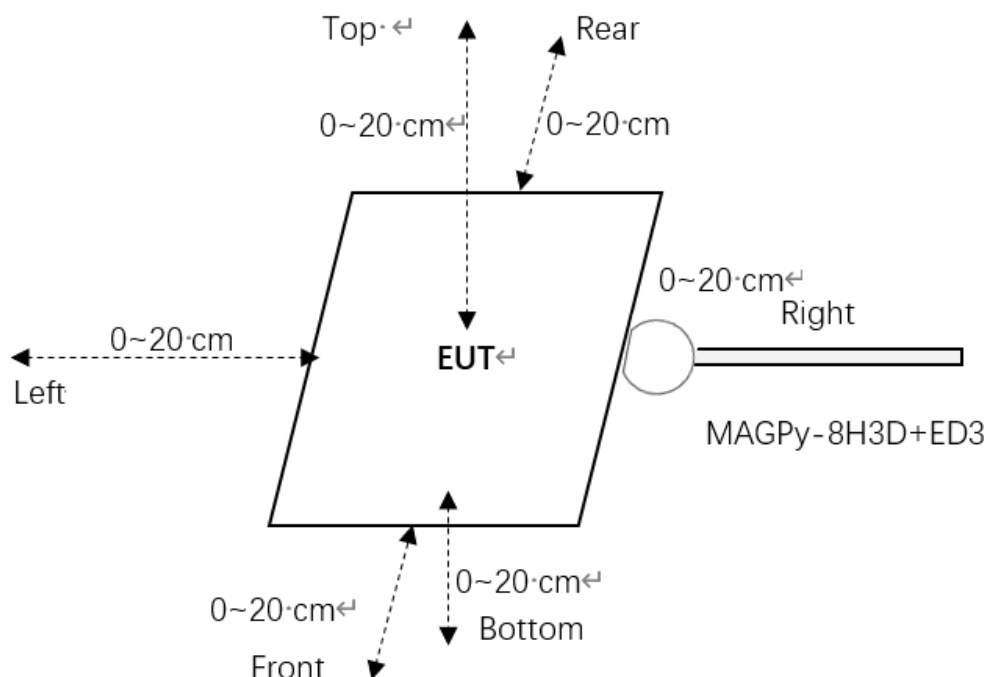
\* = Plane-wave equivalent power density

**Note 1:** Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

**Note 2:** General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

## 5.2 Test setup

0~20cm distance:



Note: tips mode of the test probe is used for 0cm measurement.

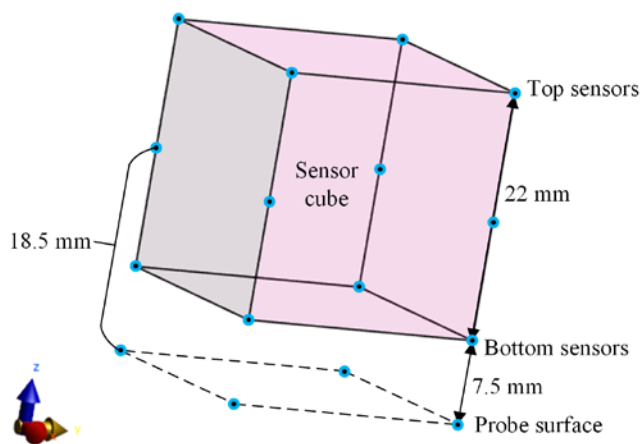
## 5.3 Test Procedures

a. H-field measurements should be taken 0 cm ~ 20 cm with 2 cm increments from the center of the probe.

The center of the probe to the tip surface of the probe is 18.5 mm, so the directly testing can be performed at the probe center from 2 cm to 20 cm.

To measure the 0 cm H-field, the probe tip mode is used. The total H-field at the tip-surface  $H_{tip-surface}$  can be extrapolated using the total H-field measured at the top and bottom sensors,  $H_{top}$  and  $H_{bottom}$ , as well as the normalized H-field gradient  $G_n$ . The field extrapolation formula is a polynomial function of  $G_n$  ( $\Delta d = 18.5$  mm)

$$H_{tip-surface} = \frac{H_{bottom} + H_{top}}{2} \sum_{i=0}^7 ci(G_n \Delta d)^i$$



## 5.4 Information of test equipment

Test equipment: MAGPy-8H3D+ED3	
Diameter	60mm
8 isotropic H-field sensors	Concentric loops of 1cm <sup>2</sup> arranged at the corner of a cube of 22mm side length
1 isotropic E-field sensor	Orthogonal dipole/monopole (arm length: 50mm)
Measurement center	18.5mm from the probe tip
Dimensions	110*635*35mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)



Test probe, without the casing

Item	Specification
Test frequency range:	3kHz ~ 10MHz
Probe sensitivity	E-field: 0.08-2000 V/m H-field: 0.1-3200 A/m
Probe level response	E-field: $\pm 1$ dB H-field: $\pm 1$ dB
linearity error	E-field: $\pm 0.3$ dB H-field: $\pm 0.3$ dB
Isotropy	E-field: $\pm 0.8$ dB H-field: $\pm 0.6$ dB

## 5.5 Test results

**Test condition 1: Mode 2 operating mode with client device (1 % battery status of client device)**  
**-estimated value: 0cm**

**Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.86	1.63	96.93%
	Left	1.24		
	Right	1.38		
	Front	1.23		
	Rear	1.58		
	Bottom	0.19		

**Test condition 2: Mode 2 operating mode with client device (1 % battery status of client device)**  
**- Test distance: 2cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.54	1.63	63.19%
	Left	0.87		
	Right	0.90		
	Front	0.98		
	Rear	1.03		
	Bottom	0.1		

**Test condition 3: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 4cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.09	1.63	8.59%
	Left	0.11		
	Right	0.08		
	Front	0.09		
	Rear	0.14		
	Bottom	0.07		

**Test condition 4: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 6cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.04	1.63	5.52%
	Left	0.06		
	Right	0.08		
	Front	0.05		
	Rear	0.09		
	Bottom	0.03		

**Test condition 5: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 8cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00934	1.63	0.61%
	Left	0.00948		
	Right	0.00981		
	Front	0.00832		
	Rear	0.00997		
	Bottom	0.00810		

**Test condition 6: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 10cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00710	1.63	0.52%
	Left	0.00794		
	Right	0.00825		
	Front	0.00716		
	Rear	0.00846		
	Bottom	0.00721		

**Test condition 7: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 12cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00625	1.63	0.45%
	Left	0.00713		
	Right	0.00729		
	Front	0.00657		
	Rear	0.00731		
	Bottom	0.00607		

**Test condition 8: Mode 2 operating mode with client device (1 % battery status of client device)**
**- Test distance 14cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00519	1.63	0.37%
	Left	0.00553		
	Right	0.00594		
	Front	0.00564		
	Rear	0.00597		
	Bottom	0.00417		

**Test condition 9: Mode 2 operating mode with client device (1 % battery status of client device)**  
**- Test distance 16cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00461	1.63	0.30%
	Left	0.00464		
	Right	0.00485		
	Front	0.00395		
	Rear	0.00497		
	Bottom	0.00417		

**Test condition 10: Mode 2 operating mode with client device (1 % battery status of client device)**  
**- Test distance 18cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00395	1.63	0.29%
	Left	0.00415		
	Right	0.00467		
	Front	0.00384		
	Rear	0.00473		
	Bottom	0.00367		

**Test condition 11: Mode 2 operating mode with client device (1 % battery status of client device)**  
**- Test distance 20cm**

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.00334	1.63	0.24%
	Left	0.00367		
	Right	0.00397		
	Front	0.00359		
	Rear	0.00386		
	Bottom	0.00319		

## Photographs of the Test Setup

See the Appendix - Test Setup Photos.

## Photographs of the EUT

See the Appendix - EUT Photos.

**----End of Report----**