

# Test Report

**Report No.:** MTi240318003-05E2

**Date of issue:** 2024-04-15

**Applicant:** Dongguan Huachuangxin Electronics Co., Ltd

**Product:** power bank

**Model(s):** H305

**FCC ID:** 2BCQJ-H305

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


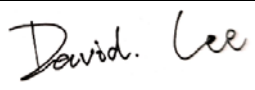
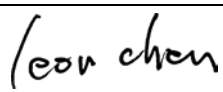
## Instructions

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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.

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<b>Test Result Certification</b>	
<b>Applicant:</b>	Dongguan Huachuangxin Electronics Co., Ltd
<b>Address:</b>	Room 101, No. 16 Yi'an West Road, Yantian Village, Fenggang Town, Dongguan City
<b>Manufacturer:</b>	Dongguan Huachuangxin Electronics Co., Ltd
<b>Address:</b>	Room 101, No. 16 Yi'an West Road, Yantian Village, Fenggang Town, Dongguan City
<b>Product description</b>	
<b>Product name:</b>	power bank
<b>Trademark:</b>	N/A
<b>Model name:</b>	H305
<b>Series Model:</b>	N/A
<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>	2024-04-02 to 2024-04-15
<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:	power bank
Model name:	H305
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: DC 5V 3A, 9V 2A, 12V1.56A Output: Type-C cable: 5V1A; Lightning cable: DC 5V1A; Total Output: DC 5V 0.5A; Wireless Output: 2.5W(Max) Battery: DC 3.7V 5000mAh
Accessories:	Cable: USB-C to USB-C cable 30cm
Hardware version:	H305-v1.0
Software version:	RoHS
Test sample(s) number:	MTi240318003-05S1001
<b>RF specification:</b>	
Operation frequency:	300-350KHz
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	Watch Output(2.5W)
Mode2	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
iwatch	iwatch S7	M0JVGQG1VP	Apple
MI CHARGE(18W)	MDY-08-EH	YJ2808215006999	MI

Support cable list			
Description	Length (m)	From	To
/	/	/	/

## 2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurement (9kHz~30MHz)	± 18.6%
Electric field measurements (9kHz~30MHz)	± 18.6%

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	2023/4/13	2025/4/12

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

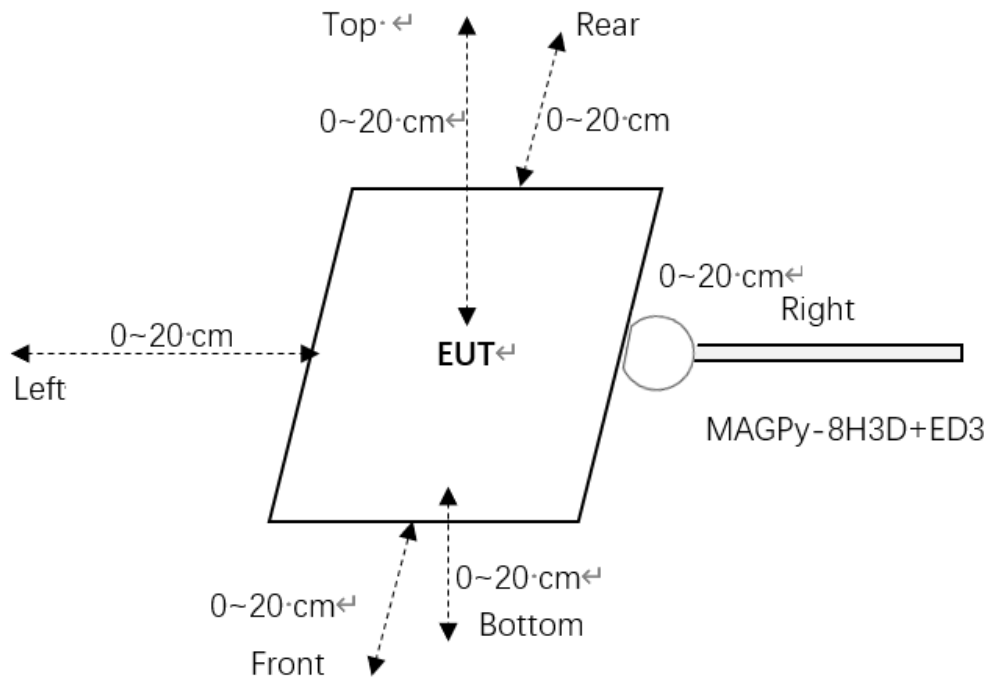
\* = Plane-wave equivalent power density

**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.

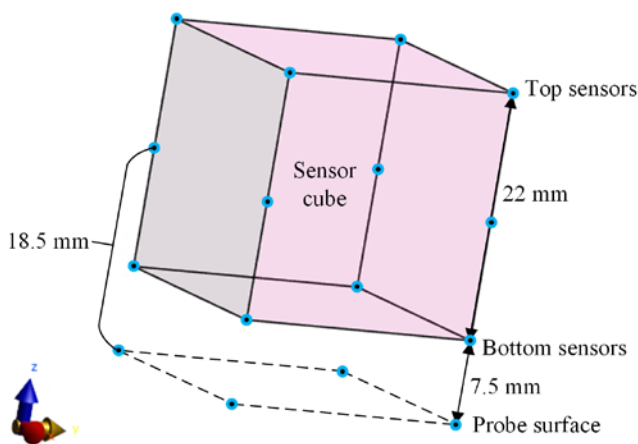
## 5.3 Test Procedures

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.

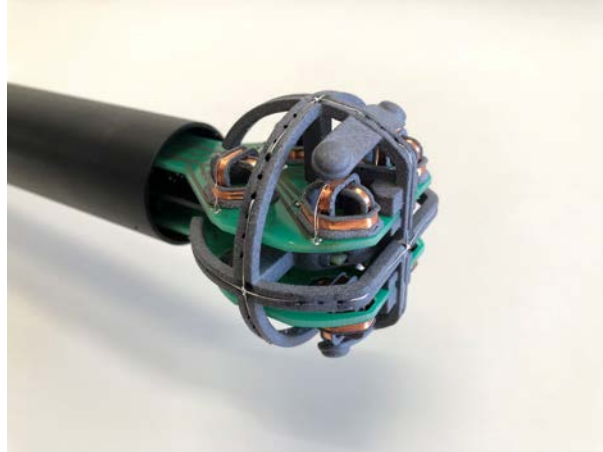
To measure the 0 cm H-field, the probe tip mode is used. The total H-field at the tip-surface  $H_{tip-surface}$  can be extrapolated using the total H-field measured at the top and bottom sensors,  $H_{top}$  and  $H_{bottom}$ , as well as the normalized H-field gradient  $G_n$ . The field extrapolation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

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



## 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: ± 1dB H-field: ± 1dB
linearity error	E-field: ± 0.3dB H-field: ± 0.3dB
Isotropy	E-field: ± 0.8dB H-field: ± 0.6dB

### 5.5 Equipment Approval Considerations

Requirement	Device
1. The power transfer frequency is below 1 MHz.	Yes. The operating frequencies are: 300-350KHz
2. The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.	Yes. The maximum output power is: 2.5W Max
3. A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)	Yes. The client device is placed directly in contact with the transmitter.
4. Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).	Yes. Mobile exposure conditions only.
5. The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.	Yes. See the test result in item 5.6.
6. For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.	Yes. The EUT has a radiating structure and all scenarios have been tested.

## 5.6 Test results

**Test condition 1: Mode 1 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	52.76%
	Left	0.22		
	Right	0.12		
	Front	0.36		
	Rear	0.21		
	Bottom	0.05		

**Test condition 2: Mode 1 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	0.07	1.63	4.29%
	Left	0.05		
	Right	0.02		
	Front	0.05		
	Rear	0.03		
	Bottom	0.02		

**Test condition 3: Mode 1 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	0.06	1.63	3.68%
	Left	0.04		
	Right	0.02		
	Front	0.03		
	Rear	0.02		
	Bottom	0.03		

**Test condition 4: Mode 1 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	0.02000	1.63	1.23%
	Left	0.01000		
	Right	0.00587		
	Front	0.00458		
	Rear	0.00356		
	Bottom	0.00285		

**Test condition 5: Mode 1 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	0.01000	1.63	0.61%
	Left	0.00432		
	Right	0.00589		
	Front	0.00453		
	Rear	0.00323		
	Bottom	0.00364		

**Test condition 6: Mode 1 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	0.00581	1.63	0.36%
	Left	0.00349		
	Right	0.00352		
	Front	0.00265		
	Rear	0.00231		
	Bottom	0.00322		

**Test condition 7: Mode 1 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	0.00487	1.63	0.30%
	Left	0.00325		
	Right	0.33232		
	Front	0.00233		
	Rear	0.00231		
	Bottom	0.00243		

**Test condition 8: Mode 1 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	0.00432	1.63	0.27%
	Left	0.00342		
	Right	0.00341		
	Front	0.00322		
	Rear	0.00312		
	Bottom	0.00324		

**Test condition 9: Mode 1 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	0.00422	1.63	0.26%
	Left	0.00233		
	Right	0.00231		
	Front	0.00231		
	Rear	0.00253		
	Bottom	0.00211		

**Test condition 10: Mode 1 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	0.00434	1.63	0.27%
	Left	0.00354		
	Right	0.00323		
	Front	0.00243		
	Rear	0.00212		
	Bottom	0.00254		

**Test condition 11: Mode 1 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	0.00539	1.63	0.33%
	Left	0.00432		
	Right	0.00412		
	Front	0.00436		
	Rear	0.00324		
	Bottom	0.00321		



## **Photographs of the Test Setup**

See the Appendix - Test Setup Photos.

## **Photographs of the EUT**

See the Appendix - EUT Photos.

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