Shenzhen Huaxia Testing Technology Co., Ltd.

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RF Exposure Evaluation Report

Report No.:	CQASZ20240701328E-02
Applicant:	Shenzhen Itian Technology Co., LTD
Address of Applicant:	6F, Building D, Phase 2nd, Anfeng Industrial Park, Dalang Street, Longhua District, Shenzhen, China

Equipment Under Test (EUT):

Product:	MAGNETIC POWER BANK
Model No.:	MP06, MP07, B751
Test Model No.:	MP06
Brand Name:	ITIAN
FCC ID:	2AUDO-MP06MP07
Standards:	47 CFR Part 1.1307 47 CFR Part 1.1310 KDB 680106 D01 RF Exposure Wireless Charging Base App v04r01
Date of Receipt:	2024-7-29
Date of Test:	2024-7-29 to 2024-8-5
Date of Issue:	2024-8-12
Test Result :	**PASS***

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

Tested By: _____
(Joe Wang)

Reviewed By: _____
(Timo Lei)

Approved By: _____
(Alex Wang)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20240701328E-02	Rev.01	Initial report	2024-8-12

2 Contents

3 General Information

3.1 Client Information

Applicant:	Shenzhen Itian Technology Co., LTD
Address of Applicant:	6F, Building D, Phase 2nd, Anfeng Industrial Park, Dalang Street, Longhua District, Shenzhen, China
Manufacturer:	Shenzhen Itian Technology Co., LTD
Address of Manufacturer:	6F, Building D, Phase 2nd, Anfeng Industrial Park, Dalang Street, Longhua District, Shenzhen, China
Factory:	Shenzhen Itian Technology Co., LTD
Address of Factory:	6F, Building D, Phase 2nd, Anfeng Industrial Park, Dalang Street, Longhua District, Shenzhen, China

3.2 General Description of EUT

Product Name:	MAGNETIC POWER BANK
Model No.:	MP06, MP07, B751
Test Model No.:	MP06
Brand Name:	ITIAN
Software Version:	V1.0
Hardware Version:	V1.0
EUT Power Supply:	DC 5V⎓2A/ 9V⎓2A/ DC 12V ⎓1.67A Battery: 10000mAh(38.5Wh/3.85V)

3.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency
Operation Frequency range:	115kHz~205kHz 315kHz~330kHz
Modulation Type:	ASK
Antenna Type:	Induction coil
Antenna Gain:	0dBi

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.

3.4 Test Environment

Operating Environment:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	100.9 mbar
Test Mode:	
Mode a:	Keep the EUT Charging+Wireless Charging pad1Watch Out Put 3W (Max)
Mode b:	Keep the EUT Charging+Wireless Charging pad2 for Phone Out Put 5W (Max)
Mode c:	Keep the EUT Charging+Keep the EUT Wireless Out Put for Phone Out Put 5W+ Watch Out Put 3W 8W (Max)
Mode d:	Keep the EUT Wireless Charging pad1 for Watch Out Put 3W (Max)
Mode e:	Keep the EUT Wireless Charging pad2 for Phone Out Put 5W
Mode f:	Keep the EUT Wireless Charging pad2 for Phone Out Put 7.5W
Mode g:	Keep the EUT Wireless Charging pad2 for Phone Out Put 10W
Mode h:	Keep the EUT Wireless Charging pad2 for Phone Out Put 15W (Max)
Mode i:	Keep the EUT Wireless Out Put for Phone Out Put 15W+for Watch Out Put 3W 18W (Total MAX)
Note: The above test modes all include full load,empty load,and half load, The worst-case state reflected in this report is the fully loaded state	

3.5 Description of Support Units

The EUT has been tested with associated equipment below.

1）Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	LPL-C010050200Z	/	CQA
Wireless charge load1	/	/	/	CQA
Wireless charge load2	/	/	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

3.6 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

3.7 Test Facility

• **A2LA (Certificate No. 4742.01)**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• **FCC Registration No.: 522263**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

3.8 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy-8H3D+E3D	3096	2024/3/12	2025/3/12
Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy-DAS	3093	2024/3/12	2025/3/12

3.9 Test Software

Software name	Manufacturer	Model	Version
MAGPy V2.0	Schmid & Partner Engineering AG	MAGPy V2.0	V2.0

3.10

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

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^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

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v04

Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

4.1.2 Test Procedure

a. The RF exposure test was performed in anechoic chamber.

b. Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 20 cm.

c. The highest emission level was recorded and compared with limit.

d.The EUT was measured according to the dictates of TCB Workshop "41-Part-18-&-Wireless-Power-Transfer - April 27,2022”

Equipment Approval Considerations item 5 b) of KDB 680106 D01 Wireless Power Transfer v04

Requirement	Device
1.Power transfer frequency is less than 1 MHz	Yes. The operating frequencies are.Operating Frequency: 115 kHz - 205 kHz 315kHz - 330kHz
2. Output power from each primary coil is less than or equal to 15 watts.	Yes. The maximum output power is:Wireless Output: 15W(Max)
3. 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 sametime.	Yes. EUT has two coils that can work simultaneously
4. Client device is placed directly in contact with the transmitter.	Yes. The client device is placed directly in contact with the transmitter.
5.Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)	No, This EUT is mounted under a desk/table and the user's legs may be in direct contact with the device for long periods of time, so this device was evaluated as a portable WPT
6. The aggregate H-field strengths anywhere at or beyond 20 cm surrounding the device, and 20cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.	Yes, The H-field measurements for each edge/top surface of the host/client pair at every 2cm, starting from as close as possible out to 20cm were also evaluated for portable usecondition.

4.1.3 Test Result

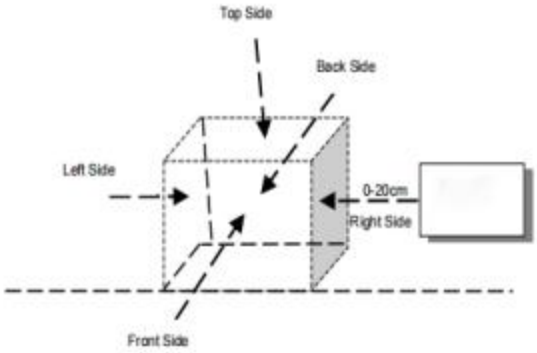
For portable exposure condition:

Operating modes with client device (1 %, 50%, 99% battery status of client device) have been test, only show the data of worst case of 1% battery status of client device.

H-field measurements taken every 2 cm (starting as close to 20 cm as possible) on each edge/top surface of the host/client pair were also evaluated for portable use conditions. The report reflects data for the worst 0 cm test distance mode only.

Test condition 1: Mode 3 operating mode with client device (1 % battery status of client device) -test distance: 0cm

4.1.4 Test Setup



Note: Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 20 cm

4.1.5 Test Results

For portable exposure condition:
Operating modes with client device (1 %, 50%, 99% battery status of client device) have been test, only show the data of worst case of 1% battery status of client device.
H-field measurements taken every 2 cm (starting as close to 20 cm as possible) on each edge/top surface of the host/client pair were also evaluated for portable use conditions. The report reflects data for the worst 0 cm test distance mode only.
Test condition 1: Mode 3 operating mode with client device (1 % battery status of client device) -test distance: 0cm

Test Mode: Mode a

H-field strength test result:

test distance: 0cm

Measurement results directly tested using MAGPy.

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	21.3	0.11
<1%	Left	0	15.4	0.16
<1%	Right	0	14.3	0.15
<1%	Front	0	41.4	0.21
<1%	Back	0	46.3	0.18
<1%	Bottom	0	60.3	0.27
Limit			307	0.815
test result			PASS	PASS

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	24.2	0.25
<1%	Left	0	15.2	0.13
<1%	Right	0	16.7	0.17
<1%	Front	0	52.1	0.39
<1%	Back	0	48.6	0.25
<1%	Bottom	0	59.7	0.44
Limit			307	0.815
test result			PASS	PASS

Test Mode: Mode i

H-field strength test result:

test distance: 0cm

Measurement results directly tested using MAGPy.

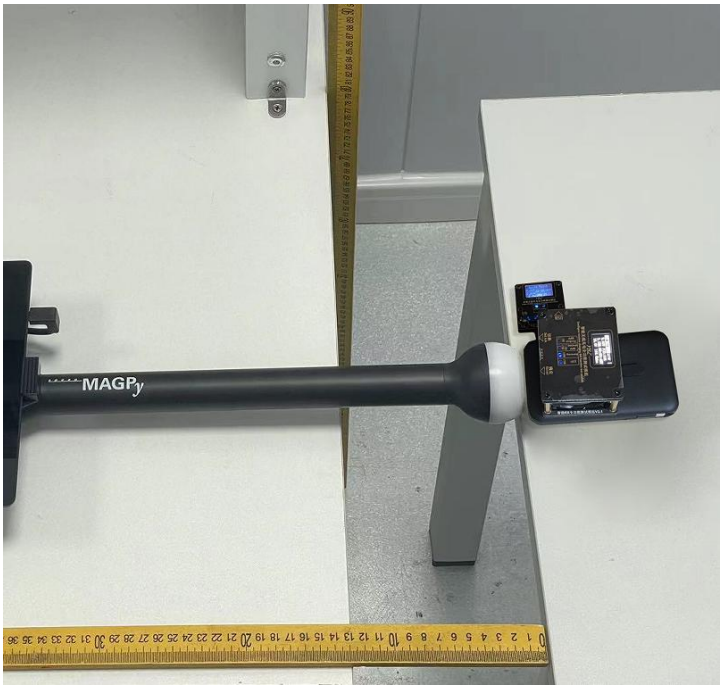
Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	17.5	0.19
<1%	Left	0	14.6	0.13
<1%	Right	0	15.9	0.14
<1%	Front	0	40.6	0.20
<1%	Back	0	47.4	0.22
<1%	Bottom	0	58.3	0.35
Limit			307	0.815
test result			PASS	PASS

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0mm as the result.

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	23.4	0.24
<1%	Left	0	16.1	0.19
<1%	Right	0	15.3	0.11
<1%	Front	0	50.3	0.35
<1%	Back	0	50.6	0.25
<1%	Bottom	0	61.8	0.41
Limit			307	0.815
test result			PASS	PASS

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

DC



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