

Test Report

Report No.: MTi220401014-01E2

Date of issue: Apr. 16, 2022

Applicant: Shenzhen Topband Co., Ltd

Product: Wireless Charging Power Bank

Model(s): WPB02

FCC ID: 2ADDW-WBP02M

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

Instructions

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2. The test results in this test report are only responsible for the samples submitted
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5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

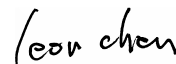
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Test Result Certification	
Applicant:	Shenzhen Topband Co., Ltd
Address:	Topband Industrial Park, LiYuan Industrial Zone, ShiYan Town, Bao'An District, shenzhen, China
Manufacturer:	Shenzhen Topband Co., Ltd
Address:	Topband Industrial Park, LiYuan Industrial Zone, ShiYan Town, Bao'An District, shenzhen, China
Factory:	Shenzhen Topband Co., Ltd
Address:	Topband Industrial Park, LiYuan Industrial Zone, ShiYan Town, Bao'An District, shenzhen, China
Product description	
Product name:	Wireless Charging Power Bank
Trademark:	N/A
Model name:	WPB02
Serial Model:	N/A
Standards:	FCC CFR 47 PART 1, § 1.1310
Test method:	KDB 680106 v03r01
Date of Test	
Date of test:	2022-04-06 ~ 2022-04-16
Test result:	Pass

Test Engineer :


(Yanice Xie)

Reviewed By: :


(Leon Chen)

Approved By: :


(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	Wireless Charging Power Bank
Model name:	WPB02
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: DC: 5V 2.0A/9V 1.5A Output: USB-C: DC: 5V 2.0A/9V 1.5A/12V 1.1A Wireless Output: 5W, 7.5W, 10W Battery: DC 3.7V 5000mAh
Accessories:	N/A
Hardware version:	S00
Software version:	V1.0
RF specification:	
Operation frequency:	115 kHz – 205 kHz
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
Mode 1	Stand-by mode
Mode 2	Charging+Wireless Output (5W)
Mode 3	Wireless Output (5W)
Mode 4	Wireless Output (7.5W)
Mode 5	Wireless Output (10W)
The test data only show worst test mode: Mode 4	

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
Mobile phone	S9+	/	YBZ
Mobile phone	IPHONE 12	/	Apple
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Test facilities and accreditations

2.1 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

3 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E115	Electric and Magnetic Field Probe – Analyzer	Narda	EHP-200A	101166	2021/06/02	2022/06/01

4 Test result

4.1.1 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 ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
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
1500-100000			5	<6
(ii) 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
1500-100000			1.0	<30

f = frequency in MHz

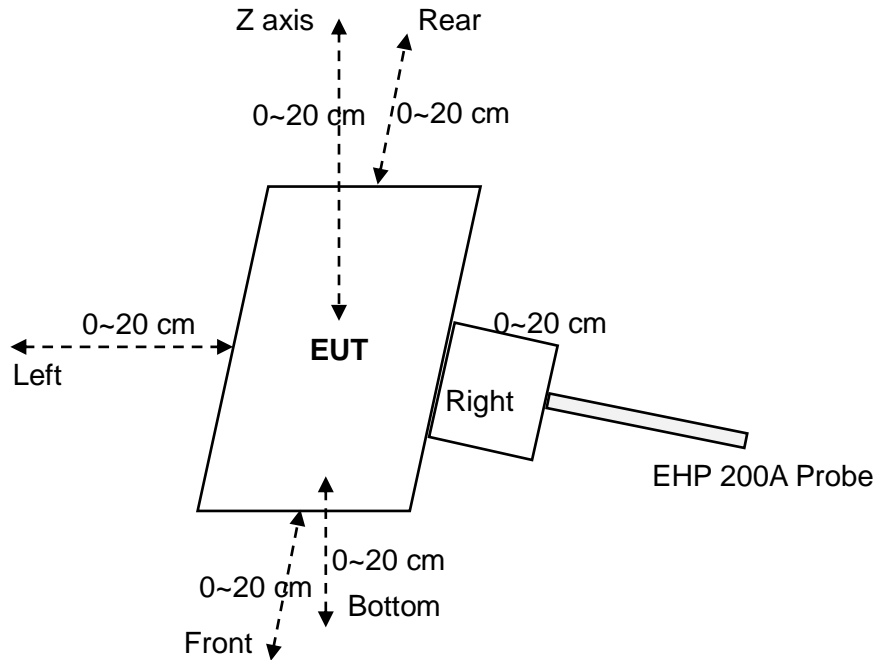
* = Plane-wave equivalent power density

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.

4.2 Test setup

For portable exposure conditions:



4.3 Test Procedures

For portable exposure conditions:

- 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.

4.4 Equipment Approval Considerations item 5 b) of KDB 680106 D01 v03r01

Requirement	Device
1. Power transfer frequency is less than 1 MHz.	Yes. The operating frequencies are: 115 kHz – 205 kHz
2. Output power from each primary coil is less than or equal to 15 watts	Yes. The maximum output power is: 10W
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 same time.	Yes. The EUT has one source primary coils.
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. The EUT has portable exposure condition.
6. The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm 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.	No, and 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 were also evaluated for portable use condition.

4.5 Test results

Note: 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.

Test condition 1: Mode 4 operating mode with client device (1 % battery status of client device)
-test distance: 0cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.2496	1.63	58.17%
	Left	0.0588		
	Right	0.9482		
	Front	0.7896		
	Rear	0.3992		
	Bottom	0.6269		

Test condition 2: Mode 4 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	0.1304	1.63	34.35%
	Left	0.0611		
	Right	0.3586		
	Front	0.5599		
	Rear	0.2797		
	Bottom	0.3841		

Test condition 3: Mode 4 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	0.0632	1.63	23.17%
	Left	0.0488		
	Right	0.1402		
	Front	0.3777		
	Rear	0.1941		
	Bottom	0.1459		

Test condition 4: Mode 4 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	0.0653	1.63	22.95%
	Left	0.0454		
	Right	0.1457		
	Front	0.3741		
	Rear	0.1953		
	Bottom	0.1405		

Test condition 5: Mode 4 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	0.068	1.63	22.72%
	Left	0.0409		
	Right	0.1318		
	Front	0.3704		
	Rear	0.1954		
	Bottom	0.1541		

Test condition 6: Mode 4 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	0.0728	1.63	22.56%
	Left	0.0514		
	Right	0.1355		
	Front	0.3677		
	Rear	0.1918		
	Bottom	0.1439		

Test condition 7: Mode 4 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	0.0654	1.63	11.49%
	Left	0.0489		
	Right	0.0826		
	Front	0.1873		
	Rear	0.1147		
	Bottom	0.0925		

Test condition 8: Mode 4 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	0.0538	1.63	5.13%
	Left	0.0476		
	Right	0.0571		
	Front	0.0836		
	Rear	0.0743		
	Bottom	0.0622		

Test condition 9: Mode 4 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	0.0469	1.63	3.98%
	Left	0.0453		
	Right	0.0431		
	Front	0.0571		
	Rear	0.0648		
	Bottom	0.0517		

Test condition 10: Mode 4 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	0.0429	1.63	3.79%
	Left	0.0416		
	Right	0.0435		
	Front	0.0422		
	Rear	0.0617		
	Bottom	0.0483		

Test condition 11: Mode 4 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	0.0437	1.63	2.95%
	Left	0.0425		
	Right	0.0481		
	Front	0.0426		
	Rear	0.0436		
	Bottom	0.0418		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----