

# Test Report

**Report No.:** MTi220507010-01E2

**Date of issue:** 2022-08-03

**Applicant:** Shenzhen Powerqi Technology Co., Ltd.

**Product:** 3 in 1 Wireless Charging Station

**Model(s):** LM10

**FCC ID:** 2AFP2LM10

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

## Instructions

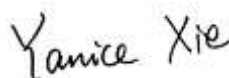
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3. This test report is invalid without the seal and signature of the laboratory.
4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
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# Contents

<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 .....	7
<b>2</b>	<b>Test facilities and accreditations.....</b>	<b>8</b>
2.1	Test laboratory .....	8
<b>3</b>	<b>List of test equipment .....</b>	<b>8</b>
<b>4</b>	<b>Test result .....</b>	<b>9</b>
4.2	Test setup .....	10
4.3	Test Procedures.....	10
4.4	Equipment Approval Considerations item 5 b) of KDB 680106 D01 v03r01 .....	11
4.5	Test results .....	12
	<b>Photographs of the Test Setup.....</b>	<b>13</b>
	<b>Photographs of the EUT.....</b>	<b>13</b>

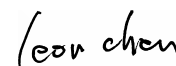
<b>Test Result Certification</b>	
<b>Applicant:</b>	<b>Shenzhen Powerqi Technology Co., Ltd.</b>
Address:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen, China
<b>Manufacturer:</b>	<b>Shenzhen Powerqi Technology Co., Ltd.</b>
Address:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen, China
<b>Factory:</b>	<b>Shenzhen Powerqi Technology Co., Ltd.</b>
Address:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen, China
<b>Product description</b>	
Product name:	3 in 1 Wireless Charging Station
Trademark:	POWERQI
Model name:	LM10
Serial Model:	N/A
Standards:	FCC CFR 47 PART 1, § 1.1310
Test method:	KDB 680106 v03r01
<b>Date of Test</b>	
Date of test:	2022-05-07 ~ 2022-05-27
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:	3 in 1 Wireless Charging Station
Model name:	LM10
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: 5V 3A, 9V 3A, 12V 3A Wireless Output: phone: 5W/7.5W/15W, AirPods: 5W, Watch: 3W
Accessories:	Cable: USB-C to USB-C cable 1.5m
Hardware version:	PQ-LM10-L15-V10
Software version:	B1A6
<b>RF specification:</b>	
Operation frequency:	Transmitter1: 115 kHz – 205 kHz Transmitter2: 115 kHz – 205 kHz Transmitter3: 326.5 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	Wireless Output(5W)
Mode 2	Wireless Output(7.5W)
Mode 3	Wireless Output(15W)
Mode 4	AirPods
Mode 5	Watch
Mode 6	Wireless Output(5W)+ AirPods
Mode 7	Wireless Output(7.5W)+ AirPods
Mode 8	Wireless Output(15W)+ AirPods
Mode 9	Wireless Output(5W)+ Watch
Mode 10	Wireless Output(7.5W)+ Watch
Mode 11	Wireless Output(15W)+ Watch
Mode 12	AirPods + Watch
Mode 13	Wireless Output(5W)+ AirPods +Watch

Mode 14	Wireless Output(7.5W)+ AirPods +Watch
Mode 15	Wireless Output(15W)+ AirPods +Watch
Mode 16	Stand-by
<b>The test data only show worst test mode: Mode 15</b>	

### 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.

<b>Support equipment list</b>			
Description	Model	Serial No.	Manufacturer
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.
Watch	/	/	Apple
iPhone	12 mini	/	Apple
Air Pods	/	/	Apple
<b>Support cable list</b>			
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 <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

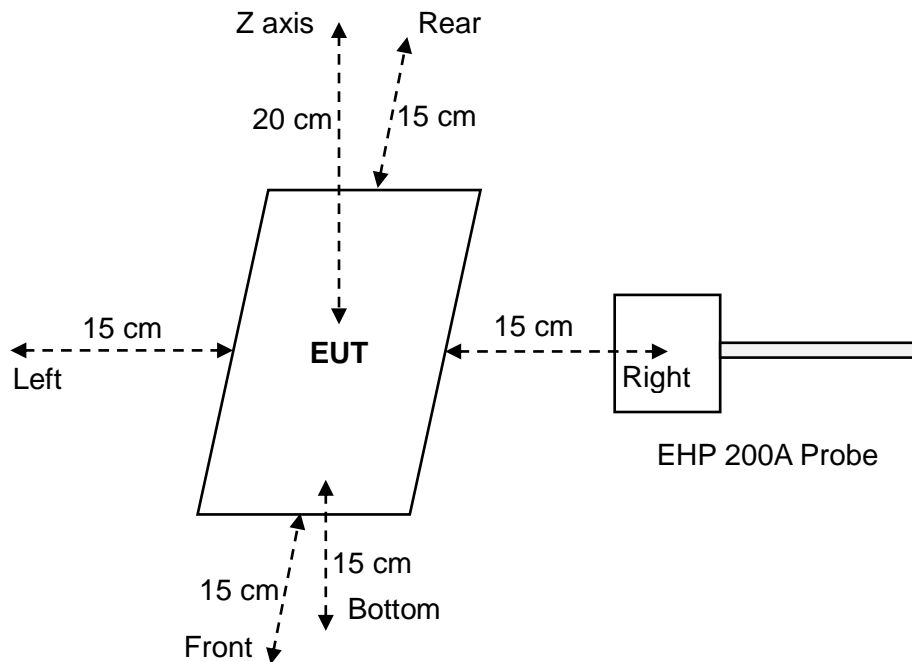
f = frequency in MHz

\* = 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.

## 4.2 Test setup



## 4.3 Test Procedures

- The RF exposure test was performed in anechoic chamber.
- E and H-field measurements should be made with the center of the probe at a distance of 15 cm surrounding the device and 20 cm above the top surface of the primary/client pair.
- The highest emission level was recorded and compared with limit.
- The EUT was measured according to the dictates of KDB 680106 v03r01.

**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: Transmitter1: 115 kHz – 205 kHz Transmitter2: 115 kHz – 205 kHz Transmitter3: 326.5 kHz
2. Output power from each primary coil is less than or equal to 15 watts	Yes. The maximum output power is: Transmitter1: 15W Transmitter2: 5W Transmitter3: 3W
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 three 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).	Yes. Mobile exposure conditions only.
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.	Yes. See the test result in item 4.5.

**4.5 Test results**
**Test condition 1: Mode 15 operating mode with client device (1 % battery status of client device)**

Antenna	Probe Position	E -field (V/m)			H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
1	Z axis	0.5884	614	0.10%	0.0495	1.63	5.98%
	Left	0.431			0.0594		
	Right	0.3727			0.0485		
	Front	0.4361			0.0723		
	Rear	0.3701			0.049		
	Bottom	0.6283			0.0974		

**Test condition 2: Mode 15 operating mode with client device (50 % battery status of client device)**

Antenna	Probe Position	E -field (V/m)			H-field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	0.5905	614	0.10%	0.0589	1.63	6.25%
	Left	0.4291			0.067		
	Right	0.3869			0.0558		
	Front	0.4482			0.0669		
	Rear	0.364			0.0523		
	bottom	0.6409			0.1018		

**Test condition 3: Mode 15 operating mode with client device (99 % battery status of client device)**

Antenna	Probe Position	E -field (V/m)			H-field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	0.5737	614	0.10%	0.0436	1.63	5.92%
	Left	0.4161			0.0574		
	Right	0.3638			0.0406		
	Front	0.4316			0.0699		
	Rear	0.3582			0.0486		
	bottom	0.6173			0.0965		

## **Photographs of the Test Setup**

See the Appendix - Test Setup Photos.

## **Photographs of the EUT**

See the Appendix - EUT Photos.

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