



RF EXPOSURE Test Report

Report No.: MTi210526017-04E5

Date of issue: June 24, 2021

Applicant: Shenzhen Powerqi Technology
Co., Ltd

Product name: Wireless Charging Bluetooth
Speaker

Model(s): TB20C

FCC ID: 2AFP2TB20C

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



Instructions

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



TEST RESULT CERTIFICATION

Applicant's name.....:	Shenzhen Powerqi Technology Co., Ltd
Address.....:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen, China
Manufacturer's Name	Shenzhen Powerqi Technology Co., Ltd
Address.....:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen, China

Product description

Product name	Wireless Charging Bluetooth Speaker
Trademark	POWERQI
Model Name	TB20C
Serial Model	N/A
Standards.....:	FCC CFR 47 PART 1 , 1.1310
Test procedure	KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

Date of Test

Date (s) of performance of tests	May 31, 2021 ~ June 11, 2021
Test Result.....:	Pass

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Testing Engineer

:

Cindy Qin

(Cindy Qin)

Technical Manager

:

Leo Su

(Leo Su)

Authorized Signatory

:

Tom Xue

(Tom Xue)



Table of Contents

1	GENERAL INFORMATION.....	5
1.1	DESCRIPTION OF EUT	5
1.2	ANCILLARY EQUIPMENT LIST	5
1.3	MEASUREMENT UNCERTAINTY	5
2	TESTING SITE	6
3	LIST OF TEST EQUIPMENT	7
4	TEST RESULTS	8
4.4	MAXIMUM PERMISSIBLE EXPOSURE.....	8
4.4.1	<i>Limit</i>	<i>8</i>
4.4.2	<i>Test Procedures.....</i>	<i>8</i>
4.4.3	<i>Test Setup.....</i>	<i>9</i>
4.4.4	<i>Test Result.....</i>	<i>9</i>
4.4.5	<i>MPE Setup photo</i>	<i>11</i>



1 General Information

1.1 Description of EUT

Product name:	Wireless Charging Bluetooth Speaker
Brand name:	POWERQI
Model name:	TB20C
Series model:	N/A
Deference in serial model:	N/A
Operation frequency:	110–205 kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Power source:	DC 12V from adapter AC 120V/60Hz or DC 3.7V from battery
Input:	5V/2.0A, 9V/1.67A, 12V/1.5A
Battery:	DC 3.7V 500mAh
Adapter information:	N/A

1.2 Ancillary equipment list

Equipment	Model	S/N	Manufacturer
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.
Load	YBZ1.1	/	YBZ

1.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, $U=2 \times U_c(y)$

Radiated emission(150kHz~30MHz)	± 2.5 dB
Radiated emission(30MHz~1GHz)	± 4.2 dB
Radiated emission (above 1GHz)	± 4.3 dB
Temperature	± 1 degree
Humidity	± 5 %



2 Testing site

Test Site	Shenzhen Microtest Co., Ltd
Test Site Location	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinghe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China.
FCC Registration No.:	448573

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinghe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China.



3 List of test equipment

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E115	Electric and Magnetic Field Probe - Analyzer	Narda Safety Test Solutions GmbH	EHP-200A	/	2021/06/02	2022/06/01

4 Test Results

4.4 Maximum permissible exposure

4.4.1 Limit

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 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	6
300-1500			f/300	6
1500-100000			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
1500-100000			1	30

f = frequency in MHz * = Plane-wave equivalent power density

4.4.2 Test Procedures

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.

These measurements should be repeated for three different client battery levels, 1%, 50%, and 99%.

Record the test results.

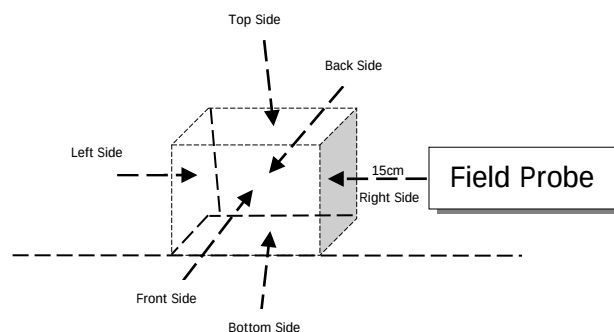
KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01:

- (1) Power transfer frequency is less than 1 MHz
- (2) Output power from each primary coil is less than or equal to 15 watts.
- (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.
- (4) Client device is placed directly in contact with the transmitter.
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- (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.

Note: The device is in compliance with KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01 6 conditions.



4.4.3 Test Setup



4.4.4 Test Result

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E – field(V/m)	H–field(A/m)
<1%	Top	20	0.8830	0.0196
<1%	Bottom	15	0.8849	0.0210
<1%	Left	15	0.8826	0.0171
<1%	Right	15	0.8831	0.0190
<1%	Front	15	0.8836	0.0186
<1%	Back	15	0.8840	0.0182
Limit			614	1.63
Margin Limit (%)			0.144	1.288



Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E – field(V/m)	H–field(A/m)
<50%	Top	20	0.8831	0.0195
<50%	Bottom	15	0.8842	0.0213
<50%	Left	15	0.8826	0.0171
<50%	Right	15	0.8834	0.0190
<50%	Front	15	0.8836	0.0184
<50%	Back	15	0.8842	0.0181
Limit			614	1.63
Margin Limit (%)			0.144	1.307

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E – field(V/m)	H–field(A/m)
<99%	Top	20	0.8830	0.0196
<99%	Bottom	15	0.8941	0.0219
<99%	Left	15	0.8823	0.0170
<99%	Right	15	0.8834	0.0196
<99%	Front	15	0.8838	0.0184
<99%	Back	15	0.8877	0.0185
Limit			614	1.63
Margin Limit (%)			0.146	1.344



4.4.5 MPE Setup photo



----END OF REPORT----