

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230800259902

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# **Human Exposure Report**

Application No.:	SZCR2308002599AT	
Applicant:	Shenzhen Powerqi Technology Co., Ltd.	
Address of Applicant:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and	
	Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen,	
	518116 China	
Manufacturer:	Shenzhen Powerqi Technology Co., Ltd.	
Address of Manufacturer:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and	
	Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen,	
	518116 China	
Factory:	Shenzhen Powerqi Technology Co., Ltd.	
Address of Factory:	Room 201, 302, 401 of A4 Building, Block A, Fangxing Science and	
	Technology Park, No. 13 of Baonan Road, Longgang District, Shenzhen,	
	518116 China	
Equipment Under Test (EUT	<b>¯):</b>	
EUT Name:	Surface Wireless Charger	
Model No.:	AIR1510, AIR15****(* = any alphanumeric/special character(s) or blank)	*
*	Please refer to section 2 of this report which indicates which model was	
	actual tested and which were electrically identical.	
Trade Mark:	Aircharge	
FCC ID:	2AFP2AIR1510	
Standards:	47 CFR PART 1, Subpart I, Section 1.1310	
	47 CFR PART 2, Subpart J, Section 2.1091	
Date of Receipt:	2023-08-11	
Date of Test:	2023-11-01 to 2023-11-03	
Date of Issue:	2023-11-06	
Test Result :	Pass*	

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

Keny. Ku

Keny Xu EMC Laboratory Manager



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	Revision Record						
Version	Chapter	Date	Modifier	Remark			
01		2023-11-06		Original			

Authorized for issue by:		
	(eo-li	
	Leo Li/Project Engineer	
	Erric Fu	
	Eric Fu/Reviewer	



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# 2 General Information

### 2.1 Details of E.U.T.

Power supply: INPUT: DC 5V/3A, DC 9V/2.22A, DC 12V/1.67A		
	OUTPUT: 5W, 7.5W, 10W, 15W	
Cable(s):	USB cable:150cm unshielded	
Operation frequency:	111.2kHz to 147.2kHz	
Modulation type:	Load modulation	
Antenna type:	Loop Antenna	

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

### **Declaration of EUT Family Grouping:**

Model No.: AIR1510, AIR15\*\*\*\*(\* = any alphanumeric/special character(s) or blank) Only the model AIR1510 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on the shape and color of the shell.

### 2.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	XIAOMI	MDY-08	REF. No.SEA05M02F
E-loading	N/A	N/A	REF. No.SEA42A00
Mobile Phone	SAMSUNG	SM-G9810	REF. No.SEA16K00



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### 2.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 2.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### FCC – Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

#### Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

### 2.5 Deviation from Standards

None.

## 2.6 Abnormalities from Standard Conditions

None.



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# 3 Equipments Used during Test

lte	em	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Due date
	1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2025-04-01
	2	Electric and Magnetic Field Analyzer	Narda	EHP-200AC	SEM022-20	2024-03-31

# 4 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	00	Charge mode_Keep the EUT charging(5W)
Pre-scan	01	Charge mode_Keep the EUT charging(7.5W)
Pre-scan	02	Charge mode_Keep the EUT charging(10W)
Final test	03	Charge mode_Keep the EUT charging(15W)



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# 5 Test Results

### 5.1 RF Exposure test

Test Requirement:	47 CFR PART 1, Subpart I, Section 1.1310
	47 CFR PART 2, Subpart J, Section 2.1091

20cm

Measurement Distance: Limit:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	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 <sup>2</sup> )	6				
30-300	61.4	0.163	1.0	6				
300-1500	/	/	f/300	6				
1500-100,000	/	/	5	6				
	(B) Limits for Genera	I Population/Uncontrolle	d Exposure					
0.3-1.34	614	1.63	*(100)	30				
1.34-30	824/f	2.19/f	*(180/f²)	30				
30-300	27.5	0.073	0.2	30				
300-1500	/	/	f/1500	30				
1500-100,000	/	/	1.0	30				

F=frequency in MHz

\*=Plane-wave equivalent power density

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).



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### 5.1.1 E.U.T. Operation

### **Operating Environment:**

Temperature: 22.8 °C Humidity: 51.2 % RH Atmospheric Pressure: 1020 mbar This device has been tested the worst status of full load and the device has been tested with mobile phone at zero charge, intermediate charge, and full charge.

#### 5.1.2 Measurement Data

#### Test mode: 03

The max output power =15W.

<b>Magnetic Field</b>	Emissions
-----------------------	-----------

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)			50 % Limit (A/m)	10 % Limit (A/m)	
			unload	Half load	full load			
124.38		Side 1	0.063	0.055	0.046			
kHz which	kHz which is the		Side 2	0.073	0.058	0.051		
worst case	20	Side 3	0.060	0.051	0.044	0.815	0.163	
within the operation	20	Side 4	0.062	0.052	0.042	0.010	0.100	
frequency range		Тор	0.067	0.056	0.048			

#### **Magnetic Field Emissions**

Operation frequency	Test Distance	Test	Probe Measure Result(A/m)			50 % Limit	10 % Limit
	(cm)	Position	zero charge	intermediate charge	full charge	(A/m)	(A/m)
132.56 kHz which is the worst case within the operation frequency range	20	Side 1	0.057	0.048	0.038	0.815	0.163
		Side 2	0.062	0.053	0.040		
		Side 3	0.056	0.047	0.038		
		Side 4	0.054	0.045	0.036		
		Тор	0.061	0.052	0.041		



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#### **Electric Field Emissions**

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (V/m)			50 % Limit (V/m)	10 % Limit (V/m)
			unload	Half load	full load		
124.38 kHz which is the worst case within the operation	20	Side 1	0.72	0.63	0.52	307	61.4
		Side 2	0.88	0.77	0.63		
		Side 3	0.73	0.61	0.50		
		Side 4	0.62	0.53	0.42		
frequency range		Тор	0.85	0.72	0.60		

#### **Electric Field Emissions**

Operation frequency	Test Distance	Test	Probe M	50 % Limit	10 % Limit		
	(cm)	Position	zero charge	intermediate charge	full charge	(V/m)	(V/m)
132.56 kHz which is the worst case within the operation frequency range	20	Side 1	0.74	0.61	0.49	307	61.4
		Side 2	0.86	0.72	0.64		
		Side 3	0.74	0.57	0.49		
		Side 4	0.65	0.55	0.46		
		Тор	0.83	0.71	0.61		



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#### 6 **Test Setup Photos**

Refer to Appendix -RF Exposure Test Setup Photo for SZCR2308002599AT

- End of the Report -



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