



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

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## Human Exposure Report

**Application No.:** SZEM1804003147CR  
**Applicant:** SHENZHEN DNS INDUSTRIES CO., LTD.  
**Address of Applicant:** 23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen 518026, China  
**Manufacturer:** SHENZHEN DNS INDUSTRIES CO., LTD.  
**Address of Manufacturer:** 23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen 518026, China  
**Factory:** HUIZHOU D&S CABLE CO., LTD.  
**Address of Factory:** Longjin Dongjiang Industry Zone Shuikou, Huicheng, Huizhou, Guangdong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Wireless Car Charger  
**Model No.:** AC68F1  
**Trade Mark:** DNS  
**FCC ID:** ZBCAC68F1  
**Standards:** 47 CFR PART 1, Subpart I, Section 1.1310  
**Date of Receipt:** 2018-04-24  
**Date of Test:** 2018-04-26 to 2018-05-07  
**Date of Issue:** 2018-05-16

<b>Test Result :</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu

EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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### 3 General Information

#### 3.1 Details of E.U.T.

Power supply: Input: DC 5V/2A  
Output: DC 5V/1A (5W Max.)  
EUT Function: wireless charging transmitter  
Carrier Frequency 117.68-157.20kHz  
Antenna Type Inductive Loop Coil Antenna  
Modulation type: Load modulation

#### 3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Apple	A1357 W010A051	REF. No.SEA0500
Micro USB Cable	PHILIPS	SWR2101	REF. No.SEA0700
E-loading	Provided by client	N/A	DC 5V/1A

### 4 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2018-06-10
2	Electric Field Meter	Schaffner	EMC20	EMC068	2019-03-22



#### **4.1 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, Shenzhen, Guangdong, China.  
518057.

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

No tests were sub-contracted.

#### **4.2 Test Facility**

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **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**

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. 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: CN1178**

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

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

#### **4.3 Deviation from Standards**

None.

#### **4.4 Abnormalities from Standard Conditions**

None.



## 5 Test Results

### 5.1 RF Exposure test

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

Measurement Distance: 0cm, 2cm, 4cm, 6cm, 8cm, 10cm

Test voltage: DC 5V

Limit:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</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
1500-100,000	/	/	5	6
<b>(B) 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
1500-100,000	/	/	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).

#### 5.1.1 E.U.T. Operation

Operating Environment:

Temperature: 20.0 °C      Humidity: 52% RH      Atmospheric Pressure: 1015 mbar

EUT Operation:

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

1: Output Voltage=DC 5V; The max output current =1A;Calculation of resistor value=5.0Ω

Electric Field Emissions

Test frequency	Test Distance(cm)	Test Position	Probe Measure Result(V/m)	50% Limit (V/m)	Result
130.5kHz	0	Side 1	4.37	307	Pass
		Side 2	4.77	307	Pass
		Side 3	5.13	307	Pass
		Side 4	3.34	307	Pass
		Top	4.46	307	Pass
	2	Side 1	4.29	307	Pass
		Side 2	4.68	307	Pass
		Side 3	5.04	307	Pass
		Side 4	3.28	307	Pass
		Top	4.38	307	Pass
	4	Side 1	4.28	307	Pass
		Side 2	4.67	307	Pass
		Side 3	5.03	307	Pass
		Side 4	3.27	307	Pass
		Top	4.37	307	Pass
	6	Side 1	4.23	307	Pass
		Side 2	4.61	307	Pass
		Side 3	4.97	307	Pass
		Side 4	3.23	307	Pass
		Top	4.32	307	Pass
	8	Side 1	4.22	307	Pass
		Side 2	4.60	307	Pass
		Side 3	4.96	307	Pass
		Side 4	3.23	307	Pass
		Top	4.31	307	Pass
10	Side 1	3.92	307	Pass	
	Side 2	4.28	307	Pass	
	Side 3	4.61	307	Pass	



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	Side 4	3.00	307	Pass
	Top	4.00	307	Pass

**Magnetic Field Emissions**

Test frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50%Limit (A/m)	Result
130.5kHz	0	Side 1	0.0075	0.815	Pass
		Side 2	0.0060	0.815	Pass
		Side 3	0.0051	0.815	Pass
		Side 4	0.0043	0.815	Pass
		Top	0.0081	0.815	Pass
	2	Side 1	0.0070	0.815	Pass
		Side 2	0.0056	0.815	Pass
		Side 3	0.0047	0.815	Pass
		Side 4	0.0039	0.815	Pass
		Top	0.0075	0.815	Pass
	4	Side 1	0.0066	0.815	Pass
		Side 2	0.0052	0.815	Pass
		Side 3	0.0045	0.815	Pass
		Side 4	0.0037	0.815	Pass
		Top	0.0070	0.815	Pass
	6	Side 1	0.0062	0.815	Pass
		Side 2	0.0050	0.815	Pass
		Side 3	0.0042	0.815	Pass
		Side 4	0.0035	0.815	Pass
		Top	0.0067	0.815	Pass
	8	Side 1	0.0059	0.815	Pass
		Side 2	0.0047	0.815	Pass
		Side 3	0.0040	0.815	Pass
		Side 4	0.0033	0.815	Pass
Top		0.0063	0.815	Pass	
10	Side 1	0.0055	0.815	Pass	
	Side 2	0.0044	0.815	Pass	
	Side 3	0.0038	0.815	Pass	



		Side 4	0.0031	0.815	Pass
		Top	0.0059	0.815	Pass

**1: Mobile phone has been charge at zero charge, intermediate charge, and full charge.**

**Electric Field Emissions**

Test frequency	Test Distance (cm)	Test Position	Probe Measure Result (V/m)			50% Limit (V/m)	Result
			zero charge	intermediate charge	full charge		
130.5kHz	0	Side 1	4.46	4.50	4.33	307	Pass
		Side 2	4.87	4.91	4.72	307	Pass
		Side 3	5.23	5.28	5.08	307	Pass
		Side 4	3.41	3.44	3.31	307	Pass
		Top	4.55	4.59	4.42	307	Pass
	2	Side 1	4.42	4.46	4.29	307	Pass
		Side 2	4.81	4.86	4.67	307	Pass
		Side 3	5.20	5.25	5.05	307	Pass
		Side 4	3.45	3.48	3.35	307	Pass
		Top	4.62	4.67	4.48	307	Pass
	4	Side 1	4.37	4.41	4.24	307	Pass
		Side 2	4.74	4.79	4.60	307	Pass
		Side 3	5.14	5.19	4.99	307	Pass
		Side 4	3.32	3.35	3.22	307	Pass
		Top	4.55	4.59	4.42	307	Pass
	6	Side 1	4.30	4.35	4.18	307	Pass
		Side 2	4.70	4.75	4.56	307	Pass
		Side 3	5.10	5.15	4.95	307	Pass
		Side 4	3.27	3.31	3.18	307	Pass
		Top	4.50	4.54	4.37	307	Pass
8	Side 1	4.27	4.32	4.15	307	Pass	
	Side 2	4.41	4.45	4.28	307	Pass	
	Side 3	5.08	5.13	4.93	307	Pass	
	Side 4	3.18	3.21	3.09	307	Pass	
	Top	4.40	4.44	4.27	307	Pass	





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10	Side 1	4.10	4.14	3.98	307	Pass
	Side 2	4.23	4.27	4.11	307	Pass
	Side 3	4.82	4.87	4.68	307	Pass
	Side 4	3.10	3.13	3.01	307	Pass
	Top	4.20	4.24	4.08	307	Pass

**Magnetic Field Emissions**

Test frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)			50%Limit (A/m)	Result
			zero charge	intermediate charge	full charge		
130.5kHz	0	Side 1	0.0053	0.0058	0.0051	0.815	Pass
		Side 2	0.0049	0.0052	0.0047	0.815	Pass
		Side 3	0.0051	0.0048	0.0040	0.815	Pass
		Side 4	0.0064	0.0060	0.0050	0.815	Pass
		Top	0.0059	0.0055	0.0046	0.815	Pass
	2	Side 1	0.0049	0.0054	0.0047	0.815	Pass
		Side 2	0.0045	0.0048	0.0043	0.815	Pass
		Side 3	0.0047	0.0044	0.0037	0.815	Pass
		Side 4	0.0060	0.0056	0.0046	0.815	Pass
		Top	0.0055	0.0051	0.0042	0.815	Pass
	4	Side 1	0.0047	0.0050	0.0045	0.815	Pass
		Side 2	0.0043	0.0046	0.0041	0.815	Pass
		Side 3	0.0045	0.0042	0.0035	0.815	Pass
		Side 4	0.0056	0.0052	0.0044	0.815	Pass
		Top	0.0051	0.0048	0.0040	0.815	Pass
	6	Side 1	0.0044	0.0048	0.0042	0.815	Pass
		Side 2	0.0041	0.0043	0.0039	0.815	Pass
		Side 3	0.0042	0.0040	0.0033	0.815	Pass
		Side 4	0.0053	0.0050	0.0041	0.815	Pass
		Top	0.0049	0.0045	0.0038	0.815	Pass
8	Side 1	0.0042	0.0045	0.0040	0.815	Pass	
	Side 2	0.0038	0.0041	0.0037	0.815	Pass	
	Side 3	0.0040	0.0037	0.0031	0.815	Pass	
	Side 4	0.0050	0.0047	0.0039	0.815	Pass	
	Top	0.0046	0.0043	0.0036	0.815	Pass	

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	10	Side 1	0.0039	0.0042	0.0038	0.815	Pass
		Side 2	0.0036	0.0038	0.0034	0.815	Pass
		Side 3	0.0038	0.0035	0.0030	0.815	Pass
		Side 4	0.0047	0.0044	0.0037	0.815	Pass
		Top	0.0043	0.0040	0.0034	0.815	Pass

- End of the Report -