



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

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Report No.: SZEM170400393202
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Human Exposure Report

Application No.: SZEM1704003932CR
Applicant: Hafele America Co.
Address of Applicant: 3901 Cheyenne Drive, Archdale, North Carolina, United States, 27263
Manufacturer: Hafele Engineering&Trading Shenzhen., Ltd
Address of Manufacturer: 2/F., Yuyi Industrial Building, Yugang, Wanghai Road, Shekou, Nanshan District, Shenzhen, P.R.China
Factory: Hafele Engineering&Trading Shenzhen., Ltd
Address of Factory: 2/F., Yuyi Industrial Building, Yugang, Wanghai Road, Shekou, Nanshan District, Shenzhen, P.R.China
Equipment Under Test (EUT):
EUT Name: Wireless Charger
Model No.: ESC2002/CI/Y/B ♣
* Please refer to section 3 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: Hafele, LOOX
FCC ID: PW3-HAFELESZOL
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
Date of Receipt: 2017-05-11
Date of Test: 2017-05-11 to 2017-06-05
Date of Issue: 2017-06-15

Test Result :	Pass*
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* This report is just a test result base on the test method and limit requirement shown in the form on the second page. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Authorized Signature:



Jack Zhang
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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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2017-06-15		Original

Authorized for issue by:			
Tested By	 _____ Jacky Li/Project Engineer		2017-06-05
Checked By		Date	2017-06-15

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3 General Information

3.1 Details of E.U.T.

Power Supply: DC 12.0V
Operation Frequency: 120.23kHz-175kHz

Remark:

Model No.: ESC2002/CI/Y/B

Only the model ESC2002/CI/BLA/2000 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, only different on Y: Y is representative of the Finish/Material of profile enclosure with 2- 6 letter, such as WH; ANOD; BRS; BZD; UNFIN; BURN; ZIP; FR; SIG; TRANS; CHRP; NIP; BLA; NIMATT; NI; POL; GO; CLR; GRN; YEL; SILV; BLU; RED and so on.

B: B is representative of the input cable length with 3 or 4 numbers (0-2000 mm)



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3.2 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Serial No.
WPC Load	HAFELE ENGINEERING ASIA LIMITED	/	/
AC/DC Adapetr	HAFELE ENGINEERING ASIA LIMITED	833.74.960	/

3.3 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, Shenzhen, Guangdong, China
518057.

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

No tests were sub-contracted.

3.4 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 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- **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.

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

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	2017-06-10
2	Electric Filed Meter	Schaffner	EMC20	EMC068	2018-03-27
3	DC Electronic Load	PRODIGIT	3302F	30802F00533	2017-12-05

5 Test Results

5.1 RF Exposure test

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

Measurement Distance: 10cm

Test voltage: AC 120V 60Hz

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 Exposures				
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
1500-100,000	/	/	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
1500-100,000	/	/	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: 24.0 °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 power =5W

Electric Field Emissions

Test Position	Test Distance (cm)	Probe Measure Result (V/m)	Limit (V/m)	30% Limit (V/m)
Side 1	10	4.45	614	184.2
Side 2	10	4.72	614	184.2
Side 3	10	4.33	614	184.2
Side 4	10	4.01	614	184.2
Top	10	5.52	614	184.2
Bottom	10	4.91	614	184.2

Magnetic Field Emissions

Test Position	Test Distance (cm)	Probe Measure Result (A/m)	Limit (A/m)	30% Limit (A/m)
Side 1	10	0.0643	1.63	0.489
Side 2	10	0.0733	1.63	0.489
Side 3	10	0.0678	1.63	0.489
Side 4	10	0.0436	1.63	0.489
Top	10	0.1646	1.63	0.489
Bottom	10	0.0846	1.63	0.489

Note: All modes have been tested and we only record the worst test result in full load mode.

6 Photographs

6.1 EUT photos

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1704003932CR.