



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

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Report No.: SZEM180300221602
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Human Exposure Report

Application No.: SZEM1803002216CR
Applicant/ Manufacturer: HANK ELECTRONICS CO., LTD.
Address of Applicant/ Manufacturer: Floor 2nd-7th, A8, Hongye Industry City Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China
Factory: HANK ELECTRONICS CO., LTD.
Address of Factory: Floor 2nd-7th, A8, Hongye Industry City Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China
Equipment Under Test (EUT):
EUT Name: Wireless Charging Pad
Model No.: HKWP1080-05, ONC18WI022, HKWP1080-10Q ♣
♣ Please refer to section 3.2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID: 2AIOC-1080
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
Date of Receipt: 2018-03-26
Date of Test: 2018-03-26 to 2018-04-02
Date of Issue: 2018-04-04

Test Result :	Pass*
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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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2 General Information

2.1 Details of E.U.T.

Power supply: Input: DC 5V/2A
Output: DC 5V/1A
Cable: USB charging line: 100cm, unshielded
Operation frequency: 113.8-153.0 kHz
Modulation type: Load modulation
Antenna type: Inductive Loop Coil Antenna

2.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
AC adapter	provided by client	Output: DC 5V/2A	N/A
Mobile phone	provided by client(Samsung)	SM-G9350	N/A

Remark:

Model No.: HKWP1080-05, ONC18WI022, HKWP1080-10Q

Only the model HKWP1080-05 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on model number and appearance.



2.3 Test Location

All tests were performed at:

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

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.

2.4 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)**

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

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.



3 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	2019-03-21



4 Test Results

4.1 RF Exposure test

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

Measurement Distance: 10cm

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).

4.1.1 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.



4.1.2 Measurement Data

Output Voltage=DC 5V; The max output power =5W;Calculation of resistor value=5Ω

Electric Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (V/m)	30% Limit (V/m)
142.6 kHz	10	Side 1	2.86	184.2
		Side 2	3.09	184.2
		Side 3	3.10	184.2
		Side 4	2.98	184.2
		Top	2.47	184.2

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	30% Limit (A/m)
142.6 kHz	10	Side 1	0.0546	0.489
		Side 2	0.0538	0.489
		Side 3	0.0557	0.489
		Side 4	0.0549	0.489
		Top	0.1238	0.489



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

Electric Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			30%Limit (V/m)
			zero charge	intermediate charge	full charge	
142.6 kHz	10	Side 1	2.83	2.88	2.83	184.2
		Side 2	3.04	3.12	3.03	184.2
		Side 3	3.12	3.15	3.18	184.2
		Side 4	2.92	2.94	2.90	184.2
		Top	2.42	2.51	2.43	184.2

Magnetic Field Emissions

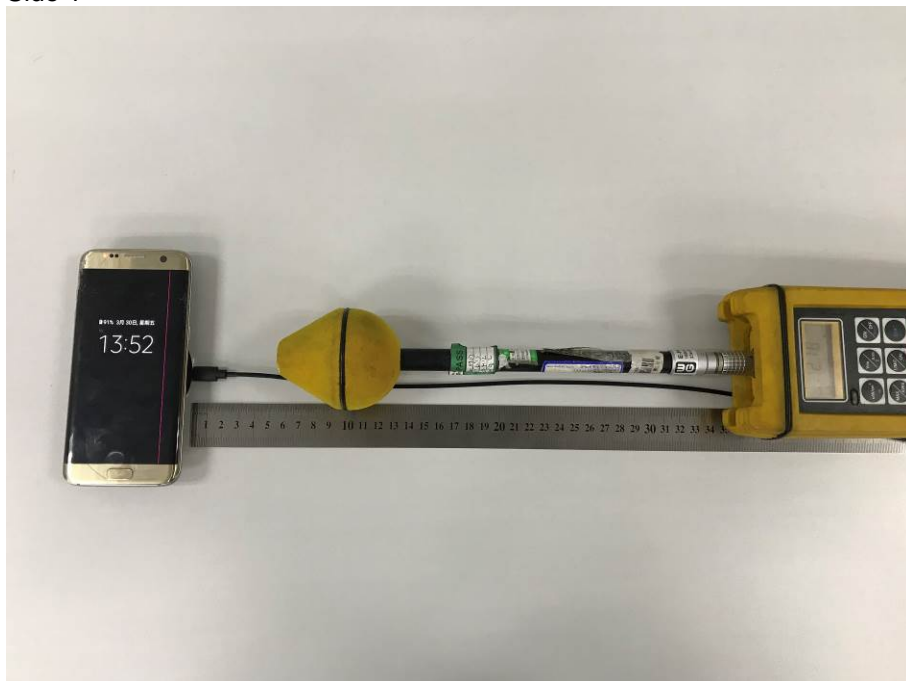
Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			30%Limit (A/m)
			zero charge	intermediate charge	full charge	
142.6 kHz	10	Side 1	0.0542	0.0541	0.0548	0.489
		Side 2	0.0532	0.0536	0.0530	0.489
		Side 3	0.0555	0.0552	0.0556	0.489
		Side 4	0.0542	0.0545	0.0556	0.489
		Top	0.1242	0.1247	0.1234	0.489

5 Photographs

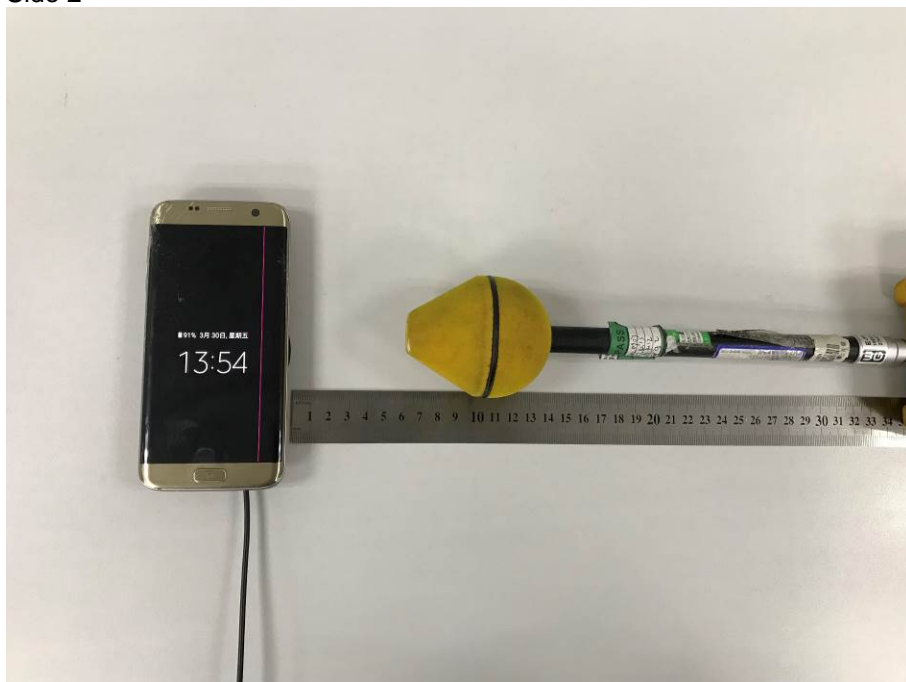
5.1 Test photos

Test with mobile phone with 10cm measurement distance

Side 1



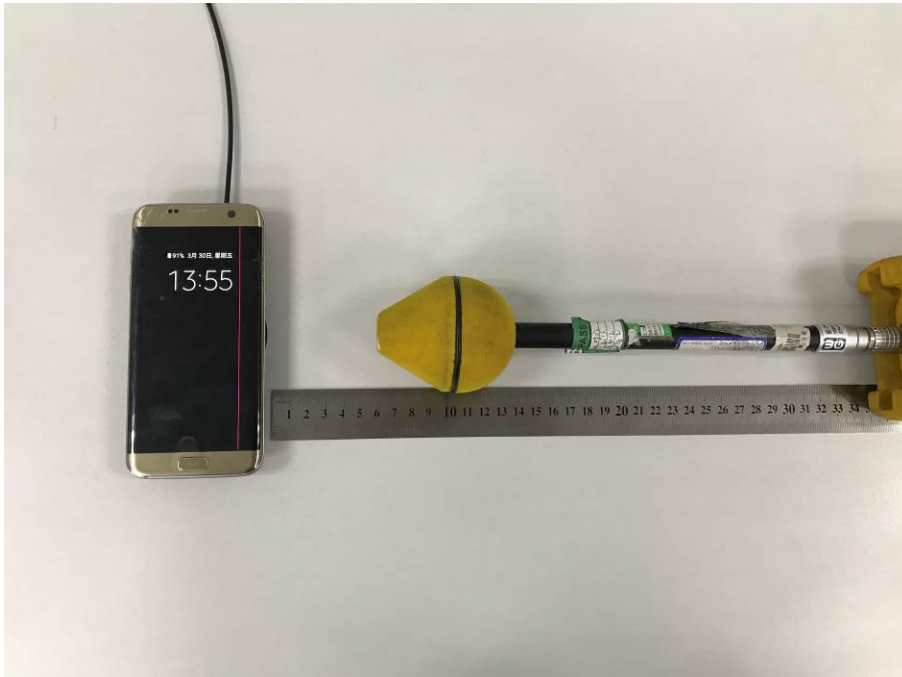
Side 2



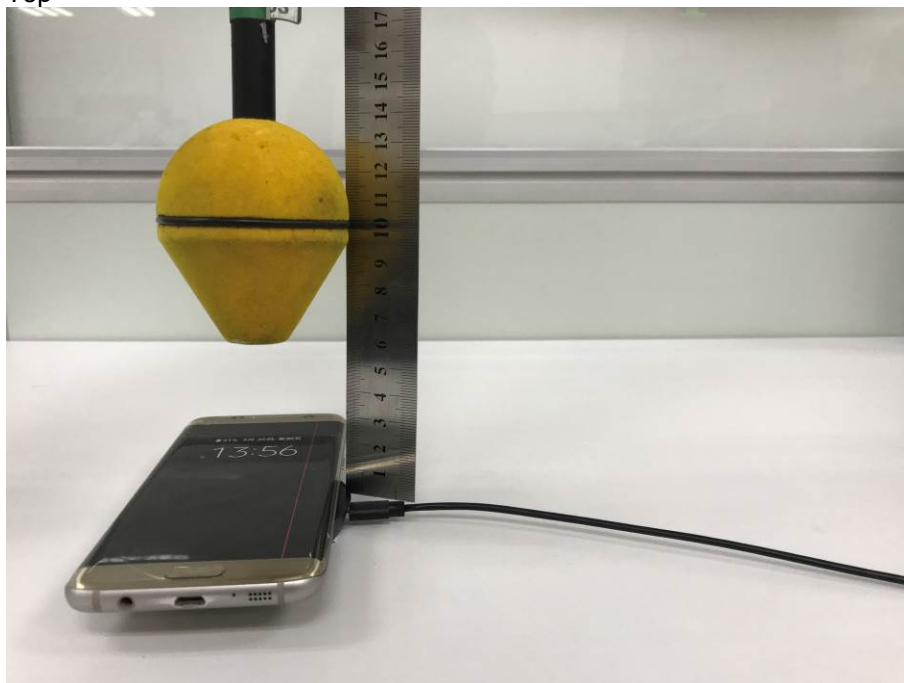
Side 3



Side 4



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