Human Exposure Report

Application No.:	SZEM1905014261CR
Applicant:	SHENZHEN DNS INDUSTRIES CO., LTD.
Address of Applicant:	23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, China
Manufacturer:	SHENZHEN DNS INDUSTRIES CO., LTD.
Address of Manufacturer:	23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, 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 Charger
Model No.:	Please refer to section 3.1 ♣
♣	Please refer to section 3.1 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark:	Please refer to section 3.1
FCC ID:	ZBCAC52CLZT
Standards:	47 CFR PART 1, Subpart I, Section 1.1310 47 CFR PART 2, Subpart J, Section 2.1091
Date of Receipt:	2019-05-22
Date of Test:	2019-05-22 to 2019-06-21
Date of Issue:	2019-06-24
Test Result :	**Pass***

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

Keny Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2019-06-24		Original

Authorized for issue by:				
				
		Powell Bao /Project Engineer		
				
		Eric Fu /Reviewer		

2 Contents

3 General Information

3.1 Details of E.U.T.

Power Supply:	Input: DC5V 2A, DC9V 2A, DC12V 2A Output: DC5V 1A, or DC9V 1.67A or DC12V 1.25A, Max. 15W
Antenna Type:	Loop Antenna
Antenna Gain:	0dBi
Modulation Type:	Load Modulation
Operation Frequency:	113.68kHz to 141.04kHz
Remark:	Tests were conducted in all three load modes and the worst case 15W is reported only.

Remark:

Model No.:AC52CLZT, AC51CLZT, 24629, WCHAQ15W1WT, WCHAQ15W1BK, 66584, 65720, 65752, 107171, WFC15, EGA-PQC1-B1, 24002, QIPADMETSI, QIPADMETSG, G-WC15WQI-K, 22900, 85352300, 348203, 85352400, LP-QI05SV, LP-QI05BK, QI15WA, Q15WKIT, QIPADMETSI, QIPADMETSG, WC150-BLK, LBT15W, LBT15WBU, IAD8X15ULBK, IAD8X15VEBK, IAD8X15BSBK, 33205

Only the model AC52CLZT was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model name and enclosure shape.

Trade Mark	Model Name	Enclosure shape code
DNS, mbest	AC52CLZT	AC52
DNS, mbest	AC51CLZT	AC51
mworks!	24629	AC51
TecoAsia	WCHAQ15W1WT	AC52
TecoAsia	WCHAQ15W1BK	AC52
WAP	66584	AC52
Verbatim	65720	AC51
Verbatim	65752	AC52
iGizmo	107171	AC52
Comsol	WFC15	AC51
Milestone	EGA-PQC1-B1	AC51
Deppa	24002	AC51
kit	QIPADMETSI	AC51
kit	QIPADMETSG	AC51
AZYAN	G-WC15WQI-K	AC51
Trust	22900	AC52
Maxell	85352300	AC52
Maxell	348203	AC52
Maxell	85352400	AC52
MS	LP-QI05SV	AC51
MS	LP-QI05BK	AC51
Alfacomex	QI15WA	AC51
Cirago	Q15WKIT	AC51
KONDOR	QIPADMETSI	AC51
KONDOR	QIPADMETSG	AC51

Concept101	WC150-BLK	AC51
Libratel	LBT15W	AC52
Libratel	LBT15WBU	AC52
iLuv	IAD8X15ULBK	AC52
iLuv	IAD8X15VEBK	AC52
iLuv	IAD8X15BSBK	AC52
Cultura	33205	AC52

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 8	Apple	A1863	F4GVQ656JC6D
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB
E-Load	Provided by client	N/A	15W
Adapter (Provided by SGS)	LeTV	EQ-248CN	16041847014

3.3 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.

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 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.

• **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.

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	Electric and Magnetic Field Analyzer	Narda	EHP-50F	EMC092	2020-02-05

5 Test Results

5.1 RF Exposure test

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

Measurement Distance: 15cm

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

Output Voltage=DC 12V; The max output power =15W;

Electric Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (V/m)	50% Limit (V/m)
140.5 kHz	15	Side 1	1.23	307
		Side 2	2.17	307
		Side 3	0.88	307
		Side 4	1.52	307
		Top	2.47	307

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
140.5 kHz	15	Side 1	0.0268	0.815
		Side 2	0.0423	0.815
		Side 3	0.0294	0.815
		Side 4	0.0531	0.815
		Top	0.0723	0.815

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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)			50%Limit (V/m)
			zero charge	intermediate charge	full charge	
140.5 kHz	15	Side 1	1.51	1.35	1.12	307
		Side 2	2.45	2.23	2.02	307
		Side 3	1.18	0.93	0.74	307
		Side 4	1.79	1.58	1.33	307
		Top	2.72	2.45	2.24	307

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limit (A/m)
			zero charge	intermediate charge	full charge	
140.5 kHz	15	Side 1	0.0425	0.0299	0.0172	0.815
		Side 2	0.0531	0.0412	0.0259	0.815
		Side 3	0.0396	0.0273	0.0139	0.815
		Side 4	0.0642	0.0531	0.0387	0.815
		Top	0.0826	0.0712	0.0566	0.815

6 Photographs

Please refer to RF Exposure setup photo.

- End of the Report -

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