

# Human Exposure Report

**Application No.:** SZCR2105021138AT  
**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, 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, 3 in 1 Wireless Charging Station  
**Model No.:** WD-255A, B08LL3VCV9, CSQ3N1WT, CSQ3N1, WD-255E ♣  
 ♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.  
**FCC ID:** ZBCWD255E  
**Trade Mark:** DNS, omars, mbest, NOVVO, KEYMOX, Scosche  
**Standards:** 47 CFR PART 1, Subpart I, Section 1.1310  
 47 CFR PART 2, Subpart J, Section 2.1091  
**Date of Receipt:** 2021-05-21  
**Date of Test:** 2021-05-29 to 2021-06-07  
**Date of Issue:** 2021-06-10

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

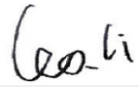
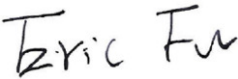


Keny Xu  
 EMC Laboratory Manager





<i>Revision Record</i>				
<b>Version</b>	<b>Chapter</b>	<b>Date</b>	<b>Modifier</b>	<b>Remark</b>
01		2021-06-11		Original

<b>Authorized for issue by:</b>			
			
		Leo Li/Project Engineer	
			
		Eric Fu/Reviewer	



## 2 Contents

<b>1</b>	<b>COVER PAGE</b> .....	<b>1</b>
<b>2</b>	<b>CONTENTS</b> .....	<b>3</b>
<b>3</b>	<b>GENERAL INFORMATION</b> .....	<b>4</b>
3.1	DETAILS OF E.U.T. ....	4
3.2	DESCRIPTION OF SUPPORT UNITS.....	6
3.3	TEST LOCATION .....	6
3.4	TEST FACILITY .....	7
3.5	DEVIATION FROM STANDARDS .....	7
3.6	ABNORMALITIES FROM STANDARD CONDITIONS .....	7
<b>4</b>	<b>EQUIPMENTS USED DURING TEST</b> .....	<b>8</b>
<b>5</b>	<b>TEST RESULTS</b> .....	<b>10</b>
5.1	RF EXPOSURE TEST.....	10
5.1.1	<i>E.U.T. Operation</i> .....	10



### 3 General Information

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

Power supply:	WD-255A Input: 12V/1.5A Output 1: 5W/7.5W/10W Output 2: 2.5W Output 3: 2.5W Total: 15W  WD-255E Input: 12V/1.5A Output 1: 5W/7.5W/10W Output 2: 2.5W Output 3: 5W Total: 17.5W
Operation frequency:	For Output 1: 112.0kHz to 148.2kHz For Output 2: 325.2kHz to 327.6kHz For Output 3: 113.6kHz to 174.8kHz
Modulation type:	Load modulation
Antenna type:	Loop Antenna
Remark:	Test modes 00-14 is for WD-255A; test modes 15-29 is for WD-255E For WD-255A: Output1 port which supports for 5W/7.5W/10W output is charged for client device (e.g. mobile phone). Output2 port which supports for 2.5W output is charged for iWatch. Output3 port which supports for 2.5W output is charged for Earphone. For WD-255E: Output1 port which supports for 5W/7.5W/10W output is charged for client device (e.g. mobile phone). Output2 port which supports for 2.5W output is charged for iWatch. Output3 port which supports for 5W output is charged for Earphone.



**Declaration of EUT Family Grouping:**

Model No.: WD-255A, B08LL3VCV9, CSQ3N1WT, CSQ3N1, WD-255E

Only the model WD-255E was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on model number, software, output power

Details see below:

Trade mark	Model number	Output Power	Software version
DNS,omars,mbest ,NOVOO,KEYMOX	WD-255A	15W	V02
,KEYMOX	B08LL3VCV9	15W	V02
Scosche	CSQ3N1WT	15W	V02
Scosche	CSQ3N1	15W	V02
DNS,omars,mbest ,NOVOO,KEYMOX	WD-255E	17.5W	V03



### 3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	XIAOMI	MDY-08	REF. No.SEA05M02F
iWatch	Apple	Apple Watch 3	N/A
Type-C Cable	SGS	N/A	REF. No.SEA07B00
iPhone 8	Apple	A1863	REF. No.SEA16J00
Mobile Phone	SAMSUNG	SM-G9500	REF. No.SEA16J00
Earphone	Lier	TW101	REF. No.SEA05B04D
E-loading	SGS	N/A	REF. No.SEA42A00

### 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:

- **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
1	3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2021-12-24
2	Electric and Magnetic Field Analyzer	Narda	EHP-50F	EMC092	2021-11-26

### Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	00	Charge mode_Keep the EUT charging(Output1: 5W)
Pre-scan	01	Charge mode_Keep the EUT charging(Output1: 7.5W)
Pre-scan	02	Charge mode_Keep the EUT charging(Output1: 10W)
Pre-scan	03	Charge mode_Keep the EUT charging(Output2: 2.5W)
Pre-scan	04	Charge mode_Keep the EUT charging(Output3: 2.5W)
Pre-scan	05	Charge mode_Keep the EUT charging(Output1: 5W+Output2: 2.5W)
Pre-scan	06	Charge mode_Keep the EUT charging(Output1: 7.5W+Output2: 2.5W)
Pre-scan	07	Charge mode_Keep the EUT charging(Output1: 10W+Output2: 2.5W)
Pre-scan	08	Charge mode_Keep the EUT charging(Output1: 5W+Output3: 2.5W)
Pre-scan	09	Charge mode_Keep the EUT charging(Output1: 7.5W+Output3: 2.5W)
Pre-scan	10	Charge mode_Keep the EUT charging(Output1: 10W+Output3: 2.5W)
Pre-scan	11	Charge mode_Keep the EUT charging(Output2: 2.5W+Output3: 2.5W)
Pre-scan	12	Charge mode_Keep the EUT charging(Output1: 5W+Output2: 2.5W+Output3: 2.5W)
Pre-scan	13	Charge mode_Keep the EUT charging(Output1: 7.5W+Output2: 2.5W+Output3: 2.5W)
Pre-scan	14	Charge mode_Keep the EUT charging(Output1: 10W+Output2: 2.5W+Output3: 2.5W)
Pre-scan	15	Charge mode_Keep the EUT charging(Output1: 5W)
Pre-scan	16	Charge mode_Keep the EUT charging(Output1: 7.5W)
Final test	17	Charge mode_Keep the EUT charging(Output1: 10W)
Final test	18	Charge mode_Keep the EUT charging(Output2: 2.5W)
Final test	19	Charge mode_Keep the EUT charging(Output3: 5W)







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Shenzhen Branch**

Report No.: SZCR210502113802

Page: 9 of 14

Pre-scan	20	Charge mode_Keep the EUT charging(Output1: 5W+Output2: 2.5W)
Pre-scan	21	Charge mode_Keep the EUT charging(Output1: 7.5W+Output2: 2.5W)
Pre-scan	22	Charge mode_Keep the EUT charging(Output1: 10W+Output2: 2.5W)
Pre-scan	23	Charge mode_Keep the EUT charging(Output1: 5W+Output3: 5W)
Pre-scan	24	Charge mode_Keep the EUT charging(Output1: 7.5W+Output3: 5W)
Pre-scan	25	Charge mode_Keep the EUT charging(Output1: 10W+Output3: 5W)
Pre-scan	26	Charge mode_Keep the EUT charging(Output2: 2.5W+Output3: 5W)
Pre-scan	27	Charge mode_Keep the EUT charging(Output1: 5W+Output2: 2.5W+Output3: 5W)
Pre-scan	28	Charge mode_Keep the EUT charging(Output1: 7.5W+Output2: 2.5W+Output3: 5W)
Final test	29	Charge mode_Keep the EUT charging(Output1: 10W+Output2: 2.5W+Output3: 5W)



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Shenzhen Branch (CMA) Testing Laboratory

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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

Measurement Distance: 15/20cm

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: 22.3 °C Humidity: 52.9 % RH Atmospheric Pressure: 1015 mbar

This device has been tested the worst status of full load and the device has been tested with mobile phone/iWatch at zero charge, intermediate charge, and full charge.



**5.1.2 Measurement Data**

For Output 1(mode 17):

The max output power =10W;

**Magnetic Field Emissions**

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
135.2 kHz	15	Side 1	0.0429	0.815
		Side 2	0.0438	0.815
		Side 3	0.0532	0.815
		Side 4	0.0431	0.815
		Top	0.0332	0.815

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

**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	
135.2 kHz	15	Side 1	0.0654	0.0622	0.0563	0.815
		Side 2	0.0563	0.0535	0.0511	0.815
		Side 3	0.0539	0.0503	0.0467	0.815
		Side 4	0.0582	0.0544	0.0515	0.815
		Top	0.0487	0.0431	0.0395	0.815



For Output 2(mode 18):

The max output power =5W

**Magnetic Field Emissions**

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
326.5 kHz	15	Side 1	0.0439	0.815
		Side 2	0.0447	0.815
		Side 3	0.0541	0.815
		Side 4	0.0435	0.815
		Top	0.0349	0.815

iWatch has been charge at zero charge, intermediate charge, and full charge.

**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	
326.5 kHz	15	Side 1	0.0424	0.0387	0.0343	0.815
		Side 2	0.0413	0.0379	0.0337	0.815
		Side 3	0.0504	0.0467	0.0432	0.815
		Side 4	0.0411	0.0381	0.0351	0.815
		Top	0.0332	0.0303	0.0268	0.815



For Output 3(mode 19):

The max output power =2.5W;

**Magnetic Field Emissions**

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
173.7 kHz	15	Side 1	0.0419	0.815
		Side 2	0.0424	0.815
		Side 3	0.0519	0.815
		Side 4	0.0422	0.815
		Top	0.0318	0.815

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

**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	
173.7 kHz	15	Side 1	0.0457	0.0412	0.0387	0.815
		Side 2	0.0451	0.0421	0.0395	0.815
		Side 3	0.0507	0.0453	0.0411	0.815
		Side 4	0.0427	0.0389	0.0339	0.815
		Top	0.0376	0.0334	0.0301	0.815



**For Output 1+ Output 2+ Output 3(mode 29):**

**The max output power =17.5W;**

**Magnetic Field Emissions**

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
135.2 kHz	15	Side 1	0.0823	0.815
173.7 kHz		Side 2	0.0764	0.815
326.5KHz		Side 3	0.0739	0.815
		Side 4	0.0653	0.815
135.2 kHz	20	Top	0.0529	0.815
173.7 kHz	20	Top	0.0472	0.815
326.5KHz	20	Top	0.0431	0.815

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

**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	
135.2 kHz	15	Side 1	0.0811	0.0775	0.0722	0.815
173.7 kHz		Side 2	0.0747	0.0712	0.0673	0.815
326.5KHz		Side 3	0.0723	0.0695	0.0654	0.815
		Side 4	0.0662	0.0627	0.0593	0.815
135.2 kHz	20	Top	0.0525	0.0459	0.0411	0.815
173.7 kHz	20	Top	0.0489	0.0432	0.0387	0.815
326.5KHz	20	Top	0.0434	0.0382	0.0341	0.815

- End of the Report -

