

Human Exposure Report

Application No.: SZEM2011012056CR
Applicant: Loctek Ergonomic Technology Corp.
Address of Applicant: 588 Qihang South Road Binhai Industrial Zone Yinzhou District Ningbo, Zhejiang 315145 P.R. China
Manufacturer: Loctek Ergonomic Technology Corp.
Address of Manufacturer: 588 Qihang South Road Binhai Industrial Zone Yinzhou District Ningbo, Zhejiang 315145 P.R. China
Factory: MUV Technology Co., Ltd
Address of Factory: Unit 1511, Block A, Baoyuan Huafeng Economic Building, Xixiang Avenue, Bao'an District, Shenzhen, China
Equipment Under Test (EUT):
EUT Name: MS104 Dual Coil wireless charging
Model No.: MS104WXCD
FCC ID: 2ARK8-MS104WXCD
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
47 CFR PART 2, Subpart J, Section 2.1091
Date of Receipt: 2020-12-01
Date of Test: 2020-12-02 to 2021-01-05
Date of Issue: 2021-01-08

Test Result :	Pass*
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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>				
<i>Version</i>	<i>Chapter</i>	<i>Date</i>	<i>Modifier</i>	<i>Remark</i>
01		2021-01-08		Original

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



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2 General Information

2.1 Details of E.U.T.

Rated voltage:	DC 12V
Power adapter:	Input: DC 12V Output: 5/7.5/10/15W
Antenna type:	Loop Antenna
Modulation type:	Load modulation
Operation frequency:	115.54kHz to 175.48kHz
Remark:	<p>1) The wireless charger contains two coil antenna, vertical and horizontal. They cannot charge two client devices simultaneously. The client device (e.g. mobile phone) can be placed to the charger in two different polarity for efficiency accordingly. All tests were conducted in two different location and the worst case(vertical) is reported only.</p> <p>2) Tests were conducted in all load modes and the worst case 15W is reported only.</p>

2.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
DC power supply	XANTREX	XFR 100-12	REF. No.SEA27A00
Dummy Load	Client Supply	NuVolta	DN3000002
iPhone 8	Apple	A1863	REF. No.SEA7600
Mobile Phone	SAMSUNG	SM-G9500	REF. No.SEA7900
Mobile Phone	SAMSUNG	SM-G9810	REF. No.SEA16K00



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:

- **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.

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	Electric and Magnetic Field Analyzer	Narda	EHP-50F	EMC092	2021-11-26



4 Test Results

4.1 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).				

4.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4 °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 12V; The max output power =15W;

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
132.3 kHz	15	Side 1	0.0492	0.815
		Side 2	0.0380	0.815
		Side 3	0.0473	0.815
		Side 4	0.0371	0.815
		Top	0.0297	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	
132.3 kHz	15	Side 1	0.0531	0.0458	0.0387	0.815
		Side 2	0.0422	0.0344	0.0309	0.815
		Side 3	0.0501	0.0424	0.0390	0.815
		Side 4	0.0401	0.0338	0.0285	0.815
		Top	0.0230	0.0262	0.0236	0.815

- End of the Report -

