



Human Exposure Report

Application No.: SZEM1909018385CR
Applicant: ALOGIC Corporation Pty Ltd.
Address of Applicant: Level 40, 140 William Street, Melbourne, VIC, 3000, Australia.
Manufacturer: SHENZHEN DBK ELECTRONICS CO., LTD
Address of Manufacturer: Room No.208-1, 308, 404-408 in Building Five, 2-4 Floor in Building Three, No.8 Qinghua Road, Zhu Village, Fucheng New Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province, China
Factory: Dongguan DBK Energy Technology Co., Ltd
Address of Factory: No.51 Zhangshen Middle Road, Xuzhen Community, Zhangmutou Town, Dongguan City, Guangdong Province P.R. China
Equipment Under Test (EUT):
EUT Name: USB-C Dock Wave 3-in-1
Model No.: ULDWAV
Trade mark: ALOGIC
FCC ID: 2ATCAULDWAV
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
47 CFR PART 2, Subpart J, Section 2.1091
Date of Receipt: 2019-09-10
Date of Test: 2019-09-29 to 2019-10-28
Date of Issue: 2019-11-06

Test Result :	Pass*
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* In the configuration tested, the EUT complied with the standards specified above

Keny Xu

Keny Xu
EMC Laboratory Manager



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Shenzhen Branch EMC Laboratory

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Report No.: SZEM190901838503
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-11-06		Original

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



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3 General Information

3.1 Details of E.U.T.

Power Supply: Capacity: 5000mAh/18.5Wh
Input: Type-C Port DC 5V/2.4A
Output:
USB A Port*2 : DC5V/2.4A
Type-C Port: DC 5V/2.4A
WPC: 5W(DC 5V/1A)

Cable: Type-C cable: 15cm shielded

Operation frequency: 114.42-194.39kHz

Antenna Type: Loop Antenna

Modulation Type: Load Modulation

Antenna Gain: 0dBi

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 8	Apple	A1863	F4GVQ656JC6D



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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.



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4 Equipments Used during Test

Item	Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
1	EMF Tester	Narda	EHP-50F	SZE039-4	2019-03-08	2020-03-07



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

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
126.4 kHz	15	Side 1	0.082	0.815
		Side 2	0.065	0.815
		Side 3	0.074	0.815
		Side 4	0.061	0.815
		Top	0.045	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	
126.4 kHz	15	Side 1	0.092	0.080	0.065	0.815
		Side 2	0.075	0.062	0.050	0.815
		Side 3	0.084	0.073	0.060	0.815
		Side 4	0.071	0.058	0.045	0.815
		Top	0.055	0.040	0.032	0.815



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6 Photographs- RF exposure setup

Please refer to RF exposure setup photos.

- End of the Report -



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