Human Exposure Report

Application No.:	SZEM1909018206CR
Applicant:	AGA Technology Co., Ltd.
Address of Applicant:	Room 2001, Hongyu Bld, Yucui Comm. Longhua St, Longhua District, Shenzhen China.
Manufacturer:	AGA Technology Co., Ltd.
Address of Manufacturer:	Room 2001, Hongyu Bld, Yucui Comm. Longhua St, Longhua District, Shenzhen China.
Factory:	Dongguan NXE Electronics Co., Ltd.
Address of Factory:	3/f, Building B, no.1 building, no.1 street, 128 industrial zone, zhenxingwai community, tangxia Town, dongguan city
Equipment Under Test (EUT):	
EUT Name:	Multi-Function Jump Starter
Model No.:	A28, A29, A15, A27, A3+S, A21, A13, A26, A32, A38, A39, A40, A42, AJW003 ♣
♣	Please refer to section 3.2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2AWZP-A38
Standards:	47 CFR PART 1, Subpart I, Section 1.1310 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2019-09-04
Date of Test:	2019-10-26 to 2020-01-02
Date of Issue:	2020-01-03
Test Result :	**Pass***

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

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	***Chapter***	***Date***	***Modifier***	***Remark***
01		*2020-01-03*		*Original*

Authorized for issue by:				
		Bill Chen **Bill Chen /Project Engineer**		
		Eric Fu **Eric Fu /Reviewer**		

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2 Contents

1 COVER PAGE 1

2 CONTENTS 3

3 GENERAL INFORMATION 4

3.1 DETAILS OF E.U.T. 4
3.2 DESCRIPTION OF SUPPORT UNITS 4
3.3 TEST LOCATION 5
3.4 TEST FACILITY 5
3.5 DEVIATION FROM STANDARDS 5
3.6 ABNORMALITIES FROM STANDARD CONDITIONS 5

4 EQUIPMENTS USED DURING TEST 6

5 TEST RESULTS 7

5.1 RF EXPOSURE TEST 7
5.1.1 E.U.T. Operation 7

6 PHOTOGRAPHS- RF EXPOSURE SETUP 9

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3 General Information

3.1 Details of E.U.T.

Power Supply:	AC/DC Adaptor： Model：0920 Input：AC 100-240V 50/60Hz Type-C input: DC9V 2A USB 1 output: DC5V 2.1A USB 2 Output：DC9V 2A Rechargeable battery: DC3.7V 10000mAh
Cable:	DC cable：96cm unshielded USB cable：17cm*4 unshielded Car cable：86cm unshielded
Operation frequency:	115.224-148.077kHz
Antenna Type:	Loop Antenna
Modulation Type:	Load Modulation
Antenna Gain:	0dBi
Remark:	This device has been tested the worst status of full load and the device has been tested with load at 5W,7.5W and 10W,the worst case 10W is reported only.

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 8	Apple	A1863	F4GVQ656JC6D
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB

Declaration of EUT Family Grouping:

Model No.: A28, A29, A15, A27, A3+S, A21, A13, A26, A32, A38, A39, A40, A42, AJW003

Only the model A38 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on colour and appearance.

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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	ELT-400	SZE039-4	2019-07-08	2020-07-07

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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 with mobile phone at zero charge, intermediate charge, and full charge.

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5.1.2 Measurement Data

Output Voltage=DC 9V; The max output power =10W

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
136 kHz	15	Side 1	0.0405	0.815
		Side 2	0.0281	0.815
		Side 3	0.0355	0.815
		Side 4	0.0259	0.815
		Top	0.0273	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	
136 kHz	15	Side 1	0.0529	0.0422	0.0387	0.815
		Side 2	0.0398	0.0287	0.0242	0.815
		Side 3	0.0453	0.0352	0.0306	0.815
		Side 4	0.0387	0.0269	0.0230	0.815
		Top	0.0375	0.0248	0.0228	0.815

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6 Photographs- RF exposure setup

Refer to RF Exposure Setup Photos.

- End of the Report -

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