

Human Exposure Report

Application No.: SZEM1908017577CR(SGS SZ No.:T51910270062EM)
Applicant: Assembly Brands, Inc.
Address of Applicant: 42 West Street, #403, Brooklyn NY 11222 USA
Manufacturer: ATLAS BUSINESS CONSULTANTS (SHENZHEN) LIMITED
Address of Manufacturer: Room B14, 3/F, 205Zhen Xing Road, Futian Shenzhen
Equipment Under Test (EUT):
EUT Name: Courant Wireless Charger
Model No.: CATCH: 2 ♣
 ♣ Please refer to section 3.1 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID: 2ARIH-CATCH2
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
 47 CFR PART 2, Subpart J, Section 2.1091
Date of Receipt: 2019-08-16
Date of Test: 2019-08-21 to 2019-09-03
Date of Issue: 2019-09-05

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.: SZEM190801757702
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-09-05		Original

Authorized for issue by:			
			
		Gebin Sun /Project Engineer	
			
		Eric Fu /Reviewer	



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3 General Information

3.1 Details of E.U.T.

Power supply: Input: DC 5V/3A, DC 9V/3A
Wireless Output(2): 5W, 7.5W, 10W

Operation Frequency: 112.82kHz to 146.47kHz

Modulation Type: Load Modulation

Antenna Type: Loop Antenna

Antenna Gain: 0dBi

Remark: The EUT contains five coils which were divided into two groups:
coil1(including two coils) and coil2(including three coils).Each group can work with 5W,7.5W and 10W output. The coil1 and coil2 can work independently or simultaneously under 5W,7.5W and 10W output.The tests were conducted in all above modes and only the worst case(the two group coils work simultaneously under each group coil 10W output) was recorded in this report.

Declaration of EUT Family Grouping:

Model No.: CATCH: 2

There are six samples, only the white sample was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the samples, with only difference on colour.

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	XIAOMI	MDY-10-EH	AA61904Q207433G
Adapter	Apple	A1357	REF. No.SEA0500
iPhone 8	Apple	A1863	F4GVQ656JC6D
SAMSUNG Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB
Type-C Cable	SGS	N/A	REF. No.SEA0705



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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:

• **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.



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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/20cm

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.



5.1.2 Measurement Data

only the worst case(the two group coils work simultaneously under each group coil 10W output) test data was recorded as below.

1.For each group coil:

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)
135 kHz	15	Side 1	0.169	0.815
		Side 2	0.104	0.815
		Side 3	0.183	0.815
		Side 4	0.095	0.815
	20	Top	0.076	0.815

2.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 kHz	15	Side 1	0.179	0.168	0.153	0.815
		Side 2	0.114	0.103	0.090	0.815
		Side 3	0.193	0.180	0.166	0.815
		Side 4	0.106	0.096	0.083	0.815
	20	Top	0.088	0.073	0.061	0.815





6 Photographs

6.1 Test setup photos

Please refer to RF Exposure Setup Photos

- End of the Report -



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