

Human Exposure Report

Application No.: SZEM1906015789CR
Applicant: CUSTOM ACCESSORIES INC
Address of Applicant: 5900 AMI DRIVE, RICHMOND, Illinois United States 60071
Manufacturer: ZHONG YUN PLASTIC LIMITED
Address of Manufacturer: Ge Keng Admin Area,Heng Li Town, Dong Guan City,Guang Dong, China
Equipment Under Test (EUT):
EUT Name: CARBON XT 10W Qi Wireless Charger with Suction Mount
Model No.: 24506
Trade mark: CARBON XT
FCC ID: 2ADMQ-24506
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
 47 CFR PART 2, Subpart J, Section 2.1093
Date of Receipt: 2019-07-01
Date of Test: 2019-07-05 to 2019-07-24
Date of Issue: 2019-07-31

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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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-07-31		Original

Authorized for issue by:				
				
		Powell Bao /Project Engineer		
				
		Eric Fu /Reviewer		



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3 General Information

3.1 Details of E.U.T.

Power supply: Input: DC 5V/2A; DC 9V/1.67A
Output:
WPC: 5W(DC 5V/1A), 7.5W(DC 5V1.5A), 10W(DC 9V/1.1A)

Cable: USB Cable (Unshielded, 118cm)

Operation Frequency: 120.99kHz to 175.16kHz

Modulation Type: Load Modulation

Antenna Type: Loop Antenna

Antenna Gain: 0dBi

Remark: Tests were conducted in all three load modes and the worst case 10W(DC 9V/1.1A) is reported only.

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Car Charger	Custom Accessories	24506	Client supply
iPhone 8	Apple	A1863	F4GVQ656JC6D
Mobile Phone	SAMSUNG	SM-G9500	R28J9140LPB

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: 0/2/4/6/8/10/15cm

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 9V; The max output power =10W;Calculation of resistor value=8.1Ω

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	0	Side 1	0.3685	0.815
		Side 2	0.2711	0.815
		Side 3	0.3507	0.815
		Side 4	0.2868	0.815
		Top	0.2543	0.815

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	2	Side 1	0.3347	0.815
		Side 2	0.2378	0.815
		Side 3	0.3109	0.815
		Side 4	0.2515	0.815
		Top	0.2215	0.815

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	4	Side 1	0.3035	0.815
		Side 2	0.2048	0.815
		Side 3	0.2742	0.815
		Side 4	0.2195	0.815
		Top	0.1902	0.815



Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	6	Side 1	0.2669	0.815
		Side 2	0.1678	0.815
		Side 3	0.2357	0.815
		Side 4	0.1841	0.815
		Top	0.1569	0.815

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	8	Side 1	0.2328	0.815
		Side 2	0.1325	0.815
		Side 3	0.1996	0.815
		Side 4	0.1512	0.815
		Top	0.1227	0.815

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	10	Side 1	0.1947	0.815
		Side 2	0.0974	0.815
		Side 3	0.1668	0.815
		Side 4	0.1145	0.815
		Top	0.0879	0.815



Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
133 kHz	15	Side 1	0.0988	0.815
		Side 2	0.0229	0.815
		Side 3	0.0693	0.815
		Side 4	0.0357	0.815
		Top	0.0276	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	
133 kHz	0	Side 1	0.3788	0.3667	0.3534	0.815
		Side 2	0.2802	0.2644	0.2511	0.815
		Side 3	0.3603	0.3475	0.3336	0.815
		Side 4	0.2986	0.2871	0.2735	0.815
		Top	0.2663	0.2545	0.2415	0.815

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	
133 kHz	2	Side 1	0.3476	0.3334	0.3203	0.815
		Side 2	0.2501	0.2371	0.2245	0.815
		Side 3	0.3212	0.3067	0.2935	0.815
		Side 4	0.2637	0.2523	0.2392	0.815
		Top	0.2316	0.2188	0.2047	0.815



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	
133 kHz	4	Side 1	0.3143	0.3013	0.2888	0.815
		Side 2	0.2159	0.2012	0.1878	0.815
		Side 3	0.2862	0.2764	0.2609	0.815
		Side 4	0.2324	0.2182	0.2053	0.815
		Top	0.2002	0.1893	0.1746	0.815

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	
133 kHz	6	Side 1	0.2775	0.2642	0.2506	0.815
		Side 2	0.1771	0.1649	0.1513	0.815
		Side 3	0.2448	0.2342	0.2204	0.815
		Side 4	0.1943	0.1818	0.1691	0.815
		Top	0.1668	0.1532	0.1399	0.815

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	
133 kHz	8	Side 1	0.2426	0.2293	0.2169	0.815
		Side 2	0.1438	0.1329	0.1186	0.815
		Side 3	0.2116	0.1965	0.1824	0.815
		Side 4	0.1608	0.1523	0.1352	0.815
		Top	0.1337	0.1189	0.1035	0.815



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	
133 kHz	10	Side 1	0.2042	0.1895	0.1762	0.815
		Side 2	0.1098	0.0938	0.0787	0.815
		Side 3	0.1765	0.1662	0.1532	0.815
		Side 4	0.1248	0.1103	0.0961	0.815
		Top	0.1032	0.0847	0.0713	0.815

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	
133 kHz	15	Side 1	0.1108	0.0988	0.0843	0.815
		Side 2	0.0324	0.0283	0.0254	0.815
		Side 3	0.0821	0.0709	0.0567	0.815
		Side 4	0.0462	0.0335	0.0294	0.815
		Top	0.0388	0.0286	0.0262	0.815





6 Photographs

Please refer to RF Exposure setup photo.

- End of the Report -



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