



FCC RF EXPOSURE REPORT

For

Polaris Charger

MODEL NUMBER: K002WC

FCC ID: SXO-K002WC

REPORT NUMBER: 4788510752.3-4

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Prepared for

Sphero HK Limited

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	07/25/2018	Initial Issue	



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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Sphero HK Limited
Address: 4/F, 299QRC, 287-299 Queen's Road Central, Sheung Wan.
Hong Kong

Manufacturer Information

Company Name: Sphero, Inc.
Address: 4772 Walnut Street, Suite 206, Boulder, CO 80301
USA

EUT Description

EUT Name: Polaris Charger
Model: K002WC
Brand Name: Sphero
Sample Status: Normal
Sample ID: 1645606
Sample Received Date: June 04, 2018
Date of Tested: July 03, 2018 ~ July 25, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§1.1307	Pass
FCC 47CFR§1.1310	Pass
FCC 47CFR§2.1093	Pass
FCC 47CFR§2.1091	Pass

Tested By:

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC 47CFR§1.1307(b)(1), FCC 47CFR§1.1310, FCC 47CFR§2.1093, KDB680106 D01v02.

3. FACILITIES AND ACCREDITATION

<p>Accreditation Certificate</p>	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>IAS (Lab Code: TL-702) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has demonstrated compliance with ISO/IEC Standard 17025:2005, General requirements for the competence of testing and calibration laboratories</p> <p>FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p>IC(Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.</p> <p>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
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4. REQUIREMENT

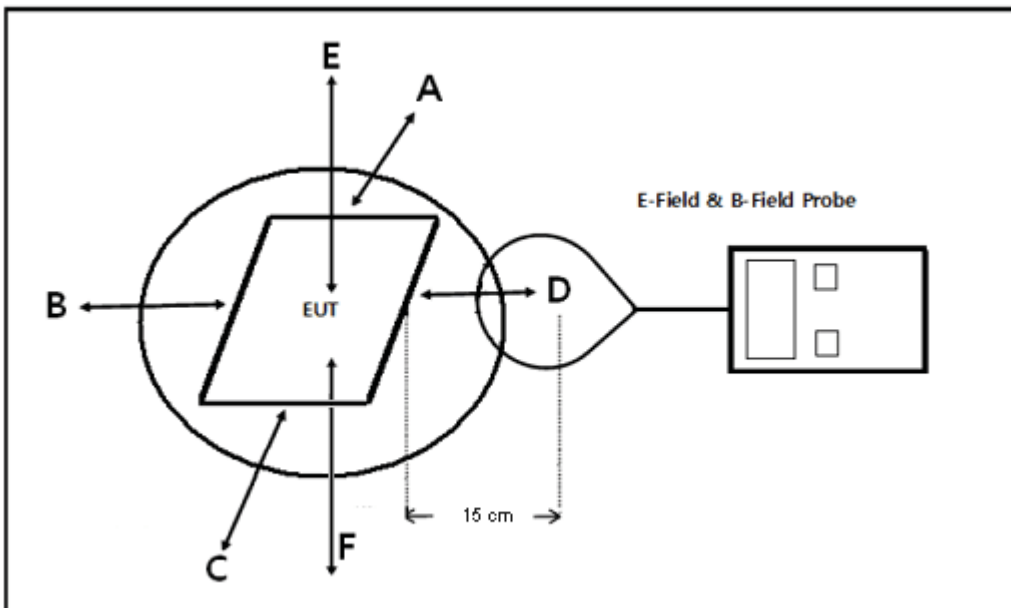
RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
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

METHOD OF MEASUREMENT

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.
- The measurement probe used to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106D01v03.

BLOCK DIAGRAM OF TEST SETUP



Note: As bottom point is not required to test for desktop devices, so we scanning all the surfaces and recorded the worst level in F.



EQUIPMENT APPROVAL CONSIDERATIONS

The EUT does comply with KDB 680106D01v03.

1) Power transfer frequency is less than 1 MHz.

Yes; the device operate in the frequency range from 125kHz.

2) Output power from each primary coil is less than or equal to 15 watts.

Yes; the maximum output power of the each primary coil is 3.5 watts.

3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.

Yes; the transfer system includes only single primary and secondary coils.

4) Client device is placed directly in contact with the transmitter.

Yes; Client device is placed directly in contact with the transmitter.

e) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

Yes; The EUT is a mobile devices.

f) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Yes; The EUT field strength levels are less than 50% of the MPE limit.



MEASURING INSTRUMENT USED

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Electric Field Probe	AR	FL7006Kit	0343904	Dec.12, 2017	Dec.12, 2018
System interface	TDK	SI-300-LSM	TRS-104-00045	Dec.12, 2017	Dec.12, 2018
H/E field Field Meter	maschek	ESM - 100	971965	Sep.27, 2017	Sep.26, 2018

H FIELD STRENGTH

Test mode for wireless charger:
Full Load, Zero charge and Intermediate Charge mode

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT (A/m)

Test Position	H-Filed Strength Measure Result						Limits (A/m)
	Full Load		Zero Charge		Intermediate Charge		
	uT	A/m	uT	A/m	uT	A/m	
A	0.043	0.034	0.033	0.026	0.058	0.04	1.63
B	0.070	0.056	0.055	0.044	0.079	0.06	1.63
C	0.060	0.048	0.044	0.035	0.064	0.05	1.63
D	0.044	0.035	0.028	0.022	0.061	0.04	1.63
E	0.061	0.049	0.043	0.034	0.106	0.08	1.63
F	0.072	0.058	0.058	0.046	0.101	0.08	1.63

Note: A/m = uT / 1.25

E-Filed Strength at 15 cm from the edges surrounding the EUT (V/m)

Test Position	E-Filed Strength Measure Result			Limits (V/m)
	Full Load	Zero Charge	Intermediate Charge	
A	4.13	3.76	4.51	614
B	3.01	2.63	3.38	614
C	2.63	2.26	2.63	614
D	1.50	1.13	1.50	614
E	1.58	1.32	1.69	614
F	1.38	1.06	1.71	614

END OF REPORT