



Human Exposure Report

Application No.: SZEM2012012999CR
Applicant: Spigen Korea Co., Ltd.
Address of Applicant: Spigen HQ-A, 446, Bongeunsa-ro, Gangnam-gu, Seoul, 06153, South Korea
Manufacturer: Shenzhen Wireless Technology Co., Ltd.
Address of Manufacturer: Floor 3 building A2, Fangxing Science and Technology park, NO.13 Baonan Road, Longgang street, Longgang District
Factory: Shenzhen Wireless Technology Co., Ltd.
Address of Factory: Floor 3 building A2, Fangxing Science and Technology park, NO.13 Baonan Road, Longgang street, Longgang District
Equipment Under Test (EUT):
EUT Name: Spigen PowerArc ArcField Wireless Charger
Model No.: PF2002
Trade mark: Spigen
FCC ID: 2AFKNPF2002
Standards: 47 CFR PART 1, Subpart I, Section 1.1310
47 CFR PART 2, Subpart J, Section 2.1091
Date of Receipt: 2020-12-18
Date of Test: 2020-12-18 to 2021-01-01
Date of Issue: 2021-01-01

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

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-01-01		Original

Authorized for issue by:				
				
		<hr/>		
		Peter Geng/Project Engineer		
				
		<hr/>		
		Eric Fu/Reviewer		



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3 General Information

3.1 Details of E.U.T.

Power adapter: Input: DC 5V/1A
Output: 2.5W
Antenna type: Loop Antenna
Modulation type: Load modulation
Operation frequency: 326.51kHz to 326.54kHz

3.2 Description of Support Units

Cable	Length	Shielding	Core
Type C cable	190cm	Unshielded	

3.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Apple	A1443	REF. No.SEA05D09B
iWacth	Apple	iWatch 3	N/A



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3.4 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.

3.5 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.

3.6 Deviation from Standards

None.

3.7 Abnormalities from Standard Conditions

None.



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4 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Due date
1	Electric and Magnetic Field Analyzer	Narda	EHP-50F	EMC092	2021-11-27



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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: 22.3 °C Humidity: 52.9 % RH Atmospheric Pressure: 1015 mbar

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.



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5.1.2 Measurement Data

The max output power =2.5W

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result (A/m)	50% Limit (A/m)
326.52 kHz	15	Side 1	0.0312	0.815
		Side 2	0.0688	0.815
		Side 3	0.0397	0.815
		Side 4	0.0283	0.815
		Top	0.0224	0.815

- End of the Report -



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