

# TEST REPORT

Reference No..... : WTX23X11250481W002  
FCC ID ..... : 2AFKNPF2203  
Applicant ..... : Spigen Korea Co., Ltd.  
Address ..... : Spigen HQ-A, 446, Bongeunsa-ro, Gangnam-gu, Seoul, 06153, South Korea  
Manufacturer ..... : The same as Applicant  
Address ..... : The same as Applicant  
Product Name ..... : ArcField Wireless Charger  
Model No..... : PF2203  
Standards ..... : KDB 680106 D01 V03  
Date of Receipt sample .... : 2023-11-24  
Date of Test..... : 2023-11-24 to 2023-12-20  
Date of Issue ..... : 2023-12-20  
Test Report Form No. .... : WTX\_KDB 680106\_D01\_V03W  
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

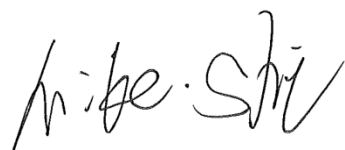
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Mike Shi

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Silin Chen

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**Report version**

Version No.	Date of issue	Description
Rev.00	2023-12-20	Original
/	/	/

## 1. GENERAL INFORMATION


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### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Factory 1#: SuiChuan CE LINK LIMITED  
 Address of factory: SuiChuan county industrial park east zone, Ji'an city  
 Jiangxi province,China.

Factory 2#: CE LINK VIET NAM COMPANY LIMITED.  
 Address of factory Lot CNSG04&CNSG06 Van Trung Industrial Zone,  
 Viet Yen district, Bac Giang Province, Vietnam

General Description of EUT	
Product Name:	ArcField Wireless Charger
Trade Name:	Spigen
	
Model No.:	PF2203
Adding Model(s):	/
Battery Capacity	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	Transmitter 1(Phone):115kHz-205kHz Transmitter 1(Phone):360kHz Transmitter 2(Watch):326.5kHz Transmitter 2(Watch):1.778MHz Transmitter 3(Earphone):115kHz-205kHz
Modulation Type:	ASK
Antenna Type:	Coil Antenna
Antenna Gain	0dBi
Rated Voltage:	Input:5.0V/9.0V/12.0V/15.0V
Rated Current:	Input:3.0A/3.0A/2.5A/2.0A
Rate Power:	Output 1: 15.0W(for iphone 12 or later) Output 2: 5W(for Apple Watch) Output 3: 5W(for Air Pods)
<i>Note The Antenna Gain is provided by the customer and can affect the validity of results.</i>	

## 1.2 Auxiliary Equipment List and Details

<b>EUT Cable List and Details</b>			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC CABLE	2.0	Shielded	Without Ferrite

<b>Special Cable List and Details</b>			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

<b>Auxiliary Equipment List and Details</b>			
Description	Manufacturer	Model	Serial Number
Wireless charging tester	/	YBZ	/

### 1.3 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200AC	180ZX10226	2021-05-20	2024-05-19

Note: The deviation response is 0.8dB.

## 2. RF Exposure Test Report

### 2.1 Standard Applicable

According to §1.1310 system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

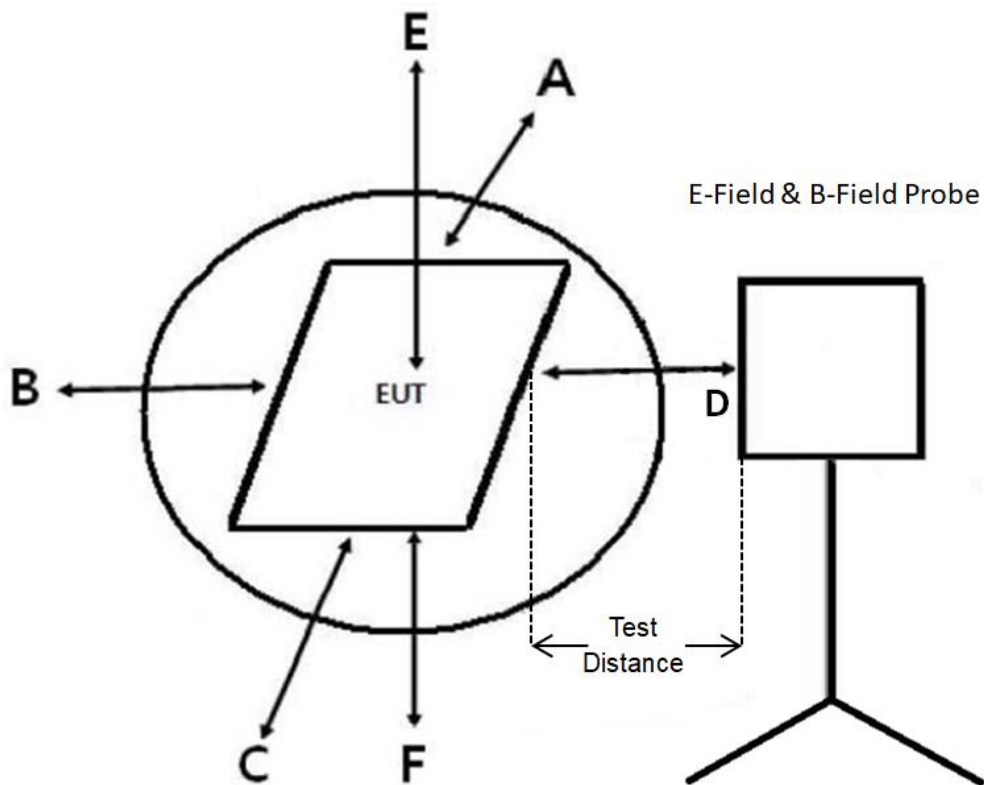
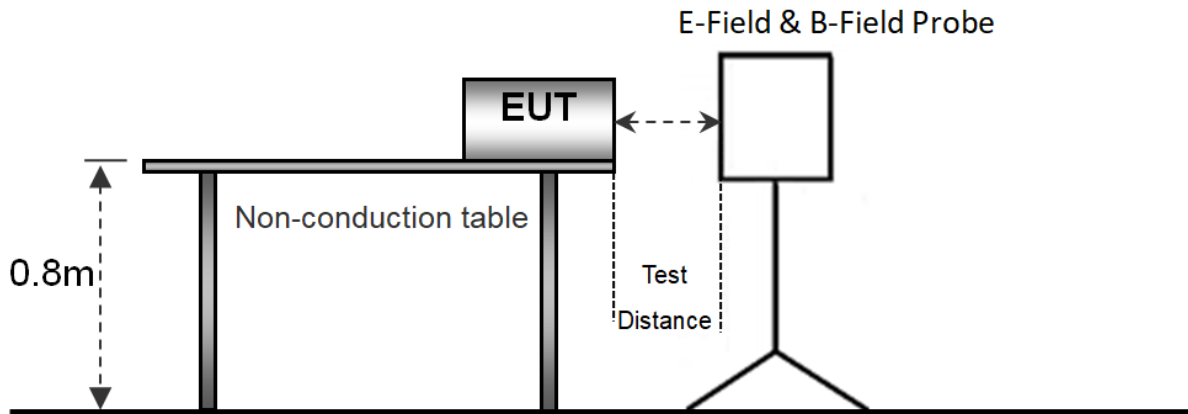
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

### 2.2 Test Conditions

Test Mode	Description	Remark	Power Supply Mode
TM1	Wireless charging	Output 3 :Wireless output(5W)	/
TM2	Wireless charging	Output 1:Wireless output(15W)	/
TM3	Wireless charging	Output 2:iWatch(MAX)	/
Note: The EUT was tested with empty load, half load, and full load, and recorded the worst mode (full load) data in the report.			
<b>Measurement Distance:</b>	15 cm and 20 cm		

## 2.3 Test Procedure



- The measurement probe was placed at test distance (15 cm for A, B, C, D, F and 20 cm for E) which is between the edge of the charger and the geometric center of probe.
- The highest emission level was recorded at the measurement points (A, B, C, D, E, F).
- The EUT was measured according to the distance of KDB 680106 D01 v03r01.



## 2.4 Test Result

The EUT complies with item 5.2 of KDB 680106 D01V03

1. Power transfer frequency is less than 1 MHz  
Yes, the device operates in the frequency range from 115 KHz to 400KHz.
2. Output power from each primary coil is less than or equal to 15 watts  
Yes, the maximum output power of the primary coil is less than 15W.
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 client device includes only single primary coils.
4. Client device is inserted in or placed directly in contact with the transmitter  
Yes, Client device is placed directly in contact with the transmitter.
5. Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).  
Yes, it is mobile exposure conditions only.
6. 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, refer to test TM1, TM2, TM3 list, and the coils can't transmitted simultaneous.

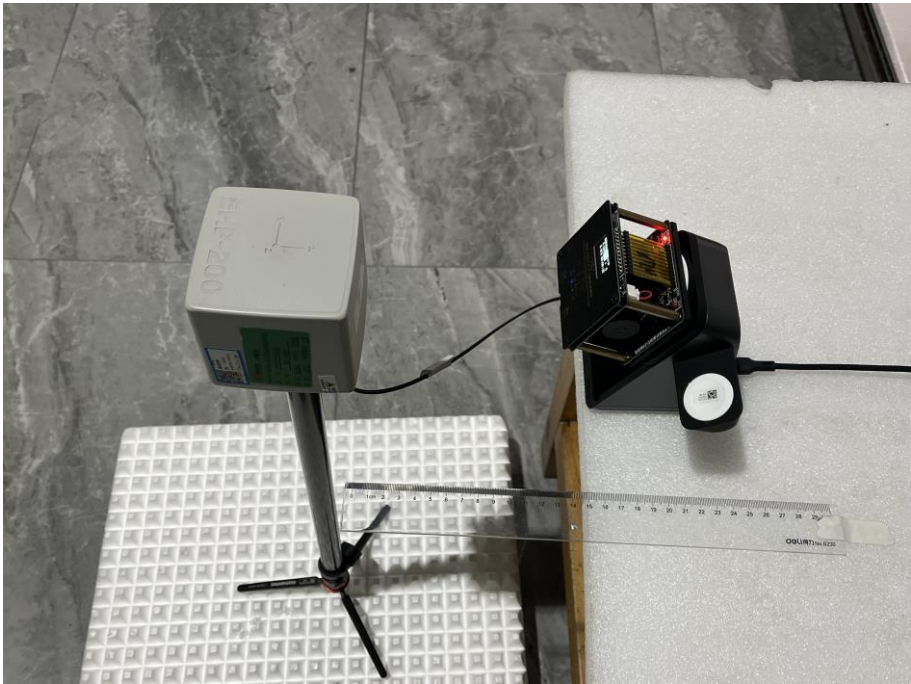
Test Mode: TM2(worst case)

<b>Electric Field Emissions</b>			
<b>Test Position</b>	<b>Measure Value (V/m)</b>	<b>Limit(V/m)</b>	<b>50% Limit (V/m)</b>
Point E	6.25	614	307
Point F	2.89	614	307
Point A	4.22	614	307
Point B	2.81	614	307
Point C	3.02	614	307
Point D	2.58	614	307
<b>Magnetic Field Emissions</b>			
<b>Test Position</b>	<b>Measure Value (A/m)</b>	<b>Limit(A/m)</b>	<b>50% Limit (A/m)</b>
Point E	0.48	1.63	0.815
Point F	0.23	1.63	0.815
Point A	0.32	1.63	0.815
Point B	0.21	1.63	0.815
Point C	0.26	1.63	0.815
Point D	0.23	1.63	0.815

### 2.5 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Electric Field Emissions	Radiated	$\pm 1.56$ (V/m)
Magnetic Field Emissions	Radiated	$\pm 0.08$ (A/m)

2.6 Test Photos



## APPENDIX PHOTOGRAPHS

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Please refer to "ANNEX"

\*\*\*\*\* END OF REPORT \*\*\*\*\*