



■ Report No.: DDT-RE23080207-2E02

■ Issued Date: Aug. 21, 2023

RF EXPOSURE REPORT

FOR

Applicant	:	Electronic Silk Road (Shenzhen) Tech Co. Ltd
Address	:	439, Building A7, Fuhai Xinxigang, Xinhe Community, Fuhai Street Bao'an District, Shenzhen, Guangdong, China
Equipment under Test	:	ESR 100W 6-in-1 Charging Station with MagSafe + CryoBoost
Model No.	:	6E007
Trade Mark	:	ESR
FCC ID	:	24790-6E007
Manufacturer	:	Electronic Silk Road (Shenzhen) Tech Co. Ltd
Address	:	439, Building A7, Fuhai Xinxigang, Xinhe Community, Fuhai Street Bao'an District, Shenzhen, Guangdong, China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

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REPORT

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Test Report Declare

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Assess Standard Used: FCC CFR 47 part1, 1.1307(b), 1.1310; KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No.:	DDT-RE23080207-2E02		
Date of Receipt:	Aug. 15, 2023	Date of Test:	Aug. 15, 2023 ~ Aug. 21, 2023

Prepared By:

Tiger Mo

Tiger Mo/Engineer

Approved By:

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Aug. 21, 2023	

1. General Information

1.1. Description of equipment

EUT* Name	: ESR 100W 6-in-1 Charging Station with MagSafe + CryoBoost
Model Number	: 6E007
EUT function description	: Please reference user manual of this device
Power Supply	: AC 100-240V~50/60Hz
Wireless charging Operation frequency	Transmitter 1(iPhone):127.7kHz, 360kHz Transmitter 2(iWatch): 326.5kHz, 1.778MHz Transmitter 3(Earphone): 115 kHz - 205 kHz
Antenna Type	: Inductive loop coil antenna
Sample Type	: Series production
Serial Number	: S23080207-01

Note: EUT is the abbreviation of equipment under test.

1.2. Accessories of EUT

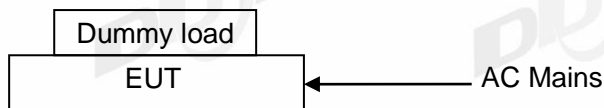
Description of Accessories	Manufacturer	Model number	Description	Remark
N/A	N/A	N/A	N/A	N/A

1.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number or Type	Description	Other
Dummy load	YBZ	RX-2.1	N/A	N/A
iPhone	Apple	iPhone12	N/A	N/A
Apple watch	Apple	A2291	N/A	N/A
Earphone	Apple	Airpods	N/A	N/A

1.4. Block diagram of EUT configuration for test

For mode 1: Tx mode:



For mode 2: Standby mode:



Note: Scan with mode 1 and mode 2, the worst case is mode 1 Tx mode and recorded in this report.

1.5. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

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CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

1.6. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Electric field strength(V/m)	3.02 dB
Uncertainty for Magnetic field strength(A/m)	3.00 dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	170WX91016	Sep. 1, 2022	1 Year

3. Method of Measurement

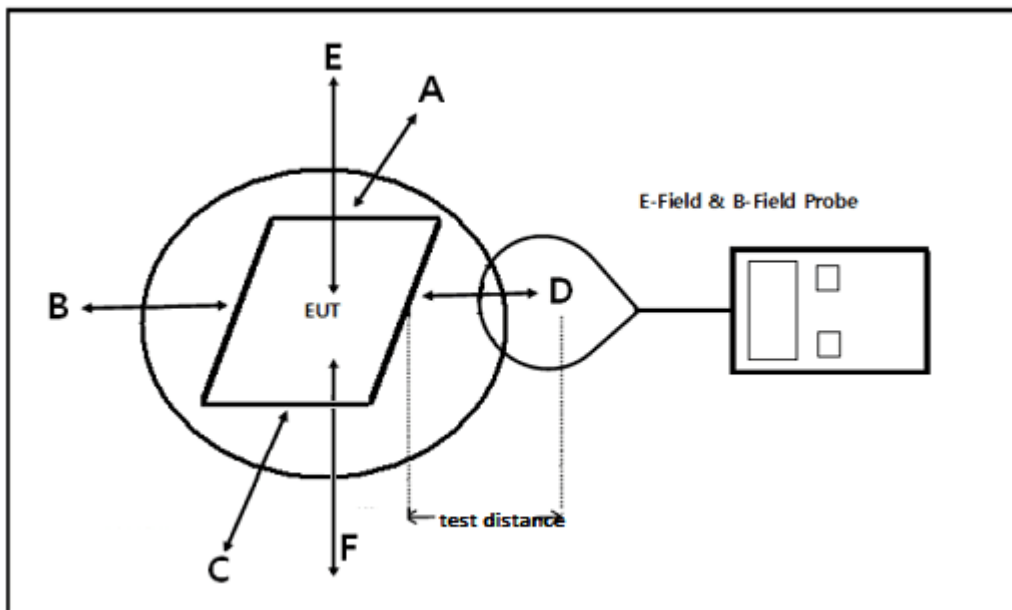
3.1. Applicable standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

According KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

3.2. Block diagram of test setup



Note: Due to installation limitations no tests from the underside of the charging device (Test Position F) are required.

3.3. Test procedure

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit.
- 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 680106 D01 RF Exposure Wireless Charging App v03r01.

3.4. Equipment approval considerations:

The EUT does comply with section 5 b) of KDB 680106 D01 RF Exposure Wireless Charging App v03r01.

(1) Power transfer frequency is less than 1 MHz.

Yes; the device operates in the frequency range: Transmitter 1(iPhone):127.7kHz,360kHz

Transmitter 2(iWatch): 326.5kHz,1.778MHz, Transmitter 3(Earphone): 115 kHz - 205 kHz.

(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 15 W.

(3) The system may consist of more than one source primary coils, charging one or more clients.

If more than one primary coil is present, the coil pairs may be powered on at the same time.

Yes.

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

Yes.

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

Yes; the EUT is a Mobile device.

(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Yes; EUT was evaluated as above.

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 ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

3.5. E and H Field Strength

Transmitter 1(iPhone):127.7kHz, 360kHz

Transmitter 2(iWatch): 326.5kHz, 1.778MHz

Transmitter 3(Earphone): 115 kHz - 205 kHz

Test mode for wireless charger:

Dummy load: 5W, 10W and 15W mode

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

Transmitter 1(iPhone):

Test Position	Probe Measure Result (V/m)			Limits Test (V/m)
	5W	10W	15W	
A	0.5285	0.5386	0.3808	614
B	0.4894	0.4876	0.3808	614
C	0.6370	0.4044	0.3766	614
D	0.6755	0.5010	0.3959	614
E-20cm	0.4617	0.3734	0.3707	614

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

Test Position	Probe Measure Result(A/m)			Limits Test (A/m)
	5W	10W	15W	
A	0.0564	0.0553	0.0575	1.63
B	0.0575	0.0604	0.1335	1.63
C	0.0600	0.0580	0.0584	1.63
D	0.0604	0.0569	0.0575	1.63
E-20cm	0.0540	0.0564	0.0553	1.63

Dummy load: Full Load, 5W and intermediate charge mode

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

Transmitter 2(earphones):

Test Position	Probe Measure Result (V/m)	Limits Test (V/m)
	5W	
A	0.3853	614
B	0.3664	614
C	0.4098	614
D	0.3808	614
E-20cm	0.3906	614

Test Position	Probe Measure Result (A/m)	Limits Test (A/m)*
	5W	
A	0.0553	1.63
B	0.0577	1.63
C	0.0633	1.63
D	0.0759	1.63
E-20cm	0.0830	1.63

Dummy load: Full Load, 5W and intermediate charge mode

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

Transmitter 3(iwatch):

Test Position	Probe Measure Result (V/m)		Limits Test (V/m)
	5W		
A	0.3808		614
B	0.3834		614
C	0.3808		614
D	0.3834		614
E-20cm	0.3808		614

Test Position	Probe Measure Result (A/m)		Limits 6 minutes (A/m)*
	5W		
A	0.0594		1.63
B	0.0589		1.63
C	0.0589		1.63
D	0.0594		1.63
E-20cm	0.0578		1.63

Dummy load: Full Load, 5W and intermediate charge mode

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

Transmitter 1+2+3:

Test Position	Probe Measure Result (V/m)			Limits Test (V/m)
	5W	10W	15W	
A	0.4207	0.4894	0.4216	614
B	0.4864	0.5010	0.3865	614
C	0.4204	0.4175	0.3734	614
D	0.5946	0.5250	0.4104	614
E-20cm	0.6699	0.6435	0.3931	614

Test Position	Probe Measure Result (A/m)			Limits 6 minutes (A/m)*
	5W	10W	15W	
A	0.0577	0.0601	0.0619	1.63
B	0.0594	0.0580	0.0593	1.63
C	0.0578	0.0604	0.0604	1.63
D	0.0553	0.0569	0.0620	1.63
E-20cm	0.0564	0.0564	0.0580	1.63